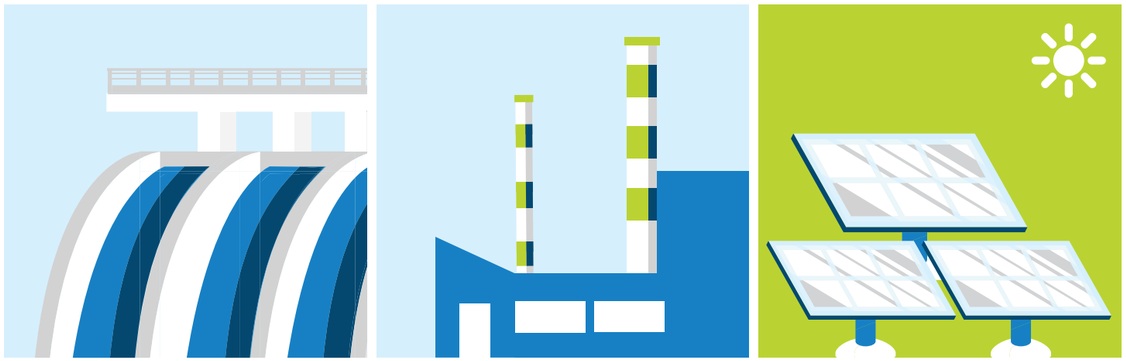
sarawak energy

100 YEARS

Power to Grow

Annual and Sustainability Report 2021



100 Years of Powering Sarawak

Scan this QR code to view **100 Years of Powering Sarawak**

INSIDE THIS REPORT

COVER RATIONALE

In 2021, we marked 100 years of powering Sarawak.

From a small unit in the government sector of about 30 employees under the Brooke Administration, we have evolved into Malaysia's largest renewable energy developer, electrifying Sarawak as we fulfil our vision of becoming a regional powerhouse by providing reliable, sustainable and affordable energy to Sarawak and beyond.

Sarawak Energy's transformation has been a progressive learning journey. Building on Sarawak Energy's 100-year legacy, we are entering our next century to realise a sustainable energy future for all.

This interactive PDF allows you to access information easily, search for a specific item or navigate between pages, sections and links.

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SUSTAINABILITY REPORT

102-12, 102-40, 102-42, 102-46, 102-50, 102-53, 102-54

ABOUT THIS REPORT

Sarawak Energy's current success is fuelled by both robust corporate strategies and the trust of our shareholders, stakeholders and customers. As part of our commitment to good corporate governance practices, we continue to voluntarily provide updates on our operational, financial and sustainable performance through our annual reports, even though non-public-listed companies are not required to do so.

The Sarawak Energy Annual and Sustainability Report (ASR) provides a holistic and comprehensive overview of the Company's activities and performance for the year 2021. Since this year marks our 100th anniversary, this report also highlights significant milestones from our history.

The year 2021 has been as challenging as the year before due to the ongoing pandemic. Nonetheless, Sarawak Energy remains resilient in the face of difficulties and has continued to grow despite the constantly changing business landscape, as demonstrated through the disclosures in our ASR 2021.

REPORTING STANDARDS

Guided by local and global best practices in corporate statutory reporting, with the Bursa Malaysia Securities Berhad Listing Requirements as well as the Malaysian Code on Corporate Governance serving as our primary guidelines, our annual report has also complied with the standards set by the Australasian Reporting Awards (ARA).

For further assurance to our stakeholders, this report has been prepared in accordance with the GRI Standards: Core option for our sustainability reporting. For the complete list of Sarawak Energy's GRI disclosures and relevant references, you may refer to page 183 - 232 of this report. Since 2019, our sustainability report has included recommendations from the Task Force on Climate-related Financial Disclosures (TCFD) to provide consistent, comparable, reliable, clear and efficient climate-related financial disclosures to help our investors and stakeholders make informed decisions.

Sarawak Energy will continue to improve the quality of our reporting while also growing the scope of our disclosures.

REPORTING SCOPE AND BOUNDARY

The ASR 2021 consists of a comprehensive overview of the Company's activities and performance for the period from 1 January to 31 December 2021. This includes information on our leadership, corporate strategies and commitments and corporate governance and performance report card, as well as sustainability approaches, responsibilities and milestones.

This report also highlights the accomplishments, challenges, risks and opportunities during the year, as well as our plans, goals and objectives for the coming year, so that our stakeholders have a better understanding of our next steps.

The ASR 2021 was developed in response to the feedback received from Sarawak Energy's stakeholders and is based on the assessment of our operations in light of the changes occurring in the economy, as well as the domestic and global energy industry.

ASSESSMENT OF MATERIAL MATTERS

Our Materiality Issues and Materiality Matrix presented on page 95 of this report are based on the assessment of matters that are of the utmost importance to Sarawak Energy and our stakeholders.

ASSURANCE

The Sarawak Energy ASR 2021 has been assured by an independent third party. The assurance statement can be found on page 178-182 of this report.

FEEDBACK

We welcome feedback, comments and enquiries via the following:

Corporate-related Enquiries:
corpcomm@sarawakenergy.com

Sustainability-related Enquiries:
sustainability@sarawakenergy.com

STATEMENT OF THE BOARD OF DIRECTORS OF SARAWAK ENERGY BERHAD

The Board is pleased to present the Sarawak Energy Annual and Sustainability Report 2021 with the confidence that it is a fair representation of Sarawak Energy's performance throughout 2021.

Approved by the Board of Directors and signed on behalf of the Board.

Datuk Amar Abdul Hamed Sepawi
Chairman

Datu Haji Sharbini Suhaili
Group Chief Executive Officer

102-2, 102-6, 102-7, 102-8, 102-9, 102-12, 102-13, 103-1, EU3, EU26

ABOUT SARAWAK ENERGY

Sarawak Energy is an energy development group of companies and a vertically integrated power utility, wholly-owned by the Sarawak Government. Our business includes the generation, transmission, distribution, retail and export of electricity.

With an energy mix that is predominantly renewable hydropower, complemented by indigenous gas and coal for energy security and diversity, we provide the power to light up communities, homes and businesses across Sarawak and beyond.

This year marks the 100th year Sarawak Energy has been entrusted to power Sarawak. From our humble beginnings in 1921, we have grown and transformed from a traditional utility into a modern and agile corporation, becoming the largest employer of Sarawakian talents.

Today, we are Malaysia's largest renewable energy developer and are working towards becoming a regional powerhouse that is fully capable of fulfilling our vision of providing renewable, reliable and affordable energy to Sarawak and beyond.

Total Employees
5,442
(as of 31st December 2021)

Platinum member of the International Hydropower Association (IHA) since 2010

Member of the Global Reporting Initiative (GRI) Community since 2016

Member of the UN Global Compact Network Malaysia & Brunei (UNGCMYB)

Customer Accounts[1]
734,896

617,255 **Domestic**

104,537 **Commercial**

1,087 **Industrial**

12,017 **Public lighting**

Notes:
[1] Active customer accounts.
** These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

A CENTURY OF GROWTH: 1921-2021

A century ago, our generation mix was fully fossil fuel but is now predominantly renewable hydropower, supplemented by indigenous gas and coal, with a generation capacity of **5,646MW**.

From about **30 employees** in the 1920s, our **workforce** now stands at **5,442**.

In 1923, we had **84 customers**. Today, we have **734,896[1] customers**, including industrial and export customers.

Rural electrification in Sarawak has risen to **96.5%***, bringing the overall **electrification rate** to **98.6%***.

Investments in renewable hydropower have significantly **reduced our grid emissions intensity**, enabling us to contribute to Malaysia's decarbonisation target.

The first company in Sarawak to have **electric cars** and the first in Southeast Asia to include hydrogen fuel cell vehicles in its corporate fleet to encourage the adoption of green vehicles.

Successfully commissioned Southeast Asia's **first Integrated Hydrogen Production Plant** and Refuelling Station in Kuching in 2019.

Launched Sarawak's **first renewable energy certificate (REC)** in 2019.

The first corporate body in Malaysia to commit to the "**Business Ambition for 1.5°C**" pledge under the United Nations Global Compact Network to **limit global temperature rise to 1.5°C** above pre-industrial levels by 2030.

102-2, 102-6, 102-7, 102-10

100 YEARS OF POWERING SARAWAK

Sarawak Energy marked its 100th anniversary of powering Sarawak in 2021 since our inception as an Electrical Section set up under the Public Works Department during the Brooke Administration in 1921.

Sarawak's public electricity supply began when Rajah Charles Vyner Brooke acquired two coal-fired steam engines from gold miners in Bau for installation in Kuching. The first power station was commissioned in 1923.

Over the past 100 years, we have undergone tremendous changes in administration, business model, technology and people capabilities, but our commitment to lighting up communities across Sarawak remains unchanged.

Sarawak Energy's transformation has been a progressive learning journey enabled by the people and government of Sarawak. We look forward to the next century of growth together with our shareholders, customers and stakeholders.

1920s

- Electrical Section within Public Works Department set up to oversee electricity supply in Sarawak.
- **Kuching's first power station** commissioned at Jalan Power where Electra House now stands.

1930s

- **Electricity supply** reached Sarikei, Dalat, Binatang (Bintangor), Simanggang (Sri Aman) and Bintulu.
- **Sarawak Electricity Supply Corporation (SESCo)** was formed to supply electricity throughout Sarawak.
- Mukah power plant came into operation.

1940s

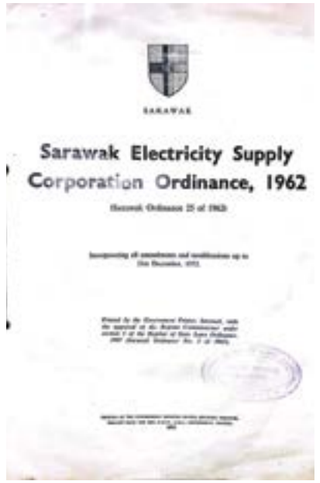
- **Miri's first power station** commissioned.
- **Betong supplied** with power for the first time.

1950s

- Extension of supply planned to **15 new centres** – Bari, Batu Kawah, Batu 10, Batu 32, Bau, Dalat, Lawas, Limbang, Marudi, Saratok, Serian, Sibuti, Siniawan, Sungai Merah (Sibu) and Spaoh.
- British-ruled Sarawak Government took over SESCo in September 1953.
- **New Sungai Priok power station** in Pending, Kuching commissioned with **total 4.05MW** generating capacity.

1960s

- SESCo started **exploration of hydroelectric potential** through a Colombo Plan survey.



SARAWAK

Sarawak Electricity Supply Corporation Ordinance, 1962

- The Sarawak Electricity Supply Company Limited (SESCo) was dissolved, and all electricity installations were transferred to and vested in Sarawak Electricity Supply Corporation (SESCO) under the Sarawak Electricity Supply Corporation Ordinance 1962.
- Rural Electrification Scheme was announced to supply **90% of Sarawakians** with electricity **over the next 40 years**.

1970s

- **Bakun Hydroelectric Plant (HEP)** on the Balui river upstream of Belaga proposed.
- Kuching completed **38.4MW power station** at Kg. Biawak.

1980s

- **Sarawak's largest civil engineering project**, Batang Ai HEP was commissioned, launching the company's hydropower journey to create sustainable value for Sarawak.
- **New headquarters** at Wisma SESCO completed. The architectural landmark resembled an electric transformer.

1990s

- Sarawak Enterprise Corporation Berhad (SECB) acquired **45% equity in SESCO** from the Sarawak Government.
- **195MW Tanjong Kidurong Power Station** became the largest gas-fired plant in Sarawak.
- **Two 50MW coal-fired generators** came online before the 210MW Sejingkat Power Plant's completion in 2004 – Sarawak's first major coal-fired power plant.

2000s

- SESCO became a wholly-owned subsidiary of SECB and was renamed Syarikat SESCO Berhad.
- **Sarawak Enterprise Corporation Berhad officially renamed as Sarawak Energy Berhad** in 2007.
- **Launch of the Sarawak Corridor of Renewable Energy (SCORE)** in 2008 to leverage Sarawak's abundant renewable hydropower and natural resources to power energy-intensive industries and attract other investments into the area.

- **RM2.7 billion 500kV** second transmission backbone project commenced in 2013, running parallel to the **first 275kV Transmission Grid**.
- Official launch of **944MW Murum HEP** in 2016.
- The **1,285MW Baleh Hydroelectric Project** receives formal approval from the Sarawak Government in 2016.
- First power export to West Kalimantan, Indonesia in 2016, our first step towards materialising the Borneo Grid and the wider ASEAN Power Grid.

- Part of the State's rural electrification masterplan's strategy to achieve full coverage by 2025, the Sarawak Alternative Rural Electrification Scheme (SARES) – an innovative government-community partnership model – was launched in 2016.
- Sarawak acquired the **2,400MW Bakun HEP** from the Federal Government in 2017.
- Launched Sarawak Energy Excellence Roadmap and five key focus areas in 2017.
- Southeast Asia's first Integrated Hydrogen Production Plant and Refuelling Station in Kuching was launched in 2019 to support Sarawak's Green Energy Agenda, with the introduction of Sarawak's first hydrogen-powered vehicles.
- Northern Grid Extension Project to connect Limbang Division to the main grid commenced in 2019.
- Ministry of Utilities and Sarawak Energy organised SAREF – an international conference of energy and sustainability leaders – where Sarawak's first renewable energy certificate (REC) was launched in 2019.
- Sarawak Energy became the first corporation in Malaysia to commit to the "**Business Ambition for 1.5°Celsius**" under United Nations Global Compact in 2020.
- A Power Exchange Agreement and an Interconnection Agreement signed with Sabah Electricity Sdn Bhd (SESB) in 2021, further advancing the Borneo Grid and ASEAN Power Grid.

ABOUT SARAWAK ENERGY

102-2, 102-6, 102-7, 102-10, 102-12, 103-2, EU26

100 YEARS OF POWERING SARAWAK

102-2, 102-10

100 YEARS OF POWERING SARAWAK

Transforming into A Modern and Agile Corporation

The transformation of our corporate identity through the years symbolises important transition points in Sarawak Energy's growth and expansion journey as we continue to light up Sarawak.

1920s
Electrical Section, Public Works Department, Brooke Administration

1930s
Sarawak Electricity Supply Company Limited (SESCo) was founded

1960s
Sarawak Electricity Supply Corporation (SESCO)/Perbadanan Pembekalan Letrik Sarawak (PPLS)

1980s
SESCO accelerated its growth and expansion to support Sarawak's rapidly developing economy

1990s
Sarawak Enterprise Corporation Berhad

1 July 2005
Underwent privatisation and was renamed Syarikat SESCO Berhad; SESCO would eventually operate as a subsidiary of Sarawak Enterprise Corporation Berhad

31 March 2007
Sarawak Energy Berhad

18 September 2012
Sarawak Energy's new corporate identity

31 May 2019
Introduction of compact and solid-coloured logos

The symbol:
- The blue wave represents the mighty rivers of Sarawak, the source of hydropower
- The green wave symbolises the forests and the natural environment, drawing energy from the sun
- Together, the waves represent clean and renewable energy, sustaining life and growth for Sarawak and its people

Sarawak Energy Virtual Gallery
To commemorate our centenary, we rolled out the Sarawak Energy Virtual Gallery in December 2021.

To learn more about our Past, Present and Future, please scan this QR.

Sarawak Energy Centenary Webpage
Visit Sarawak Energy's centenary webpage to learn more about our journey and the people who have helped us in powering Sarawak.

102-16

VISION, MISSION AND LIVING OUR VALUES

VISION

Sustainable growth and prosperity for Sarawak by meeting the region's need for reliable, renewable energy

MISSION

- Pursue opportunities for growth by fully developing the Sarawak Government's Sarawak Corridor of Renewable Energy agenda
- Ensure our own safety and the safety of others, with a commitment to do 'no harm to anyone at any time'
- Provide a reliable supply of clean, competitively-priced energy to support the economic and social development of Sarawak and our partners in the region
- Operate as a business based on principles that reward our owners and employees, and delight our customers
- Honour the trust placed in us by the people of Sarawak, by acknowledging and respecting them and contributing to their wellbeing
- Set and achieve high ethical and corporate standards that are a source of pride for our employees, customers and owners
- Develop our people, leadership and teamwork to build an agile, open and customer-focused culture that responds to challenges and the need for change with innovation and cooperation
- Harness and utilise natural resources in a sustainable and responsible way
- Achieve operational excellence through a commitment to continual improvement and best practice

OUR CORE VALUES

		ATTRIBUTES
C	**Courage** We dare to do what is right and in the best interests of our Company and the community, even when it is not easy to do so.	• Dare to speak one's mind • Dare to share different viewpoints • Dare to intervene to right the wrong • Dare to take risks in decision-making
U	**Unity** We collaborate and work together to deliver our business objectives.	• Purposeful collaboration • Enterprise-first mindset • We before me • Synergy and teamwork
R	**Respect** We value differences, include and acknowledge different points of view and listen well in all situations.	• Value differences • Be inclusive • Listen • Be humble
I	**Integrity** We are honest and can be trusted by people to do what is right.	• Professionalism • Honesty • Trustworthy • Do the right thing
A	**Accountability** We work hard and are responsible for delivering our promises to the highest standards.	• Ownership • Commitment • Delivery on promises • Do things right with professionalism

WINNING BEHAVIOURS

1 Proactive on HSSE	2 Value and bottom line driven with strong cost discipline	3 Trusted to deliver on our promises	4 Precise and speed conscious
5 Conducting our business with integrity	6 Focusing on teamwork and integration	7 Working across functional and organisational boundaries	8 Proud of Sarawak Energy and will do our best
9 Open and adaptable to leverage technology for solutions	10 Learning from our experience and mistakes	11 Employees of choice, working for the employer of choice	12 Respectful of our people and the law of the land

102-6, 102-9, 102-12, 103-1, 103-2, 203-1, EU26

RENEWABLE ENERGY FOR SARAWAK & BEYOND

Sarawak Energy takes a holistic approach to power development, balancing energy security, sustainability and affordability to achieve sustainable socio-economic transformation in Sarawak and the region. Our efforts are also aligned with and support the state's Post COVID-19 Development Strategy 2030 that puts affordable, reliable and renewable energy as the key enabler to sustainable economic growth.

In pursuing this, we are committed to sustainable development and our business strategies are aligned with the United Nations Sustainable Development Goals (UN SDGs), with a focus on six goals that enable value creation and sustainable growth.

A BALANCED GENERATION MIX

Sarawak's generation mix consists primarily of renewable hydropower, with indigenous gas and coal for energy security and diversity.

To maintain at least **60%** **renewable energy** in the generation mix with the balance from indigenous thermal resources.

Currently, Sarawak's installed capacity is **5,646MW**.

We are continuing to explore technological advances in alternative and renewable energy sources to light up Sarawak sustainably and cost-effectively.

ELECTRICITY TARIFF

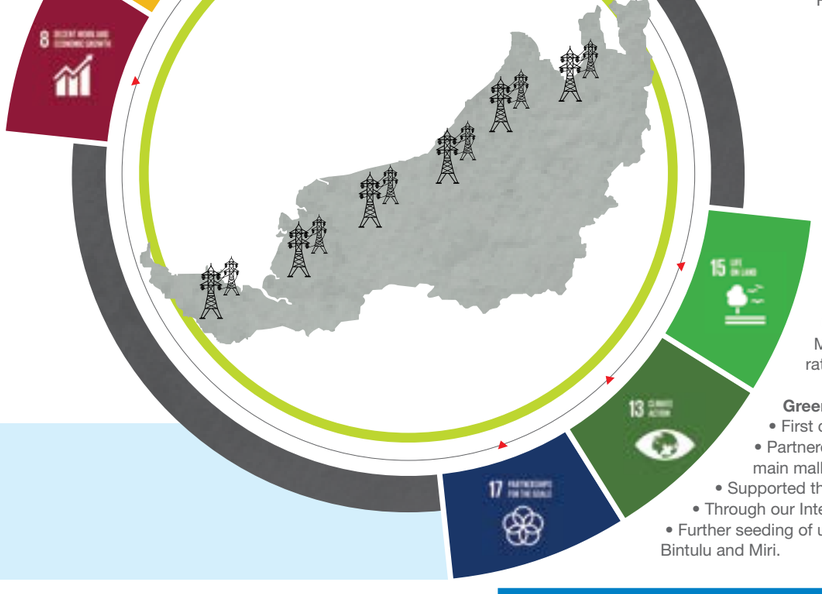
We offer among the most competitively-priced average unsubsidised tariffs in Southeast Asia.

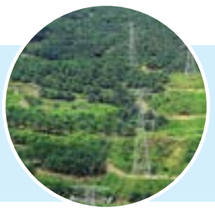
Our average rate is **27.3 cents/kWh**. This has attracted significant investments from power-intensive industries to Sarawak, powering job creation and socio-economic growth.

LIGHTING UP COMMUNITIES

In line with UN SDG No.7 to ensure access to affordable, reliable, sustainable and modern energy for all, the Sarawak Government, through the Ministry of Utilities (now known as the Ministry of Utility and Telecommunication), has entrusted us to accelerate rural electrification through the Rural Electrification Scheme (RES), Rural Power Supply Scheme (RPSS) and Sarawak Alternative Rural Electrification Scheme (SARES), to support Sarawak's ambition to achieve full electrification by 2025.

As of 31 December 2021, we have achieved **98.6%*** overall domestic coverage and **96.5%*** rural coverage.





BECOMING A REGIONAL POWERHOUSE

We are committed to implementing our plans to create an interconnected Borneo via the Borneo Grid and, subsequently, the ASEAN Power grid, placing Sarawak Energy as the Battery of ASEAN.

- In 2016, we established Sarawak's first interconnection to export power to West Kalimantan in Indonesia.
- This year, we signed a Power Exchange Agreement and an Interconnection Agreement with SESB to export power supply to Sabah.
- We are working with Sembcorp Industries and SP Group from Singapore to study a potential power interconnection between Sarawak and Singapore.
- We are making significant progress in the comprehensive preparations for the proposed 1,375MW Mentarang Induk Hydroelectric Project in North Kalimantan, which will be our first international joint venture hydropower development project.

Note:

* *These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-12, 103-2, 305-1, 305-4, EU10

RENEWABLE ENERGY FOR SARAWAK & BEYOND

CARBON FOOTPRINT

Carbon intensity for electricity supply decreased by **72%** from 2011 to 2021.

Our total main grid emissions this year was **5.98 million tCO_2eq**, a **7%** increased from 2020.

Our emissions intensity, of **0.198 tCO_2eq/MWh***, continues to be one of the lowest when benchmarked against other power utility companies globally.

CAPTURING GROWTH

Renewable hydropower offers investors reliable, renewable and affordable energy, as well as the option to green their operations.

SCORE

Between 2008 and 2021, 14 Power Purchase Agreements (PPA) have been signed with industries in SCORE as well as a Power Exchange Agreement (PEA) for the interconnection with PLN in West Kalimantan. Close to a total of **2,930MW** has been committed.

NEW OPPORTUNITIES

On 4 March, Sarawak Energy and PETRONAS signed a key term sheet to provide **90MW** of electricity supply to the Malaysia LNG Complex at Tanjung Kidurong, Bintulu beginning in October 2024 for 20 years.

On 15 December, we signed a term sheet agreement with Wenan Steel (Malaysia) Sdn Bhd for a potential future supply of 75MW to its steel manufacturing complex in Samalaju Industrial Park.

LEADING REGIONAL EFFORTS IN CLIMATE ACTION

Green Building

Menara Sarawak Energy is the first building in Borneo to achieve a Green Building Index and has been rated Silver since 2013.

Greening the Transportation Sector

- First company in Sarawak to incorporate electric and hydrogen fuel cell vehicles into its corporate fleet.
- Partnered with Malaysia Green Technology Corporation to install universal EV chargers in Kuching's main malls and hotels.
- Supported the launch of four Kuching Metro electric city buses to further advance green mobility.
- Through our Integrated Hydrogen Production Plant and Refuelling Station, we fuel Kuching's hydrogen buses and cars.
- Further seeding of universal public EV chargers that are being expanded and deployed to other cities such as Sibu, Bintulu and Miri.

A MORE SUSTAINABLE ENERGY FUTURE

- As a signatory of the San José Declaration on Sustainable Hydropower, Sarawak Energy is aligned with its principles and advocates that, "The only acceptable hydropower is sustainable hydropower".
- First corporate body in Malaysia to pledge support for "Business Ambition for 1.5°Celsius". We commit to contribute to climate action through science-based targets.
- SAREF 2.0 was held in November and this time, we partnered with UNGCMYB. SAREF 2.0 was integrated within the GO ESG ASEAN 2021 Summit as a parallel session over one afternoon.
- Developing a 50MW floating solar project at the reservoir at Batang Ai HEP to increase the share of alternative energy in Sarawak's generation mix.
- Working with industrial players in the region to support decarbonisation. Supplying 100% renewable energy via the REC mechanism to offset carbon emissions associated with their electricity consumption.
- With internationally trained in-house HSAP and HESG assessors, we reinforce our commitment to enhancing Sarawak Energy's hydropower sustainability performance and establishing ourselves as a renewable hydropower specialist.

Note:

* *This main grid CO_2 emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-6, 102-9, 203-1, EU10

ENERGY FOR SARAWAK

Sarawak's sustainable growth is anchored on the provision of reliable, affordable and regionally competitive energy. As Sarawak's primary energy provider, we harness our natural resources ethically and sustainably to power development, helping to drive socio-economic transformation.

Contribution of Large-Scale Renewable Hydropower Plants to Total Capacity

3,452MW or 61.6%

Net Energy Generation (Main Grid)

30,163GWh*

Sarawak's generation mix is predominantly renewable hydropower, complemented by indigenous coal and gas for diversity and energy security. In 2021, alternative energy from solar installations in our rural electrification projects made up around 1% of Sarawak's generation mix and by 2030, large-scale solar will comprise about 4% of the generation mix.

Sarawak's installed capacity has grown from 1,347MW in 2010 to 5,646MW today with large-scale renewable hydropower plants contributing to 3,452MW or 61.6% of the total capacity. Energy generated from renewable hydropower is an added value proposition for investors looking to 'green' their operations.

Our net energy generation for the year was around 30,163GWh* while total energy sold, including exports, was around 28,590GWh, enabling Sarawak to service the needs of residential, commercial, industrial, SCORE and export customers.

Note:

** This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

RENEWABLE AND SUSTAINABLE HYDROPOWER DEVELOPMENT

Since the acquisition of Bakun from the Ministry of Finance in 2017, Sarawak Energy manages the Murum and Bakun HEPs as a single integrated operation under Malaysia's first cascading hydropower dams.

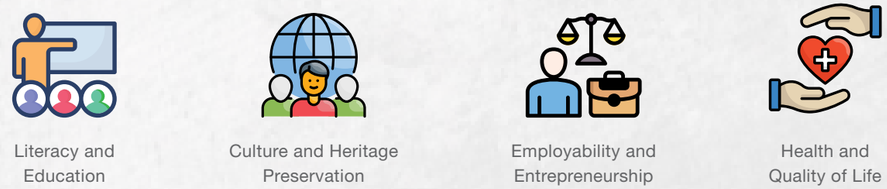
Provides modern power system and accelerates rural electrification efforts

Lower Levelised Cost of Electricity (LCOE), enabling Sarawak to have among the most competitive average unsubsidised tariffs in the region

Decarbonised Sarawak's power system

Mitigates severity of downstream flooding during heavy rainfall

Powers community growth



Literacy and Education

Culture and Heritage Preservation

Employability and Entrepreneurship

Health and Quality of Life

Drove launch of Sarawak's first Renewable Energy Certificate (REC)

Drives renewable energy transition for a sustainable energy future in the region

Bolsters Sarawak's socio-economic transformation and digital economy, including development in rural areas

Supports the establishment of totally protected areas, such as the Batang Ai National Park

Our fourth large renewable hydroelectric project, Baleh HEP, is currently scheduled to be completed by 2027.

Scan here to view the San José declaration on sustainable hydropower.

SAN JOSÉ DECLARATION ON SUSTAINABLE HYDROPOWER'S PRINCIPLES

As one of the advocates of responsible hydropower development, Sarawak Energy is aligned with the San José Declaration on Sustainable Hydropower's principles launched at the World Hydropower Congress 2021 in September.

For sustainable hydropower to deliver ongoing benefits, we are committed to the following principles:

- The only acceptable hydropower is sustainable hydropower.
- Sustainable hydropower requires stakeholders to work together.
- Sustainable hydropower delivers ongoing benefits to communities, livelihoods and the climate.

203-1

ENERGY FOR SARAWAK

THERMAL POWER DEVELOPMENT

Renewable hydropower will continue to dominate our generation mix, with thermal power from our indigenous coal and gas providing additional supply security.

Our 842MW Tanjung Kidurong Combined Cycle Power Plant (CCPP) project in Bintulu is an extension of the existing Kidurong Power Station and when completed, it will be one of the world's most efficient combined-cycle power plants in its class.

In January 2021, we successfully delivered the first block of the Tanjung Kidurong CCPP project, adding 330MW to the State grid. The second CCPP was fired on 16 October 2021, putting it on track to be completed by Q2 2022.

Sarawak Energy's 624MW Balingian Coal-fired Power Plant utilises indigenous local coal and is the Company's last coal-fired power plant to be built and commissioned. The plant is designed based on Circulating Fluidised Bed (CFB) boiler technology, enabling the plant to handle a wide range of coal types, including high moisture indigenous coal. The plant's CFB boiler reduces nitrogen dioxide and sulphur dioxide emissions, minimising its environmental footprint.

Meanwhile, the Sejingkat Coal-fired Power Plant still supports Kuching's power supply requirements. The plant's phased decommissioning is expected to start in 2026.

SECURING UPSTREAM RESOURCES

In 2021, we were able to secure a reliable supply of coal from Sarawak's Central Region, covering the coal needs of the Balingian Power Plant and the Sejingkat Power Plant while maintaining coal quality standards.

103-2, 203-1, EU29

ENERGY FOR SARAWAK

STRENGTHENING THE RELIABILITY OF OUR SYSTEM

Sarawak Energy continues to invest in a strong and reliable transmission system to strengthen our network in Sarawak and expand export potential.

500kV Backbone Transmission Grid

The 500kV Backbone Transmission Grid from Similajau (Bintulu) to Tondong (Kuching) is a second transmission backbone and runs parallel to the 275kV first transmission grid, strengthening Sarawak's power system's reliability and mitigating the current system constraints. The project is crucial for minimising the risk of major power disruptions, especially for customers in load centres like Sibu and Kuching.

We are working on securing rights-of-way for the transmission line route, involving the main routes of Package A (Similajau to Mapai), Package B (Mapai to Lachau) and Package C (Lachau to Tondong). The Lachau to Tondong line is underway with expected completion in Q4 2022.

Once Baleh HEP is completed, it will be connected to the 500kV Mapai substation by a 500kV transmission line now in the project funnel, which is expected to be completed in 2027. The Baleh-Mapai 500kV Transmission Line's primary objective is to evacuate power from Baleh HEP, which fulfils the generation capacity development plan in SCORE owing to the growing demand from energy-intensive businesses which are keen to invest in Sarawak.

Northern Grid Extension Project

We are advancing our Northern Grid Extension project to strengthen supply reliability in the Northern Region, expanding our transmission network across the length of Sarawak and creating injection points for potential power export to Sabah to realise the Borneo Grid. The project includes the construction of Extra High Voltage (EHV) 275/33/11kV substations and 275kV transmission lines.

Scheduled for completion in the next few years, the project is an important infrastructure development that is being implemented in phases. The completion of the project will also enable Sarawak Energy to link up Limbang and Lawas to the transmission grid and decommission Limbang and Lawas' diesel power plants, contributing to climate change efforts.

Our investments in these projects have improved our System Average Interruption Duration Index (SAIDI) for generation, transmission and distribution, allowing our customers to enjoy greater reliability of supply and less inconvenience from supply interruptions. Since 2016, our overall SAIDI numbers have improved by 50%, from 242 minutes to 120.74 minutes in 2021.

103-2, 203-1, 307-1, 403-4, 403-5, 403-6

2021 YEAR IN REVIEW

102-43, 103-2, 103-3, 203-1, 203-2, 204-1, 403-6, 404-2, EU12, EU26, EU28, EU29

2021 YEAR IN REVIEW

Power to Grow

A GENERATIVE HSSE CULTURE

- Strengthen HSSE Governance by rolling out HSSE-related PPGs
- To progress our Permit to Work (PTW) digitalisation journey, Sarawak Energy has held various awareness training programmes and Train-the-Trainer workshops to prepare the Company for our electronic PTW journey
- Inaugurated Sarawak Energy HSSE Excellence Week 2021
- Exchanged Memorandum of Understanding with Forest Department Sarawak to partner in conserving hydropower catchment areas
- Maintained **100%** Environmental Regulatory Compliance at all our main power stations
- Zero penalties, fines or stop work orders for all Environmental Impact Assessment (EIA) project developments
- Working with the Department of Occupational Safety and Health (DOSH) Sarawak to draft the Guidelines on Occupational Safety and Health in Coal Mining Malaysia
- Decreased overall intrusion cases from **39 in 2020 to 29 in 2021**

ENSURING RELIABLE ELECTRICITY SUPPLY

- Completed and commissioned two RES substations (**Kanowit 132/33kV** and **Tatau 275/33kV** substation) and two substation extension projects (**Lachau 275kV** and **Kemena 275kV**)
- Completed and commissioned two transmission line projects
- Commissioned Supervisory Control and Data Acquisition (SCADA) Equipped Compact Substation trial at Sky Garden, enabling fast supply restoration during a breakdown
- Collaborated with the Malaysian Royal Police to combat power theft

FULL ELECTRIFICATION BY 2025

- Achieved overall electrification rate of **98.6%***
- Achieved rural electrification rate of **96.5%***
- From 2019 to 2021, **20,439** rural households were electrified under the Sarawak Government's Projek Rakyat initiative
- Connected **3,833** households through Additional Late Applicants Fund (ALAF)

OPERATIONAL AND SERVICE EXCELLENCE

- Achieved a customer satisfaction index of **96.51%** in 2021
- Reduced non-technical losses, contributing to savings of **464.55GWh**
- Achieved overall System Average Interruption Duration Index (SAIDI) of **120.74 minutes** in 2021 and System Average Interruption Frequency Index (SAIFI) of **1.61 times**
- Opened new customer service counters in Lawas, Kapit and Siburan while Serian counter was moved to Service Sarawak Centre (SSC) Serian

GROWING LOCAL CONTENT

- Signed a Memorandum of Understanding (MoU) with RHB Islamic Bank Berhad, Small Medium Enterprise Development Bank Malaysia Berhad (SME Bank) and Ikhtiar Factoring Sdn Bhd to provide financial solutions for local contractors under Sarawak Energy's Vendor Financing Programme
- From 2016 to 2021, the share of works awarded to Sarawakian Bumiputera vendors exceeded **RM2.8 billion**

DEVELOPING OUR PEOPLE

- **96%** of critical positions in the organisation have two "Ready Now" candidates
- Introduced Accelerated Development Programme (ADP) to prepare identified talents for top-level leadership roles
- **710** employees were progressed, the highest number since 2017
- **22** employees certified as Lean Six Sigma Green Belters and one employee certified as a Lean Six Sigma Black Belt
- **50** employees enrolled for Sarawak Energy Executive Leadership Programme, in collaboration with Melbourne Business School

MAKING SARAWAK ENERGY A GREAT PLACE TO WORK

- Inaugurated Sarawak Energy Mental Health & You Campaign
- Revised Employee Assistance Programme PPG
- **100%** participation in Sarawak Energy Employee Survey – Achieved overall score of **84%** for employee engagement, continuous improvement, diversity & inclusiveness

Diversity, Equity and Inclusiveness

- Rolled out Diversity & Inclusiveness (D&I) Framework
- Appointed **59** employees as ambassadors to drive D&I in the organisation
- As part of our D&I commitment, we have set a KPI that **40%** of ADP candidates should be females

Note:

** These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

103-2

2021 YEAR IN REVIEW

CULTIVATING COMMERCIAL ACUMEN

- Introduced a sixth Key Focus Area – Commercial Excellence
- Established a working committee to develop a CE framework and educate the workforce
- Developed a practitioner learning module

DIGITALISING OUR BUSINESS FOR OPERATIONAL EXCELLENCE

Generation

- Following Digital Power Plant blueprint for Generation Transformation by improving workforce and asset productivity while mitigating risks

Transmission/Distribution

- Improving transmission and distribution operations through smart grid development

Retail

- Investing in Smart Retail transformation by introducing customer self-service mobile application SEB cares, online applications for electricity supply, self-service payment kiosks, smart meters, mobile meter management system (MMMS), counter appointment system and e-bills

HSSE

- Introduced virtual reality (VR) that replicates actual conditions and recreates various real-life worst-case scenarios
- Deployed drone technology for visual inspection and surveillance as well as environmental monitoring, which allows us to determine surface sea water colour and the impact of waste water discharges from power plant operations

STEPPING UP PROJECT DELIVERY FOR SUSTAINABLE GROWTH

- Strengthened Project Governance – Enhanced SEPM was endorsed by the GEC in July 2021
- Formation of State Steering Committee for land and wayleave issues
- Block 2 of Tanjung Kidurong Combined Cycle Power Plant achieved its first firing on 16 October 2021

A MORE SUSTAINABLE ENERGY FUTURE

- SAREF 2.0 organised, together with GO ESG and UNGCMYB
- Signed Grant Agreement with Swedfund International AB for Variable Renewable Energy Penetration Study
- Launched 'Employee Action for the SDGs Playbook' as a guide to help employees embed sustainability mindset and practices, contributing to the global SDG efforts at an individual level
- Sarawak Energy and UNGCMYB's SME-SDG Toolkit received international acknowledgement from SME Climate Hub, a global initiative of the We Mean Business Coalition, the Exponential Roadmap Initiative and the United Nations Race to Zero campaign in collaboration with Normative and the Net Zero team at Oxford University

STRENGTHENING CORPORATE GOVERNANCE

- Rolled out mandatory ABC Learning Programme
- Sarawak Energy Enterprise Risk (SEERisk) System Phase One roll-out
- Continued to run the Sarawak Energy Integrity Survey
- Implemented PPGs for Gifts, Entertainment and Hospitality (GEH)
- Implemented Enterprise Information Management (EIM) PPG

DRIVING RESEARCH AND INNOVATION IN THE ENERGY SECTOR

- Collaborated with Universiti Teknologi Petronas (UTP) on a Corrosion Study of Bakun HEP
- Collaborated with Swinburne University of Technology Sarawak on research into characterisation and development of solid activator for binding of Balingian Power Plant's fly ash into potential construction materials
- Held annual SCIENCE event to promote students' interest in STEM
- Sarawak Energy Research & Development Laboratory opened
- Partnership with PESTECH to research containerised solar hydrogen solution
- Collaboration with Korean Partners on Smart Microgrid System to converge different renewable energies for efficient utilisation
- Collaboration with University Technology Melaka to identify the best transition model for stand-alone solar systems once the grid connection is available

CAPTURING GROWTH OPPORTUNITIES

- Signed a key term sheet with PETRONAS for Long-Term Electricity Supply to provide 90MW of electricity supply to the Malaysia LNG Complex at Tanjung Kidurong, Bintulu beginning March 2024 for a period of 20 years
- Signed a term sheet agreement with Wenan Steel (Malaysia) Sdn Bhd for a potential future supply of 75MW to its steel manufacturing complex in Samalaju Industrial Park

COVID-19 INITIATIVES

- Prepared technical support for National COVID-19 Immunisation Programme
- Implemented Sarawak Energy Industrial Vaccination Programme for employees, contractors and family members
- Employee contribution to the State Disaster Fund to help alleviate the burden of those hardest hit by the COVID-19 pandemic

PROGRESSING OUR REGIONAL POWERHOUSE AMBITION

- Achieved significant progress on the technical and stakeholder fronts for the proposed Mentarang Induk Hydropower Project in North Kalimantan
- Signed a Power Exchange Agreement and Interconnection Agreement with Sabah Electricity (SESB)
- Formed a consortium with Sembcorp Industries and SP Group from Singapore to explore the potential of a Sarawak-Singapore interconnection

AWARDS AND ACCOLADES

- In recognition of Sarawak Energy's digital transformation, the Company received the:
  - o Malaysia Enterprise Innovation Award from the Asia IoT Business Platform for the second consecutive year in 2021
  - o IT Modernisation Award at the 2021 Innovation Awards by OutSystems
- Towards HSSE excellence, Sarawak Energy was awarded:
  - o the Sarawak Chief Minister's Environmental Award
  - o several awards at the Malaysian Society for Occupational Safety & Health (MSOSH) Awards 2021
  - o the Prime Minister's Hibiscus Award (PMHA)
- Received the COVID Management Initiatives of the Year – Utilities Award at the Malaysia Management Excellence Awards 2021
- UNGCMYB Sustainability Performance Award 2021:
  - o SDG Ambition Benchmark 7 Award: Science-based emissions reduction in line with a 1.5°C pathway (Corporate Category)
  - o Sustainability Icon Award
    Datu Sharbini Suhaili
    Group Chief Executive Officer of Sarawak Energy Berhad
  - o Climate Action Fellow
    Mohamad Irwan Aman
    Head of Sustainability

102-2, 102-6, 102-11, 102-14, 102-16, 103-2

CHAIRMAN'S STATEMENT

Over the last century, Sarawak Energy has evolved and transformed significantly from a small utility in a government department reliant on imported fossil fuels to Malaysia's largest renewable energy developer.

As we grew, we stayed focused on our mission to support the government of Sarawak and now provide reliable and affordable electricity for almost all of Sarawak's three million people, with a growing domestic and export customer base. Building on the strong foundation and legacy of our predecessors, the last decade has seen a significant change in our journey as we developed our renewable energy resources to power Sarawak's socio-economic development as well as progress our ambition of becoming a regional powerhouse.

DATUK AMAR ABDUL HAMED SEPAWI
Chairman

DEAR SHAREHOLDERS,

A century of progress is a tremendous achievement, and it gives me great pride to be the sitting Chairman of the Board as Sarawak Energy marks this centennial milestone. Having served as Chairman since 2005, I have been privileged to witness a significant part of Sarawak Energy's transformation journey first-hand.

We must acknowledge that our existence today is only possible because of the trust of the government and people of Sarawak in us, and we truly appreciate this. In honour of this trust, Sarawak Energy's leadership and employees have worked hard to deliver and stay relevant through agile transformation, especially in recent rapidly changing times.

The Company's clear strategic direction and key focus areas have harnessed the innate potential of Sarawak's energy resources and people while maintaining a focus on exceptional delivery through high performance and a diverse and inclusive corporate culture. This is underpinned by systematic measures, financial prudence and a commitment to enhancing operational excellence and corporate governance.

Driven by a progressive culture that is committed to continuous improvement with a growing external focus, Sarawak Energy continued to record sustainable growth while delivering real stakeholder value and exceptional performance in 2021, delivering on most of what we promised despite the challenging business landscape caused by the ongoing COVID-19 situation.

Sarawak Energy is advancing further towards powering the sustainable growth and prosperity of Sarawak by sharing our hydropower expertise and pursuing regional interconnections with our neighbours to deliver a more prosperous and sustainable energy future for Southeast Asia. We are in a good position to enter a new century of growth as we power Sarawak and beyond.

102-2, 102-11, 102-12, 102-14, 102-15, 103-2

Our Past and Present

Reconnecting with our history shows us how we have evolved with the times and has important implications for our work going forward. Looking back at the last century, we can say that with every decade, we have achieved remarkable milestones.

In line with our vision and commitment to UN SDG No. 7 to ensure access to affordable, reliable, sustainable and modern energy for all, we have almost met our target of achieving full electrification for Sarawak by 2025.

Our customer base has grown over the years to 740,000 and Sarawak Energy has also become the largest employer of professional Sarawak talent.

Our 108MW Batang Ai Hydroelectric Plant, commissioned in 1985, marked the beginning of Sarawak's renewable hydropower development journey.

POWERING THE FUTURE ENERGY LANDSCAPE

As countries and corporations come together to work towards addressing climate change while meeting their respective development goals, there has been a greater focus on shifting towards renewables and accelerating the energy transition. This change has been reflected in ASEAN, with 82% of new capacity in the region being from renewable sources in 2020.

Sarawak Energy has and will continue to contribute to this regional energy transition by investing in renewable energy with hydropower as the foundation of our growth over the next 100 years. In this respect, Sarawak Energy can be seen to be ahead of the sustainable energy development curve.

Our generation mix, which was 100% fossil fuel when we began in the 1920s and as recently as the early 1980s, is today predominantly renewable hydropower with a growing percentage of low carbon alternatives in our mix through solar, smaller hydro and floating solar.

Many of our achievements have been a direct result of SCORE, which was launched in 2008. In the past decade, Sarawak Energy has experienced accelerated growth and is playing an increasingly important role in realising Sarawak's sustainable development and vision of achieving high-income status.

I am confident we will see further progress under the Post COVID-19 Development Strategy (PCDS) launched by the Government of Sarawak this year. This strategy is anchored on, among others, renewable energy development and deployment.

The Sarawak Government has entrusted us to advance our sustainability goals and create a clean and inclusive energy future.

As part of this trust, we are also spearheading ground-breaking research into green hydrogen production and its application in a tropical environment. Through our focus on hydropower, we are now Malaysia's largest renewable energy developer and provider and amongst the largest in Southeast Asia.

We are focused on pursuing innovative solutions and technologies to diversify the application of renewable energy, as exemplified by our exploration into green hydrogen and floating solar.

Joining a **global movement of leading companies** in aligning our business with the **Paris Agreement** to limit global temperature rise to

1.5°C by 2030

102-2, 102-11, 102-14, 102-15, 103-2

CHAIRMAN'S STATEMENT

Our progress in this area will enable us to position Sarawak as Southeast Asia's renewable energy powerhouse and will give us a competitive advantage in attracting foreign investments.

DELIVERING SUSTAINABLE GROWTH FOR A MORE SECURE ENERGY FUTURE

Sarawak's aspiration under the PCDS is to achieve high income status by 2030 where everyone enjoys economic prosperity, social inclusivity and a sustainable environment.

A crucial ingredient in powering the economy in a sustainable way is by generation of affordable and reliable energy, with renewable energy constituting the majority of Sarawak's generation mix. As a leading advocate of responsible hydropower development, Sarawak Energy can maintain the affordability and competitiveness of tariffs through a balanced approach to addressing the energy trilemma.

In addition, we have plans to increase the share of renewable energy by integrating large scale solar into our generation mix. Our progress in this area will enable us to position Sarawak as Southeast Asia's renewable energy powerhouse and will give us a competitive advantage in attracting foreign investments.

Through actions and activities in support of the PCDS, Sarawak Energy will also be managing climate risks and contributing towards reducing emissions, in line with the nation's aim to becoming carbon-neutral by 2050. Under the PCDS, the energy sector is expected to maintain a renewable energy capacity mix of at least 60% until 2030 and will reduce emissions by 600,000 tCO_2eq/annum via the electrification of transportation in Sarawak.

NURTURING A COMPETENT WORKFORCE

Over the past century, our people have consistently risen to the occasion, demonstrating a high level of professionalism, agility and adaptability in discharging their duties. They have also acquired new skills, implemented new processes and embraced innovative technologies and ways of working to thrive amid evolving work environments and changing expectations.

This has been especially true over the past two years, as our people demonstrated during the COVID-19 pandemic, ensuring that we would be able to mark our 100 years of operation with continuous successes and milestones.

In the belief that our people are our greatest asset, the Company has focused on nurturing a workforce that is not just technically competent, but also one that can operate in any environment. Through the Talent Management Excellence key focus area, we have implemented programmes and initiatives that support growth and development so our people can realise their full potential.

The Company is also fully aware of the need to foster 21st-century skills among our people, emphasising technology skills and digital literacy in recent years with the global shift towards digitalisation.

We are also developing commercial acumen among our workforce; to ensure they consider value in everything that they do and elevate our business profitability, while still adhering to our sustainability principles and thereby creating value for the Company and stakeholders.

102-2, 102-11, 102-12, 102-14, 103-2, 203-1

CHAIRMAN'S STATEMENT

STRENGTHENING CORPORATE GOVERNANCE

Good corporate governance has a key role in ensuring Sarawak Energy's business continuity, enabling us to sustain the value created by our predecessors while simultaneously protecting the organisation from corporate and personal liability.

With good corporate governance, Sarawak Energy will be able to stay on course in progressing our strategic roadmap.

With leadership visibly involved in promoting good governance principles embedded on a strong foundation of integrity, Sarawak Energy is making good progress in inculcating corporate governance practices among our people and strengthening internal controls at every level.

Our commitment to conducting our business with integrity and transparency is providing an environment where we can deliver on our promises while maintaining strong business resilience and ethical conduct.

DIGITALISATION AND ENTERPRISE MODERNISATION

To maintain our relevance in a rapidly digitalising world, Sarawak Energy has accelerated our digital transformation journey as we work towards becoming a digital utility by 2025.

Significant investments have been made since 2018 to put robust and fit-for-purpose infrastructure in place to enable enterprise modernisation as well as upgrade, digitalise and automate our processes and systems.

This early investment was especially crucial to business continuity for our employees and stakeholders during the various lockdowns and movement control orders over the COVID-19 pandemic.

Our Smart Retail initiatives were able to enhance customer experience, ensuring delivery of the best service to customers while keeping everyone as safe as possible.

Our Digital Power Plant and Smart Grid initiatives in the pipeline will empower our people to have greater control and flexibility in managing our power plants and project sites. This will greatly improve operational efficiency and benefit our bottom lines as we continue to support Sarawak's digital economy agenda.

Sustainability

A Key Driver for a Sustainable Energy Future

As a leading advocate of responsible hydropower development, we strive to maximise the positive impact and minimise the negative impact of our business on the community we operate in and on the environment. In line with this, Sarawak Energy is aligned with the San José Declaration on Sustainable Hydropower's principles.

Enabled by renewable hydropower, we have made great progress in supporting Sarawak's sustainable development and growth agendas through our energy transition efforts.

Moving forward, we are focused on maintaining 60% renewable energy and incorporating alternative energy into our generation mix. We will also accelerate efforts to reduce carbon emissions to realise a low carbon economy and mitigate climate change, and capitalise on the benefits of hydropower to generate income for Sarawak in line with Sarawak's PCDS and our Southeast Asia renewable energy powerhouse ambition.

102-10, 102-11, 102-14, 103-2, 203-1, 203-2

CHAIRMAN'S STATEMENT

REALISING OUR REGIONAL POWERHOUSE ASPIRATION

Sarawak Energy's Vision 2022 was introduced in 2020 to guide Sarawak Energy's move from good to great.

Aligned with efforts to achieve this, the Company is making enhancements across our entire business, including:

1. Innovating across the value chain
2. Strengthening corporate governance and compliance
3. Attracting premium customers and interconnections
4. Maximising the return on invested assets
5. Increasing our renewable energy footprint
6. Accelerating state grid and rural electrification

One of our highlights this year was the signing of the Power Exchange and Interconnection agreements with Sabah Electricity Sdn Bhd. We shall be exporting between 30MW to 50MW of electricity to Sabah after the completion of transmission infrastructure in the next few years.

This brings us one step closer to realising the Borneo Grid, facilitating the progression of an interconnected Borneo and eventually, of ASEAN.

Sarawak Energy is also partnering with Sembcorp and Singapore Power to undertake a feasibility study on a potential interconnection with Singapore, progressing our vision to become the Battery of ASEAN. If this is realised, it may become the first power exchange outside Borneo Island.

CARING FOR OUR COMMUNITIES

In support of the Sarawak Government's efforts to alleviate the burdens of those hardest hit by the COVID-19 crisis, Sarawak Energy's people came together to voluntarily contribute to the *Tabung Bencana Alam* or State Disaster Fund. Out of respect for the suffering of the many affected by the crisis, Sarawak Energy agreed to defer the Centenary Celebrations and donate the gala dinner allocation to the funds to match the amount donated by our employees for a total contribution of RM1.1 million.

BOARD MATTERS

On 1 October 2021, we welcomed YBhg. Dato Sri Dr. Hj. Wan Lizozman Bin Wan Omar to Sarawak Energy's Board of Directors as a Non-Independent Non-Executive Director.

102-14

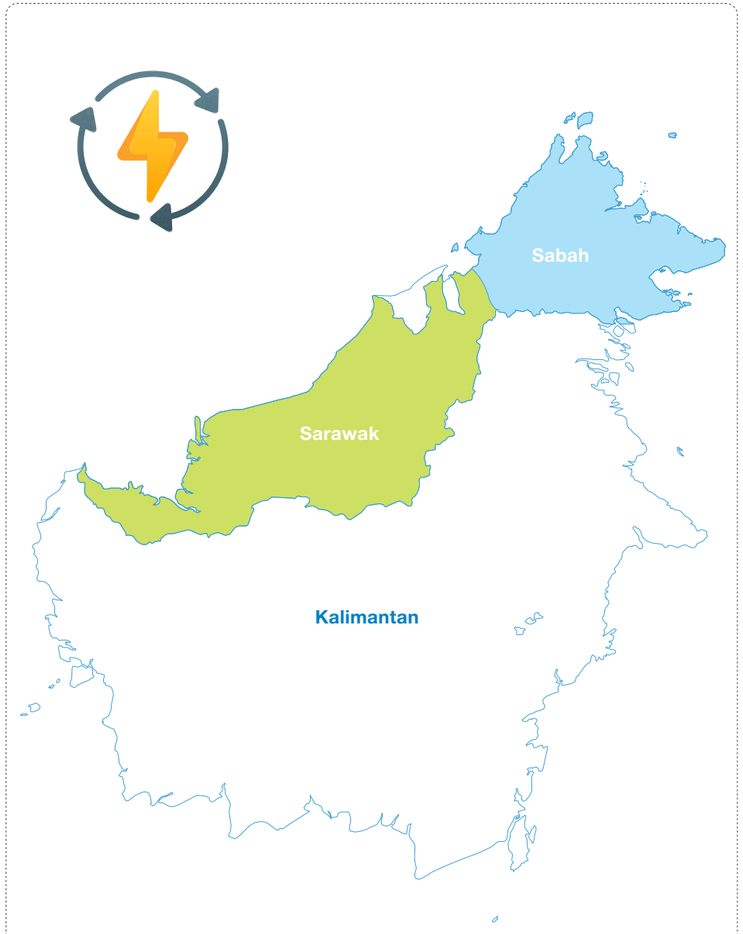
CHAIRMAN'S STATEMENT

PROSPECTS FOR 2022

Over the past century, Sarawak Energy has grown exponentially, transforming from a local utility to a premier player in the regional energy industry.

The Company is currently in a prime position to achieve our vision of sustainable growth and prosperity for Sarawak by meeting Southeast Asia's need for renewable energy. While there is no room for complacency, I am also confident the Company can achieve what it has set out to do with strong leadership, a competent workforce, robust strategic plans and continuous support from all stakeholders.

Sarawak Energy is entering 2022, another century of growth, in excellent shape.



IN APPRECIATION OF OUR PEOPLE AND STAKEHOLDERS

In acknowledgement of what has brought us to this point in time, I want to thank our people – past and present – whose efforts are the foundation of the Company's success. The agility, adaptability, resilience, technical competency, commitment and drive of generations of Sarawak Energy's people over the past 100 years have allowed us to keep the lights on for Sarawak and expand our footprint beyond its shores.

My gratitude extends to their families; their sacrifices have allowed our people to perform to the best of their ability. This unyielding support has enabled Sarawak Energy to deliver on our promises.

I would also like to commend Group Chief Executive Officer, Datu Haji Sharbini Suhaili and his leadership team for providing effective steer and management.

On behalf of the Board of Sarawak Energy, I thank all our stakeholders, shareholders, partners and customers for their ongoing support and in particular, the Sarawak Ministry of Utilities for guiding and supporting Sarawak Energy in our endeavours.

I also extend our sincere appreciation to the Sarawak Government led by Yang Amat Berhormat Datuk Patinggi Tan Sri Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg, for leading Sarawak towards sustainable development and inclusive growth.

With everyone's continued support and contributions, Sarawak Energy will achieve many more successes and milestones, brightening the future for Sarawak and its people.

DATUK AMAR ABDUL HAMED SEPAWI

Chairman

102-2, 102-6, 102-7, 102-8, 102-10

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

> As we look back over the last century, Sarawak Energy has been central to Sarawak's sustainable growth and our people, past and present, have played a vital role in this. Building on this legacy, we will continue to drive the Company forward, realising our aspiration of becoming a top-quartile and best-in-class regional powerhouse and Battery of ASEAN, leaving behind a stronger company for future generations.

DATU HAJI SHARBINI SUHAILI
Group Chief Executive Officer

A CENTURY OF GROWTH

Since the start of our electrification journey in 1921, we have evolved and adapted to meet the needs of Sarawak's people and beyond. Growing from about 30 staff and 84 customers, we now supply electricity to 753,362 accounts and serve a population of almost three million people in Sarawak with the support of a diverse, purposeful and dedicated workforce of around 5,442 professional Sarawakian talents. This is a testament to Sarawak and Sarawak Energy's past leaders who established robust strategies that have steered the Company's steady growth to this day.

As we look back at the past century, we have achieved remarkable milestones. Under the guidance of the Sarawak Government, we are ahead of the curve in sustainable energy development regionally, having transitioned from a generation mix that was 100% fossil fuel when we began in the 1920s to over 90% fossil fuel in 2010 to predominantly renewable hydropower today. We are now Malaysia's largest renewable energy developer.

102-2, 102-15, 103-2, EU26

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

The period between 2010 and 2020 was an especially important decade for Sarawak Energy, with our investments in hydropower and support of SCORE yielding fruit, bolstering our growth and accelerating Sarawak's socio-economic development.

To sustain the value created during this period and to ensure a strong foundation for future growth, I introduced the Sarawak Energy Excellence 2020 Roadmap in 2017, followed by the Sarawak Energy Excellence 2022 Roadmap in 2020. These roadmaps allowed us to continuously improve our business processes and operations, progressing towards our ambition of becoming a best-in-class utility and regional powerhouse.

From the onset, our people have been adaptable and agile in their approach to work, displaying the capacity to learn new skills, processes, technologies and ways of working. This has never been more apparent than during the global COVID-19 pandemic.

I am proud to lead such an extraordinary team and look forward to continuing our journey together.

FULL ELECTRIFICATION FOR SARAWAK

Honouring the trust that the people of Sarawak have placed in us, we are striving to ensure everyone in Sarawak has access to 24/7 reliable, affordable and renewable energy.

In 1964, the Sarawak Government announced the Rural Electrification Scheme, committing to supply 90% of Sarawakians with electricity over the next 40 years. By 2009, Sarawak's overall electrification rate was at 79%. However, some gaps needed to be addressed, especially the one related to rural communities that were too remote to be connected to the grid.

As such, the Sarawak Government announced the Accelerated Rural Electrification Masterplan under the *Projek Rakyat* initiative to minimise this gap, with Sarawak Energy being its implementation agency. As of 2021, 96.5%* of rural communities have access to 24/7 reliable electricity supply and the overall state electricity coverage stands at 98.6%*. In line with UN SDG No. 7: "Access to affordable, reliable, sustainable and modern energy for all", we are well on our way to full electrification by 2025.

96.5%*

of rural communities have access to 24/7 reliable electricity supply and the overall state electricity coverage stands at

98.6%*

Access to affordable, reliable, sustainable and modern energy for all.

Note:

* *These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-2, 102-15, 103-1, 103-2, 103-3, 203-1, 403-6

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

ELECTRICITY SUPPLY RELIABILITY

Ensuring a reliable and safe electricity supply for all our customers is Sarawak Energy's key priority. As such, our operational excellence efforts are heavily focused on the continuous improvement of operational and service efficiency for both upstream and downstream, ensuring maximum power generation and minimal interruptions to the power supply at all times.

We have set the target of halving our overall SAIDI to 60 minutes and lowering our SAIFI to one time by 2022, in line with the Sarawak Energy Excellence (SEE) 2022 roadmap.

To this end, we have invested significantly in power system modernisation and reinforcement, as well as leveraging digitalisation and smart technology. Key examples include our Remote Monitoring & Diagnostic Centre, Generation Control Centre, Substation Smart Surveillance System, Distribution Remote Monitoring System, Mobile Field Force Automation, Distribution Automation, Advanced Metering Infrastructure, smart meters, mobile meter management system; and smart retail applications.

DRIVING RESEARCH AND DEVELOPMENT

Having placed greater emphasis on research and development (R&D) in recent years, Sarawak Energy continues its exploration of new innovations and solutions to add value to our business, improve our operations and explore new business ventures. We are focused on inculcating a corporate innovative culture to create added commercial value, promote collaboration and develop an agile ecosystem to stay competitive and capture value from intellectual property.

PROGRESSING A GENERATIVE HSSE CULTURE

While workplace safety, security and environmental sustainability remain top priorities for Sarawak Energy, we have expanded our focus to include mental health in recent years. This is especially prudent in the post-COVID-19 world that we are currently operating in, with many of our people being forced into unfamiliar working conditions and environments.

We want to eliminate the stigma associated with mental health and cultivate a culture of openness within the Company, where our people feel comfortable enough to share challenges they are going through. This is reflected in the launch of our Sarawak Energy Mental Health and You campaign.

Moving towards environmental excellence, we have formed a Biodiversity Conservation Committee to improve the implementation of conservation initiatives across the business to support business delivery and growth.

We also introduced the Ecolution Challenge and Eco Green Music Vibes competition to raise greater environmental awareness among Sarawak's youth as well as our own employees.

We have also made tremendous improvements in our overall HSSE performance through the implementation of intervention and awareness programmes, driving an HSSE Excellence mindset and behavioural transformation to cultivate a generative HSSE culture at Sarawak Energy.

102-2, 102-11

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

PROJECT DELIVERY EXCELLENCE

World-class project delivery (PD) performance is one of the cornerstones of Sarawak Energy's business – we emphasise timely and efficient delivery of our projects.

This year, the enhanced Sarawak Energy Project Model was endorsed by the Group Executive Committee. It strengthens governance and compliance in line with our Manual of Authority to ensure corporate governance requirements are well embedded in all major capital projects at all stages. The model also facilitates team integration, with clear lines of responsibility and accountability to improve front-end work, as well as the adoption of best-in-class industry practices.

The State Steering Committee for Sarawak Energy Projects was also assembled this year and it is chaired by Datu Sr. Zaidi Haji Mahdi, Permanent Secretary of the Ministry of Urban Development & Natural Resources.

The committee aims to enable the timely resolution of land matters for the implementation of our projects. This will go a long way towards supporting Sarawak's development and ensure the continued reliability of electricity supply to our people and industries.

COMMERCIAL EXCELLENCE

Over the past century, continuous improvement and evolution have allowed Sarawak Energy to respond effectively to market changes and sustain growth.

This year, Sarawak Energy introduced a sixth key focus area (KFA) – Commercial Excellence – to transition the Company from being a technically strong organisation to one that is both commercially and technically savvy.

This aligns with our Sarawak Energy Excellence 2022 aspiration of moving from good to great by reaffirming our ability to capture growth in an increasingly volatile, uncertain, complex and ambiguous business landscape.

We will launch initiatives to embed a commercial acumen mindset among all our people. The aim is to get every one of our employees to understand what value is and their role in generating it for the Company.

A universalised commercial acumen mindset will facilitate effective decision-making, which will yield important benefits for Sarawak Energy's top and bottom lines, thus ensuring continued top-quartile performance and value creation for all stakeholders. This will be vital as we expand beyond Sarawak's borders under our regional powerhouse ambition.

102-2, 102-11

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

STRONG CORPORATE GOVERNANCE

Sarawak Energy is committed to maintaining a progressive and high performance corporate culture, including zero tolerance for unethical conduct, fraud and corruption.

In line with this, we have launched a suite of governance initiatives and programmes to strengthen Sarawak Energy's culture of compliance.

These are supplemented by the implementation of relevant policies, procedures and guidelines (PPGs) that promote consistency across the organisation, ensuring everyone who works with Sarawak Energy has a clear understanding of good ethics and good corporate governance practices.

By emphasising good governance, we preserve our reputation as a trusted brand in Sarawak and beyond, ensuring all stakeholders remain confident in our ability to deliver in an ethical, corruption-free manner.

This also sustains the value created by our predecessors, powering our future growth while protecting the Company and its people from corporate as well as personal liability.

SENIOR LEADERSHIP PROGRESSION

To better reflect the increasing significance of information & communications technology and HSSE in our business, Sim Ko Sin and Marconi Madai progressed from Vice Presidents to Senior Vice Presidents in their respective roles. They assumed these roles on 1 January 2021.

Sarawak Energy is committed to **maintaining a progressive and high performance corporate culture**, including Zero Tolerance for unethical conduct, fraud and corruption.

102-2, 102-11, 102-15

GROUP CHIEF EXECUTIVE OFFICER'S STATEMENT

PROGRESSING THE REGIONAL POWERHOUSE ASPIRATION

We are progressing our regional powerhouse aspiration by advancing renewable hydropower development and positioning Sarawak as the Battery of ASEAN. To achieve this, our focus is to establish the Borneo Grid by pursuing interconnections with regional neighbours before expanding to the rest of ASEAN.

Renewable hydropower development has created opportunities for Sarawak to develop transmission interconnections with Bornean neighbours, with our first power export to West Kalimantan being commissioned in 2016. This initial success has demonstrated the benefits of interconnections, leading to the potential implementation of similar bilateral interconnection projects to complete the Borneo Grid.

Significant progress has been made on the technical and stakeholder fronts regarding the proposed 1,375MW Mentarang Induk Hydroelectric Project in Northern Kalimantan.

DRIVING REGIONAL ENERGY TRANSITION

Sarawak Energy has been consistently ahead of the curve in aligning with global energy transition and sustainability efforts. We are aligned with international best practices in sustainable and renewable energy development, incorporating relevant guidelines and policies into our operations.

As a renewable energy developer, we engage in partnerships, thought leadership campaigns and R&D, as well as studies, to accelerate energy transition in the region.

THE NEXT 100 YEARS

With a long history of agility and evolution, Sarawak Energy's people have consistently risen to the occasion and embraced change, learning new skills, processes, technologies and ways of working to proactively adapt to an ever-changing working environment.

As we embark on another 100 years of powering Sarawak, we will continue investing in our people to keep this tradition of readiness, flexibility and innovation alive. We will provide platforms and programmes for continuous learning and self-development, ensuring our employees can realise their full potential in the workplace.

With the rapid introduction of new technologies and processes every day, it is imperative for our people to develop 21st-century skill sets.

Innovation and growth will remain the cornerstones of Sarawak Energy, leading us towards new horizons in the century to come and leaving a legacy of excellence for future generations of Sarawak Energy leaders and employees.

Our **renewable hydropower** development contributes 3,452MW to Malaysia's overall hydropower installed capacity and is key to achieving Malaysia's energy transition target of 31% **of renewable energy in our national installed capacity mix by 2025**

CLOSING

As with our past successes, our future plans can only be realised with the support of our government, owners and stakeholders, as well as the dedication and commitment of our staff. This will continue to drive us closer to realising our aspiration of becoming a regional powerhouse and leading energy utility in Southeast Asia as we complete our mission to fully light up Sarawak.

Once again, thank you to Sarawak Energy's past leaders and staff for leaving behind a strong legacy to build on for the betterment of Sarawak and the region at large.

While we do not know what the future holds, I believe in Sarawak Energy's ability to grow even further. Our experiences and successes in the past decade in the face of unprecedented challenges give me confidence in our ability to continue thriving no matter the circumstances.

DATU HAJI SHARBINI SUHAILI
Group Chief Executive Officer

103-2, 203-1, EU26

MANAGEMENT DISCUSSION & ANALYSIS

Building on the successes of the past decade, Sarawak Energy is focused on capitalising on and continuing our exponential growth to deliver exceptional results for our customers and stakeholders. While we continued to overcome the challenges created by the pandemic in 2021, our dedicated and resilient workforce was still able to improve our performance and deliver a good set of financial, project, operational and corporate results.

Our efforts are aligned with the Sarawak Energy Excellence 2022 strategic roadmap and its six key focus areas, emphasising excellence in our HSSE, operations, project delivery and commercial and talent management activities, enabled by a high performance corporate culture.

Rural Electrification

Under the Sarawak Government's *Projek Rakyat* initiative, we provided electricity supply to 20,439 rural households between 2019 and 2021.

While we are well on our way to full domestic electrification by 2025, our challenge is to electrify the last few groups that are located at the most remote locations in Sarawak. These places often have no road infrastructure to facilitate electrification. Key examples include a location in Lawas that requires a main 33kV line from the area to Ba'kelalan, as well as settlements at Bukit Mabong that will depend on a main 33kV line from Kapit.

In addition to remote communities, there are new houses and village extension projects being built that need funding assistance to connect to electricity supply.

Over the course of the past few years, more than

8,000 such homes

have been connected through the Sarawak Government's Additional Late Applicant Fund (ALAF), with

3,833 homes

being connected in 2021.

However, there is still much to be done as roughly 30,000 households are awaiting ALAF assistance to obtain electricity supply. We are progressing efforts to attract competent contractors and consultants to speed up the implementation of ALAF projects, and support small contractors with access to financing as well as training to enhance their competency and capacity.

PROJECT DELIVERY EXCELLENCE

Despite our successes in delivering several milestone projects, project delivery in 2021 was not without its challenges as we continued to be impacted by COVID-19 complications. The pandemic forced us to contend with severe shortages in foreign manpower and delayed the arrival of specialists – only 300 of the 4,790 foreign workers that were approved for Sarawak in 2021 were able to arrive due to Malaysia's stringent COVID-19 measures.

Furthermore, Sibu's Pasai Cluster triggered widespread infection across the Central Region, impacting many of our capital projects, including the Baleh Hydroelectric Project in April. This required us to activate Baleh's emergency response plan, placing the site on lockdown even before the Enhanced Movement Control Order (EMCO) was declared, thus delaying the progress of our project. However, our people's safety was our top priority and proactive measures were in place to confine and manage the localised cases in Baleh.

To minimise and mitigate the chances of such disruptions occurring, several initiatives were implemented at project sites to overcome the impact of COVID-19, including:

- COVID-19 standard operating procedures (SOPs) at capital projects
- Enhanced COVID-19 preventative measures
- Engagement with government stakeholders on work pass approval for foreign workers

Beyond the COVID-19 pandemic, land and wayleave continued to be significant issues, causing severe delays in capital works progress. To address this, we are working with the relevant government agency through the establishment of the State Steering Committee, chaired by the Permanent Secretary of the Ministry of Natural Resources & Urban Development, to facilitate the timely resolution of land matters for the implementation of our projects.

We are also strengthening governance requirements and compliance in all major capital works projects by enhancing the Sarawak Energy Project Model (SEPM). This framework aligns with the Group Manual of Authority and was endorsed by the Group Executive Committee in July. The SEPM will also encourage team integration to improve Front-End works and adopt best-in-class industry practices.

102-15, 103-2, 203-1, EU26, EU28, EU29, EU30

MANAGEMENT DISCUSSION & ANALYSIS

OPERATIONAL EXCELLENCE

While operational excellence is mainly based on our ability to provide seamless and reliable service to customers, our generation excellence plays a significant part in driving greater reliability in plant operations and providing uninterrupted power supply to customers. In 2021, our power stations showed exceptional Equivalent Available Factor (EAF) and Forced Outage Rate (FOR) performance. We achieved:

A weighted EAF (WEAF) of **89.25%**, exceeding our target of **89%**.	Rolling EAF of more than **90%** from PPLS (Sejingkat Phase 2), Batang Ai HEP, Bakun HEP, Murum HEP, Batang Ai HEP and Bintulu Power Station (GT1-GT5).	FOR of less than **0.5%** from Batang Ai HEP, Bakun HEP, PPLS (Sejingkat Phase 2) and Lawas Power Station.

Sarawak Energy is committed to ensuring consistent performance of our WEAF and continuous improvement at other stations to achieve similar EAF and FOR numbers.

Although we have made great progress in our operational excellence efforts over the past decade, there was some regression this year with our SAIDI and SAIFI results recording an uptick. We went from our all-time low SAIDI of 79 minutes to 120.74 minutes in 2021, while our SAIFI increased from 1.08 times in 2020 to 1.61 times this year.

There were several reasons for this, ranging from cables damaged by third parties during excavation works, lightning strikes, broken flybus conductors and equipment failures. MCO restrictions have also hampered restoration and recovery time.

As part of our preventive measures against such occurrences, we have put improvement plans in place to minimise supply interruptions. Examples of these plans include expediting the completion of the Murum-Samalaju B 275kV lines; optimising planned outage management through proper scheduling, avoiding multiple shutdowns; and continuing asset condition monitoring for our transmission and distribution assets.

We are also strengthening power reliability and grid stability through the Tondong Static Synchronous Compensator (STATCOM), Sejingkat Battery Energy Storage System (BESS) and Kuching Network Reinforcement (KNR).

103-2, 403-9

MANAGEMENT DISCUSSION & ANALYSIS

COMMERCIAL EXCELLENCE

Mindset change is key to achieving Commercial Excellence goals; we must embed commercial thinking among our people so that they view commercial factors as a priority rather than an ancillary concern. A common language for Commercial Excellence must be fostered across the Company to ensure a consistent view of value and how it is measured.

This increased focus on commercialisation will yield important benefits for Sarawak Energy's top and bottom lines, ensuring that we will continue to deliver top-quartile performance for all our stakeholders, something that will be vital as we expand beyond Sarawak's borders under our regional powerhouse ambition. In line with this, we launched a suite of awareness and education-based programmes and initiatives to embed Commercial Excellence among our people.

HEALTH, SAFETY, SECURITY AND ENVIRONMENT EXCELLENCE

In 2021, the downward trend in our safety accident statistics continued, going from 28 total work-related accidents in the previous year to 23. This decline was also reflected in our lost time injury (LTI) and lost time injury frequency rate (LTIFR) numbers.

Our LTI lowered from 10 in 2020 to eight this year while our LTIFR reduced to

0.314[1]

from 0.36 in 2020.

Despite the encouraging numbers, we recorded one fatality involving our subcontractor's worker. This shows that there is still much to be done. While we continue to emphasise our life-saving rules and equip our people with the necessary safety knowledge and competencies to reach a state of generative HSSE culture, we are strengthening governance to ensure greater compliance with HSSE performance at the workplace. HSSE performance has been incorporated as one of the main criteria in assessing our vendors' performance under the **Sarawak Energy** Vendors Appraisal. programme and will determine their future engagements with the Company.

As part of Sarawak Energy's overall risk management, this year we also rolled out the HSE Management System and Journey Management Guideline to further minimise risks and prevent road accidents during official journeys.

Note:
[1] This LTIFR figure includes number of fatality case.

TOWARDS BECOMING A DIGITAL UTILITY

We continued to advance our ambition of becoming a digital utility by 2025, developing a Digital Power Plant Solution Map to bolster our digitalisation and enterprise modernisation efforts. By leveraging new digital technologies and innovations, we will be able to:

- **Optimise our business to increase the profitability of our commercial endeavours**
- **Optimise our operations to improve productivity across the board**
- **Manage asset performance to enhance reliability**

Aligned with this Digital Power Plant roadmap, we will be implementing a Remote Monitoring & Diagnostic (RM&D) centre and Generation Control Centre (GCC). The former is a one-stop centre that will connect all power stations, supported by advanced analytics tools and subject matter experts, while the latter will unlock remote possibilities through new technologies, leveraging the increased automation of our power plants to enable control-room operators to manage them remotely from one site.

In addition to the Digital Power Plant Solution Map, we are looking to modernise our grid and operations through digitalisation, cultivating a smart power grid that is safe, secure and reliable. We are integrating key smart grid technologies to:

- Enhance operational safety and efficiency.
- Protect our assets and achieve optimum asset performance.
- Ensure a safe, secure and reliable grid and supply system.
- Empower customers.

Under the Smart Retail roadmap, various technological innovations have also been deployed to enhance the customer experience. Currently, our customer self-service mobile application SEB cares, online applications for electricity supply, self-service payment kiosks and e-billing are some of the new digital touchpoints available for Sarawak Energy customers. We have also upgraded our integrated Customer Care Centre by introducing Carina – our first virtual customer agent – and agent live chat to serve customers anytime and anywhere.

The initiatives listed above will be supplemented with programmes and platforms that will develop our people into digital workers who are fully equipped with the necessary knowledge to capitalise on the cutting-edge technologies at their disposal.

LEADERSHIP MESSAGES

103-2

MANAGEMENT DISCUSSION & ANALYSIS

Contracts and Procurement

We adopted a three-pronged approach to contracts and procurement in 2021, focusing on increasing local participation, assessing vendors and stressing compliance.

As part of our continuous efforts to encourage local content in our projects, the Bumiputera Participation Board Committee was formed in 2015 to encourage Bumiputera participation. The committee is represented by stakeholders from the Ministry of International Trade & Industry, Industrial Terminal and Entrepreneur Development (MINTRED), *Dewan Usahawan Bumiputera Sarawak*, Dayak Chamber of Commerce, Orang Ulu Chamber of Commerce and Industry and professional and entrepreneurial groups.

Sarawak Energy has registered 2,700 vendors and contractors offering various services to Sarawak Energy as of 2021, out of which 1,800 are Bumiputera vendors. Since 2019, the percentage of tenders awarded to Bumiputera contractors based on value has consistently been above 30%.

To further encourage Bumiputera vendors to take part in our projects and develop them to be market leaders, we implemented various initiatives to address barriers faced by our vendors, such as financial, technical and licensing challenges, to enable their participation.

We also collaborate with training providers and regulators such as *Unit Pendaftaran Kontraktor dan Juruperunding* (UPKJ), the Construction Industry Development Board (CIDB) and the Electrical Inspectorate Unit (EIU) to provide avenues for our contractors to enhance their technical capabilities and to provide assistance in business licensing application. To date, we have assisted more than 100 companies to obtain the necessary competency and licensing to participate in Sarawak Energy's projects.

In addition, our Small Medium Enterprise-Sustainability Development Goals (SME-SDG) toolkit was developed as a step-by-step guide for SMEs in their sustainability journey and will support SMEs in incorporating sustainability practices into their business.

102-15

CHIEF FINANCIAL OFFICER'S STATEMENT

CHIEF FINANCIAL OFFICER'S STATEMENT

The year 2021 was another challenging year as global and domestic economies, businesses and communities strived to recover from the COVID-19 pandemic, which entered a second year with the spread of infectious variants causing disruptions to global supply chains and resulting in various movement restrictions being imposed. Nevertheless, against this backdrop, Sarawak Energy continued to deliver a robust financial performance with a revenue of RM6.049 billion as of 31 December 2021.

ALEXANDER CHIN
Chief Financial Officer

The higher revenue of 9.5% as compared to the preceding year of RM5.526 billion was primarily attributable to higher demand from both organic and bulk customers. The organic sector improved 3.6% year-on-year as domestic and commercial consumption increased coupled with an uptick in the number of organic customers.

Bulk consumption inched up by 13.4% year-on-year as demand from customers increased underpinned by the improved commodity prices as well as the full operation of two SCORE customers in the Samalaju Industrial Park.

Profit before tax reported was higher at RM1.212 billion as compared to RM1.058 billion in the preceding financial year mainly due to the higher revenue, notwithstanding the higher operating expenses largely driven by the increase in gas price for gas power plants and commissioning of the Tanjung Kidurong Combined Cycle Power Plant (Block 1) in January 2021.

Meanwhile, the higher profit net of tax recorded of RM0.821 billion as compared to the preceding year of RM0.699 billion was mainly attributed to the higher profit before tax during the year under review.

CASH CONSERVATION AND MANAGEMENT OFFICE

Sarawak Energy continues to benefit from the Cash Conservation and Management Office (CCMO) initiative that was established by the management of Sarawak Energy during the peak of the Movement Control Order in 2020 as one of its key responses to weather the COVID-19 crisis.

The CCMO, which aims to conserve and strengthen the cash flow position of the Group during this unprecedented time, has put Sarawak Energy in a strong position to withstand the uncertainties of the pandemic through the ongoing implementation of several mitigating actions, including:

- Managing collections from customers and reimbursements from the government
- Deferment and cancellation of non-essential operating expenditures
- Prioritisation of capital expenditures

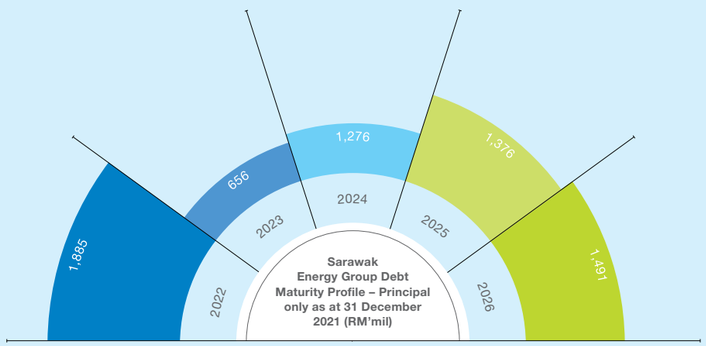
With the pandemic still an ongoing threat and risk, the CCMO and its initiatives will be continued and supported through Sarawak Energy's accelerated Continuous Improvement Programme, which seeks innovative ways to ensure maximum returns from investments are realised while remaining aligned with Sarawak Energy's strategic objectives.

FINANCING ACTIVITIES

RAM Rating Services Berhad (RAM) has reaffirmed the credit ratings of Sarawak Energy Berhad and its subsidiaries despite the challenging landscape, thus demonstrating the Group's financial strength and capacity to meet its financial obligations, as shown below.

Company	Sukuk Programme	Credit Rating by RAM
Sarawak Energy Berhad	RM15 billion Sukuk Musyarakah (2011/2036)	AAA/Stable
Bakun Hydro Power Generation Sdn Bhd	RM5.54 billion Sukuk Murabahah (2016/2031)	AAA/Stable
Mukah Power Generation Sdn Bhd[1]	RM665 million Senior Sukuk Mudharabah (2006/2021)	AA1(s)/Stable
Sarawak Power Generation Sdn Bhd[1]	RM215 million Serial Sukuk Musharakah (2006/2021)	AA1(s)/Stable

[1] *As of 31 December 2021, the Sukuk programmes have been fully redeemed.*



Note: Excluding interest and profit payments

Sarawak Energy Berhad did not undertake any Sukuk issuance in 2021.

As of 31 December 2021, the total outstanding borrowings of Sarawak Energy Group stood at approximately RM19.051 billion, comprising RM18.580 billion onshore borrowings and RM0.471 billion offshore borrowings. The Group's borrowing commitments are significant over the next five years, as shown on the left (principal portion only).

The Group's gearing ratio has decreased from 1.95 times in 2020 to 1.60 times in 2021, resulting from the repayment of RM2.6 billion in borrowings coupled with the Group's enlarged equity base arising from sustained profit improvements.

CHIEF FINANCIAL OFFICER'S STATEMENT

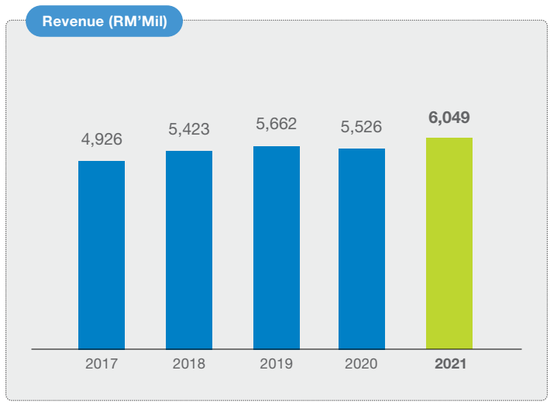
SARAWAK ENERGY FIVE-YEAR GROUP FINANCIAL HIGHLIGHTS

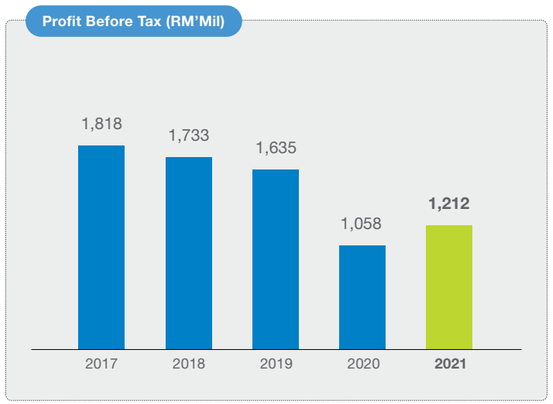
Financial Year Ended 31 December	2017* Restated	2018	2019	2020	2021
Performance (RM'000)					
Revenue	4,926,363	5,423,281	5,662,052	5,525,832	**6,048,826**
Profit before tax	1,817,623	1,733,207	1,635,106	1,058,267	**1,211,521**
Profit net of tax	1,479,340	1,280,620	1,182,944	698,800	**820,555**
Profit net of tax attributable to owners of the Company	1,479,597	1,279,878	1,171,623	710,394	**818,527**
Net dividends	-	67,805	-	-	**-**
Key Financial Position Data (RM'000)					
Property, plant and equipment	27,093,907	28,997,902	29,754,655	30,109,195	**30,036,333**
Right-of-use assets (1)	-	-	160,073	167,177	**209,166**
Cash and bank balances	3,937,077	4,216,264	4,210,859	5,478,655	**5,077,608**
Total assets	33,874,213	36,583,812	37,107,753	39,156,620	**37,697,238**
Loans and borrowings	19,860,202	20,462,687	20,147,806	21,543,566	**19,050,962**
Total liabilities	25,833,672	27,283,318	26,730,061	28,103,208	**25,818,807**
Share capital	1,833,341	1,833,341	1,833,341	1,833,341	**1,833,341**
Equity attributable to owners of the Company	8,015,968	9,275,179	10,341,056	11,028,594	**11,851,585**
Share Information					
Net asset per share attributable to owners of the Company (RM)	4.98	5.76	6.42	6.85	**7.36**
Net earnings per share (Sen)	91.90	79.50	72.70	44.11	**50.82**
Gross dividend per share (Sen)	-	4.21	-	-	**-**

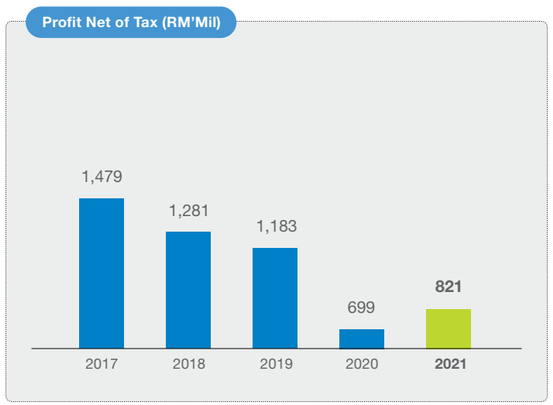
* *Amounts for the financial year ended 31 December 2017 have been restated due to the adoption of MFRS 15 Revenue from Contract with Customers and the change in the method of presentation of government grants related to assets.*

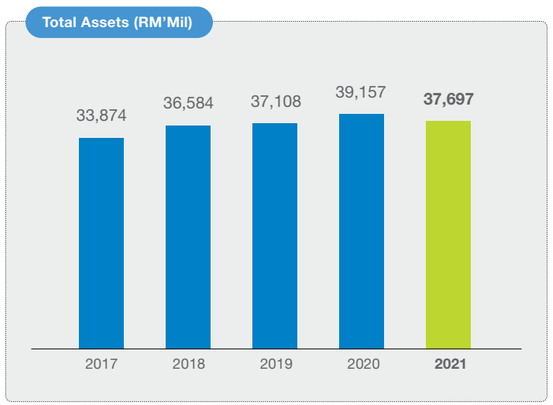
(1) *Starting 1 January 2019, leasehold land that was previously classified as property, plant and equipment is now presented as right-of-use assets upon adoption of MFRS 16 Leases.*

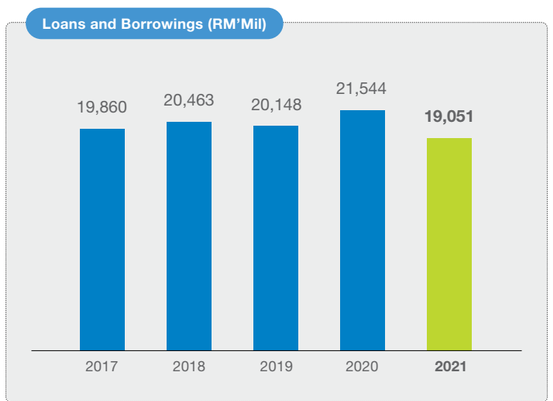
CHIEF FINANCIAL OFFICER'S STATEMENT

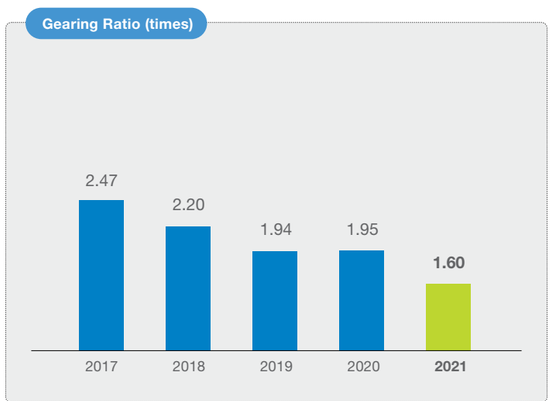






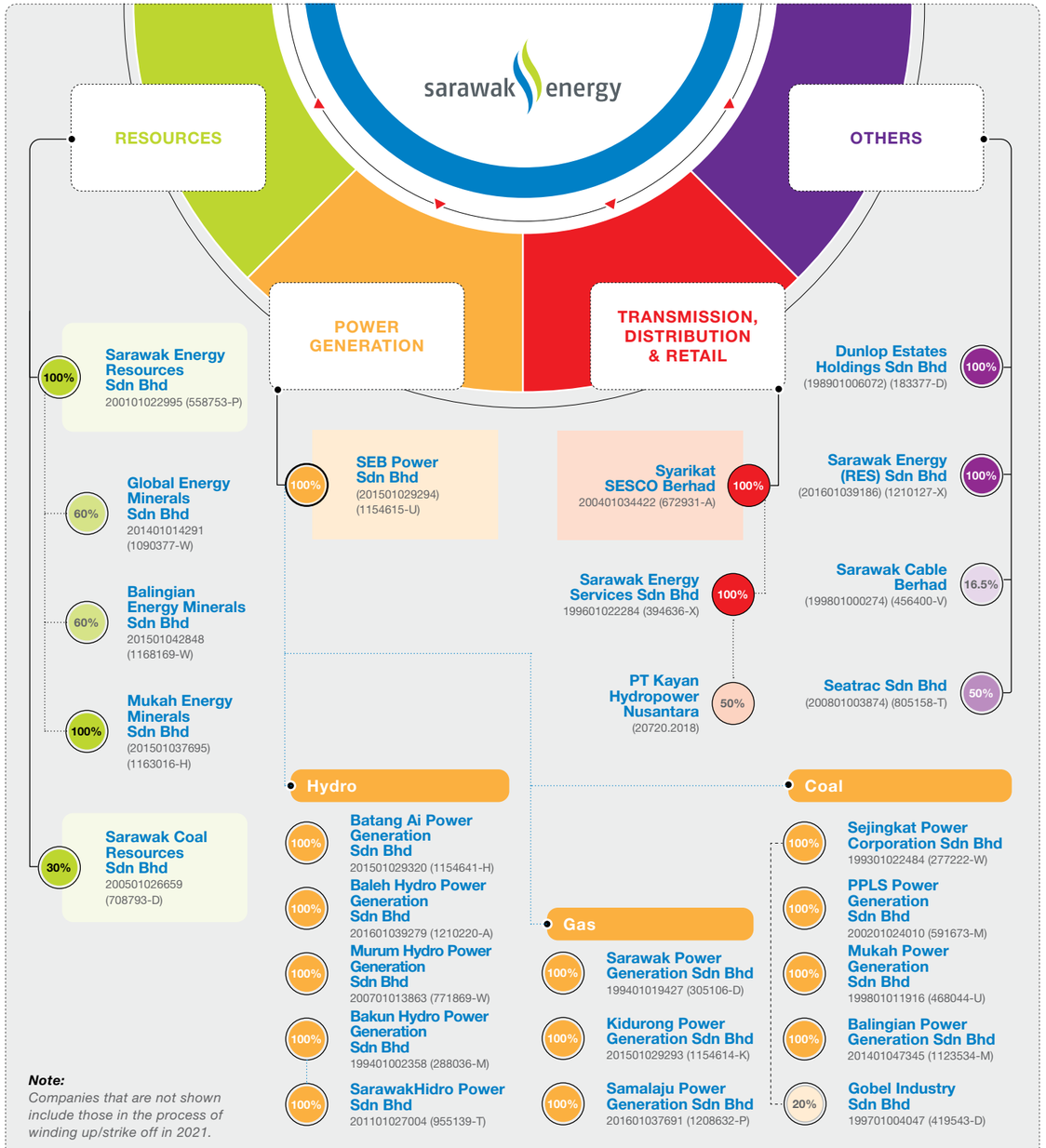






102-2, 102-5, 102-7, 102-10, 102-45

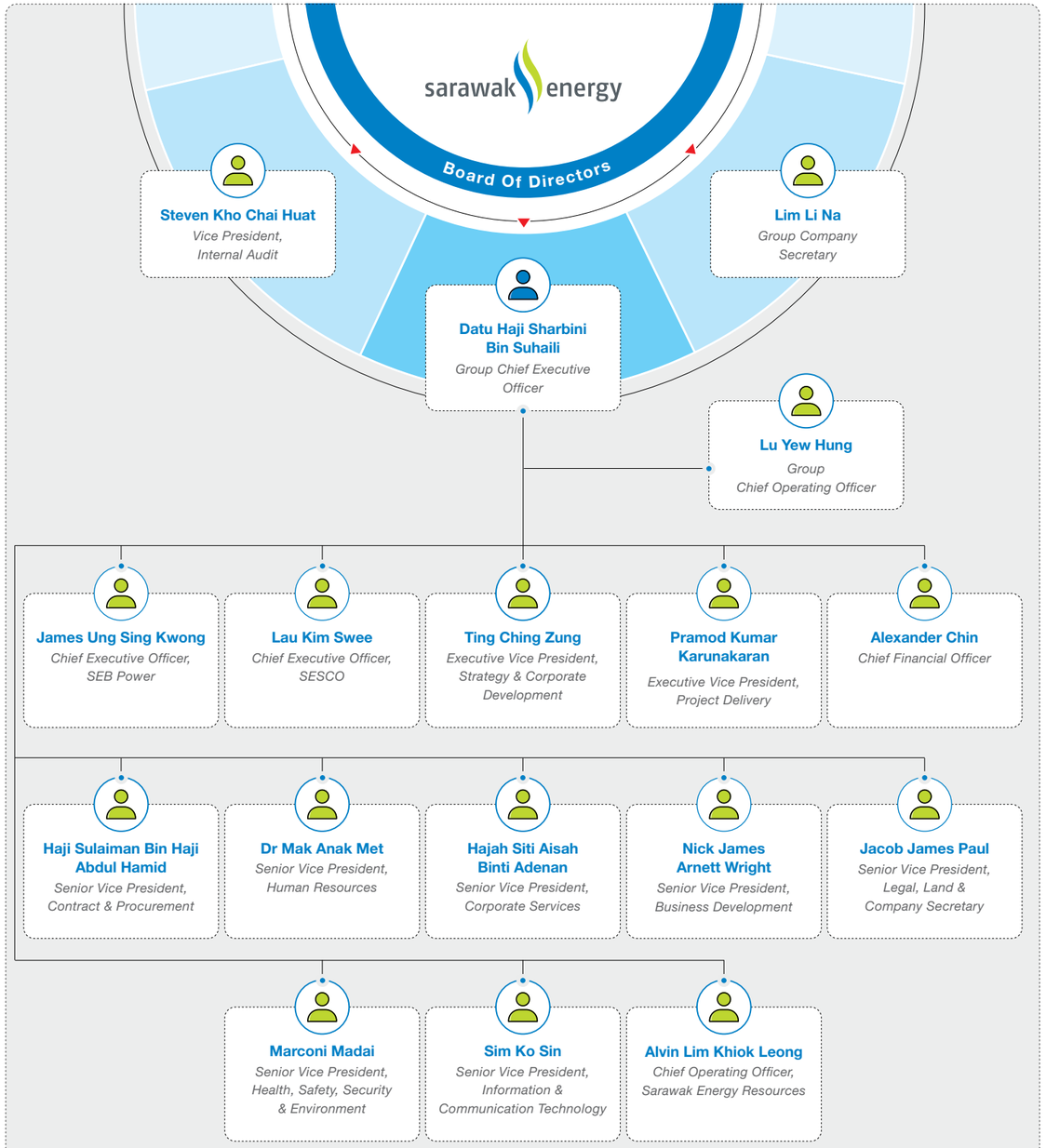
OUR CORPORATE STRUCTURE



Note:
Companies that are not shown include those in the process of winding up/strike off in 2021.

GROUP ORGANISATION STRUCTURE

102-18



BOARD OF DIRECTORS PROFILE

BOARD COMPOSITION

- Non-Independent Non-Executive Directors
- Chairman/Non-Independent Non-Executive Directors
- Independent Non-Executive Directors

TENURE

- 6-10 years
- 16-20 years
- 11-15 years
- 21-25 years

YBHG DATUK AMAR ABDUL HAMED SEPAWI

Chairman of Sarawak Energy
Non-Independent, Non-Executive Director

72 | M

Yang Berbahagia Datuk Amar Abdul Hamed Sepawi joined the Board of Sarawak Energy and was appointed Chairman of the Company on 27 June 2005. He attended all Board meetings held in 2021.

Datuk Amar Abdul Hamed is a trained forester, corporate management strategist and industrialist in the timber, food and beverages, and energy industries.

He graduated with a Bachelor of Science degree from University of Malaya in 1971 and pursued his undergraduate studies in Forestry at the Australian National University from 1974 to 1975. He also holds a Master's degree in Forest Products Utilisation from Oregon State University, USA.

He was conferred the Panglima Gemilang Bintang Kenyalang in 1999 and the Datuk Amar Bintang Kenyalang in 2012. He received the Sarawak Entrepreneur of the Year 2004 award and The BrandLaureate's prestigious 'Man of the Year' Brand Icon Leadership Award 2015.

He also serves as Chairman of Syarikat SESCO Berhad and Naim Holdings Berhad, Executive Chairman of Ta Ann Holdings Berhad and Sarawak Plantation Berhad.

YBHG TAN SRI DATUK AMAR HAJI MOHAMAD MORSHIDI BIN HAJI ABDUL GHANI

Non-Independent, Non-Executive Director

65 | M

Yang Berbahagia Tan Sri Datuk Amar Haji Mohamad Morshidi Bin Haji Abdul Ghani joined the Board of Sarawak Energy on 26 May 2010. He is a Non-Independent Non-Executive Director and attended all Board meetings held in 2021.

Tan Sri Datuk Amar Haji Mohamad Morshidi graduated with a Bachelor of Economics from Universiti Kebangsaan Malaysia and has a Master of Science in Human Resource Administration from the University of Scranton, Pennsylvania, USA.

He was a Management Executive with PETRONAS from 1980 to 1988, and Director of Kuching North City Hall from 1989 to 1998. He held a number of senior positions in the Chief Minister's Department before being appointed Permanent Secretary in the Ministry of Social Development and Urbanisation in 2001. He was Director of the State Planning Unit in the Chief Minister's Department prior to his appointment as the Deputy State Secretary of Sarawak in 2006 and later, the State Secretary of Sarawak from August 2009 to August 2019.

Tan Sri Datuk Amar Haji Mohamad Morshidi sits on the board of Syarikat SESCO Berhad and several other private limited companies.

YBHG TAN SRI DATO SRI MOHD HASSAN BIN MARICAN

Independent, Non-Executive Director

69 | M

Yang Berbahagia Tan Sri Dato Sri Mohd Hassan Bin Marican joined the Board of Sarawak Energy on 9 June 2010. He is an Independent Non-Executive Director and has attended six out of seven Board meetings held in 2021.

Tan Sri Dato Sri Mohd Hassan is a Fellow of The Institute of Chartered Accountants in England and Wales (ICAEW), and a member of the Malaysian Institute of Accountants (MIA) and the Malaysian Institute of Certified Public Accountants (MICPA). He began his professional career in 1972 at Touche Ross & Co., London, and subsequently became a Partner at Hanafiah Raslan & Mohamad/Touche Ross & Co. in 1981. He was appointed PETRONAS Senior Vice President of Finance in February 1989, its President and Chief Executive Officer from February 1995 to February 2010, and the Acting Chairman from July 2004 to February 2010.

Tan Sri Dato Sri Mohd Hassan also serves as a board member on several other private limited companies.

YBHG DATO SRI FONG JOO CHUNG

Non-Independent, Non-Executive Director

72 | M

Yang Berbahagia Dato Sri Fong Joo Chung joined the Board of Sarawak Energy on 31 January 1996. He is a Non-Independent Non-Executive Director and has attended all Board meetings held in 2021.

Dato Sri Fong received his LLB (Hons) from the University of Bristol, U.K., in June 1971. He was subsequently called to the Bar at Lincoln's Inn, London, in November of the same year. In 1972, he began his professional career at Reddi & Co. Advocates in Kuching. He was appointed the State Attorney-General, Sarawak in August 1992. He officially retired on 31 December 2007 but was retained by the Sarawak Government as the State Legal Counsel. He also served as Councillor with the Kuching Municipal Council and Council of Kuching City South. He is a founding member and past President of the Advocates' Association of Sarawak.

Dato Sri Fong was conferred the award of Panglima Jasa Negara (PJN) by the Yang di-Pertuan Agong, Malaysia in 1999 and Panglima Gemilang Bintang Kenyalang (PGBK) by the Yang di-Pertua Negeri, Sarawak in 1994.

He was conferred the Panglima Negara Bintang Sarawak (PNBS) in 2017.

Dato Sri Fong sits on the boards of several other subsidiaries of the Sarawak Energy Group besides holding directorships in Bintulu Port Holdings Berhad and Sarawak Cable Berhad.

BOARD OF DIRECTORS PROFILE

YB DATO' HAJI IDRIS BIN HAJI BUANG

Non-Independent, Non-Executive Director

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Yang Berhormat Dato' Haji Idris Bin Haji Buang joined the Board of Sarawak Energy on 24 June 2000. He is a Non-Independent Non-Executive Director and has attended all Board meetings held in 2021.

Dato' Haji Idris graduated with LLB (Hons) from the University of Buckingham, and was subsequently called to the Bar and qualified as a Barrister at Lincoln's Inn, London, U.K. He is the proprietor of Idris-Buang & Associates (since 1985), a legal firm located in Kuching, Sarawak. He was formerly the Chief Political Secretary to the YAB Chief Minister of Sarawak, a position he held from August 2000 to August 2006. He was appointed Senator of the Dewan Negara on 28 November 2005 and was reappointed to another three-year term on 29 November 2008.

He was elected as a State Legislative Assemblyman in 2016.

Dato' Haji Idris also sits on the boards of several other subsidiaries of the Sarawak Energy Group besides holding directorships in Amanah Saham Sarawak Berhad and Hock Seng Lee Berhad as well as other private limited companies.

YBHG DATO SRI DR. HAJI WAN LIZOZMAN BIN WAN OMAR

Non-Independent, Non-Executive Director

57 | M

Yang Berbahagia Dato Sri Dr. Hj. Wan Lizozman bin Wan Omar joined the Board of Sarawak Energy on 1 October 2021. He is a Non-Independent Non-Executive Director and has attended one Board meeting held in 2021.

Dato Sri Dr. Hj. Wan Lizozman graduated with a Bachelor of Sciences in Economic & Political Science from Northern Illinois University, Dekalb, USA in 1985. He pursued his studies and in 1987 completed a Master of International Affairs (Economic Development) from the School of International & Public Affairs, Columbia University, New York City, U.S.A. Later, he obtained his PhD in Business Studies from Universiti Malaysia Sarawak in 2014.

He formerly served at Sarawak Economic Development Corporation. During his tenure here from 2003 to 2012, he took on several roles including as the Director of Entrepreneur Development Division, Director for Tourism & Leisure Division, Deputy General Manager as well as Managing Director for Sara Resorts Sdn Bhd. In 2012, he was appointed as the Permanent Secretary for the Ministry of Housing Sarawak before taking on the role of Permanent Secretary for the Ministry of Urban Development and Natural Resources in 2017. He was appointed as the Deputy State Financial Secretary in 2019 and in 2021 he became the State Financial Secretary.

Dato Sri Dr. Hj. Wan Lizozman is the Chairman of two state government linked companies. He is the director of various State-owned Companies and a Board Member of Sarawak Economic Development Sarawak and Sarawak Timber Industry Development Corporation among others.

OUR MANAGEMENT TEAM

YBHG DATU HAJI SHARBINI SUHAILI

Group Chief Executive Officer

Datu Haji Sharbini Suhaili is Group CEO of Sarawak Energy. Under Datu Haji Sharbini's stewardship, Sarawak Energy continues to advance hydropower which predominantly contributes to the installed generation capacity in Sarawak, powering residential, commercial and industrial activities, and supporting the government's economic growth strategy. In accelerating rural electrification, Sarawak Energy is delivering on Sarawak's mission to achieve 100% electrification coverage by 2025, together with the Ministry of Utilities.

Datu Haji Sharbini is strongly committed to managing Sarawak Energy's business to minimise any negative impact of its operations and maximise the positive impact of what it does for the community, as a socially responsible corporate citizen. Datu Haji Sharbini is also a strong advocate of safety as a key focus area for the corporation.

Sarawak Energy has been an International Hydropower Association (IHA) platinum member and sustainability partner since 2010. On the IHA Board since 2017, Datu Haji Sharbini is also a director of Petros, a wholly government-owned petroleum company. In 2018, he was conferred the Darjah Jasa Bakti Sarawak (D.J.B.S) which carries the title Datu, on the occasion of His Excellency the Governor of Sarawak's birthday.

Datu Haji Sharbini holds a Bachelor of Engineering (Hons) from University of Leeds, UK, and a Master's in Business Administration (MBA) from Henley Management College, UK.

LU YEW HUNG

Group Chief Operating Officer

Lu Yew Hung is the Group Chief Operating Officer of Sarawak Energy, a position he was appointed to in 2013. In his current role, Lu is responsible for establishing the vision and strategy to lead the Group's operational units in the execution of critical and transformative operational strategic initiatives, including asset management, infrastructure upgrades, and technology improvements while maintaining engineering and operational excellence.

Starting as an electrical engineer, in 1980 he joined Sarawak Electricity Supply Corporation (SESCO), now a wholly-owned subsidiary of Sarawak Energy Group.

Lu holds a Bachelor's Degree in Electrical and Electronics Engineering from the University of Dundee in the U.K. He was a Class 1 Switching Engineer up to 275kV before relinquishing his switching duties to assume leadership positions. Since 1988, he has been a professional engineer and also a Corporate Member of the Institution of Engineers, Malaysia (IEM). Since 1996, he has also served as a principal interviewer with the IEM.

JAMES UNG SING KWONG

Chief Executive Officer, SEB Power

James Ung, formerly Senior Vice President, Thermal, is Chief Executive Officer of SEB Power and oversees Sarawak Energy's power generation business.

He joined Sarawak Electricity Supply Corporation (SESCO) in 1990, now a wholly owned subsidiary of Sarawak Energy Group, and has more than 25 years of experience in the power generation business and project management in power plant construction. He served as General Manager of Sejingkat Power Plant and led the Mukah Coal Power Plant project to its successful commissioning in December 2008.

James holds a Bachelor's Degree in Mechanical Engineering from the University of South Alabama in the USA.

OUR MANAGEMENT TEAM

A COMMITMENT TO GOVERNANCE

OUR MANAGEMENT TEAM

LAU KIM SWEE

Chief Executive Officer, SESCO

Lau Kim Swee is Chief Executive Officer of SESCO and is responsible for the reliability and security of the power system as well as oversight of end-user customer care.

Lau has served with Sarawak Energy for over 30 years in various roles. Prior to his last appointment as Senior Vice President, Distribution, he held the retail portfolio and was responsible for the Company's significant success in combatting power theft, saving the Company RM40 million and winning Sarawak Energy the first prize in the 2012 Key Focus Award from the Sarawak Government.

Lau also brought visible change to the Company's customer service approach, spearheading Sarawak Energy's 24/7 Customer Care Centre in 2013 and other customer-oriented initiatives.

Born and raised in Kuching, Lau holds a Bachelor's Degree in Electrical and Computer Systems Engineering from Monash University in Melbourne, Australia.

TING CHING ZUNG

Executive Vice President, Strategy and Corporate Development

Ting Ching Zung is the Executive Vice President of Strategy and Corporate Development, a position he was appointed to in May 2015. In his current position, he leads the development strategies for sustainable business growth and heads the implementation of strategic plans to achieve the Group's overall goals.

Ting has extensive experience in major corporate restructuring and rationalisation exercises, financial planning and analysis, and profit-and-loss leadership. Before joining Sarawak Energy, he was the Chief Executive Officer of Trienekens (Sarawak) Sdn. Bhd., a waste management company which handles scheduled waste throughout East Malaysia and municipal waste in Sarawak's major cities. Prior to that, he held various leadership positions in the finance and accountancy sector in the East Asia region.

Ting is a Chartered Accountant of Chartered Accountants Australia and New Zealand and holds a Bachelor's Degree in Accountancy from the University of Otago, New Zealand.

ALEXANDER CHIN

Chief Financial Officer

Appointed Chief Financial Officer in January 2014, Alexander Chin oversees Sarawak Energy's financial risk management, a portfolio which supports the development of the Group's financial and strategic plan as well as the use of financial metrics to drive the Group's performance. Alexander also holds responsibility for developing and monitoring the financial control systems designed to preserve the Group's assets and for ensuring that financial results are reported accurately, timely and in compliance with the relevant regulations.

Before joining Sarawak Energy, Alexander held a range of responsibilities with one of Malaysia's Big 4 assurance companies – in 2007 as a Partner in its East Malaysia office, responsible for audit clients from the manufacturing, construction, banking, mining, telecommunications and palm oil industries, and from 2010 to 2014 as Partner-in-Charge of its Advisory and Risk Services. In this role, he led teams which carried out strategic planning and business performance improvement services as well as corporate governance reviews, risk management implementation and internal audits for clients from both the public and private sectors.

Alexander is a Fellow of the Association of Chartered Certified Accountants (U.K.) and a Member of the Malaysian Institute of Accountants and the Chartered Tax Institute of Malaysia.

PRAMOD KUMAR KARUNAKARAN

Executive Vice President, Project Delivery

Pramod Kumar Karunakaran joined Sarawak Energy as the Executive Vice President for Project Delivery in July 2018.

Pramod has more than 30 years of experience in oil and gas major project management and development, covering all phases of projects from initiation, concept development to operational readiness and commissioning, through to delivery of commercial operations.

He has managed oil and gas downstream infrastructure and power generation projects (including downstream gas and power asset) and operations. Prior to joining Sarawak Energy, he was responsible for the delivery of the multi-billion Ringgit PETRONAS Pengerang Gas & Power Project.

HAJI SULAIMAN BIN HAJI ABDUL HAMID

Senior Vice President, Contract and Procurement

Haji Sulaiman Bin Haji Abdul Hamid has 30 years of experience with Sarawak Energy, joining SESCO in 1988.

Haji Sulaiman has held the positions of Consumer Accountant, SESCO Regional Accountant (Western Region), Senior Accountant (Management Accounting), Manager Internal Audit, Manager Corporate Finance and Head of Finance.

He is also actively involved in social initiatives both within Sarawak Energy and externally, notably with the Sarawak Orphanage Association and as Chairman of the Sports Club.

Haji Sulaiman holds a Diploma in Accounting from Universiti Teknologi MARA, a Bachelor's in Accounting from Universiti Kebangsaan Malaysia and an Executive MBA from Ohio University in the USA. He is also a Certified Accountant of the Malaysian Institute of Accountants.

DR. MAK MET

Senior Vice President, Human Resources

Dr. Mak Met joined Sarawak Energy from Shell Malaysia Exploration and Production where he headed Human Resources for Shell's upstream businesses in Malaysia. Dr. Mak has a background in mechanical engineering and served in SESCO for five years before moving to Shell in the 1990s.

With over 30 years of experience and a Doctorate in Human Resources, he brings to Sarawak Energy a strong understanding of people and leadership development, in-depth knowledge of the HR function, frameworks and processes of a company that serves as a global benchmark for talent development and a passion for building Sarawakian talent.

Dr. Mak works with the Group Executive Committee and Human Resources team to build and develop the talent pipeline, ensure the Company attracts and retains the best talents, and resource and develop people so that the organisation is ready to face Sarawak.

OUR MANAGEMENT TEAM

OUR MANAGEMENT TEAM

HAJAH SITI AISAH BINTI ADENAN

Senior Vice President, Corporate Services

Hajah Siti joined Sarawak Energy as an electrical engineer in 1990 under the operating arm, Sarawak Electricity Supply Corporation (SESCO). In her 30 years of service, she has undertaken diverse roles in technical and non-technical fields including stints as Regional Manager for Sibu and Bintulu; Vice President of People & Leadership Development and Vice President for Distribution – the first woman to hold this key technical position.

Her diverse career experience has allowed her to grow her knowledge as a technical specialist and broaden her management and leadership skills.

In Hajah Siti's current role, she leads the support functions of Sarawak Energy overseeing Corporate Administration; Corporate Communication; Corporate Social Responsibility; Sustainability; Government Relations, Event Management and Protocol; Buildings, Facilities and Infrastructure; Integrated Quality Management System and Fleet Management & Logistics.

She is also the Executive Champion for the Sarawak Energy Leading Women Network (SELWN), playing an active role in the network's activities including as a pioneer in the Women Mentoring Women programme.

Hajah Siti graduated from George Washington University, Washington DC with a Degree in Electrical Engineering.

NICK JAMES ARNETT WRIGHT

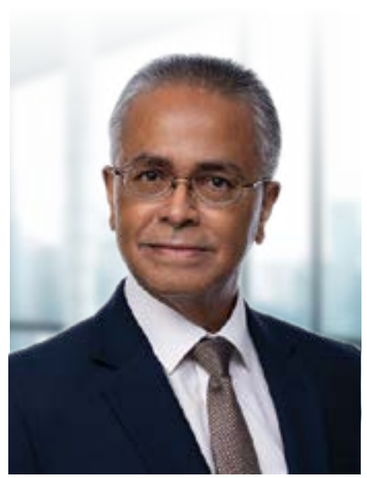
Senior Vice President, Business Development

Nick Wright joined Sarawak Energy in June 2010. As Senior Vice President of Business Development, he led the negotiation of the Power Exchange Agreement with Indonesian national utility Perusahaan Listrik Negara (PLN) governing the interconnection between Sarawak and West Kalimantan, which commenced operations in early 2016.

He is also leading the negotiation of similar agreements for Sarawak to export power to Brunei and Sabah and secured a deal with Malaysia's national oil company PETRONAS to supply 250 million standard cubic feet a day of natural gas to Sarawak.

For the four years prior to joining Sarawak Energy, Nick was the Senior Advisor for Energy, Water and Mining to the Minister for Energy and Resources, Tasmania.

Nick holds a Master of Business Administration (MBA) from the Graduate School of Business, University of New England. He also has a Bachelor of Arts (with First Class Honours) in Government and Economic Policy, as well as a Bachelor of Laws, from the University of Tasmania.



JACOB JAMES PAUL

Senior Vice President, Legal, Land and Company Secretary

James Paul joined Sarawak Energy as Senior Vice President, Legal, Land and Company Secretary in December 2020. In this role, James leads the functions of Legal, Land and Wayleave, as well as Company Secretary. He is a member of the Group Executive Committee.

James has over 25 years of experience in handling legal matters with a major part of his career spent in a multinational oil and gas company. He brings with him broad and deep experience in leadership roles in legal, company secretarial, managing counsel and ethics and compliance.

James holds a Bachelor of Science degree in Physics from the University of Malaya as well as a Bachelor of Laws degree from the University of Buckingham.

MARCONI MADAI

Senior Vice President, Health, Safety, Security and Environment

Marconi Madai is the Senior Vice President of Health, Safety, Security and Environment, a position he was appointed to in January 2021. He leads a multi-disciplinary team to drive excellence in health, safety and environment in Sarawak Energy as well as ensure business continuity management in line with the Group's business objectives.

Marconi has extensive industry experience, having served in management positions in the chemical industry in Malaysia, where he developed standard operating procedures, oversaw compliance to standards, managed business risks and drove initiatives on human resources and CSR.

Marconi graduated with a Bachelor of Science degree in Chemical Engineering from the University of Utah, Salt Lake City in the USA in 1997.

SIM KO SIN

Senior Vice President, Information and Communication Technology

Sim Ko Sin joined Sarawak Energy as the Vice President for Information and Communication Technology in April 2018 and became the Senior Vice President for Information and Communication Technology in January 2021.

In line with the increased importance of information and communications technology as an enabler for the business, Sim is responsible for driving Sarawak Energy's ICT functions. These include ICT Strategy and Planning, Applications, Telecommunications and IT Infrastructure, Information Management, Operations, as well as Information Security and Risk Management.

Sim has worked in the energy industry for over 20 years and has extensive international experience, particularly in the Asia-Pacific, U.K. and China. She has well-rounded industrial experience and knowledge as well as IT services management expertise.

Sim has a Bachelor's Degree in Computer and Mathematical Sciences from the University of Western Australia and an MBA from Imperial College London. She is also a certified project management professional.

ALVIN LIM KHIOK LEONG

Chief Operating Officer, Sarawak Energy Resources

Alvin Lim is Chief Operating Officer of Sarawak Energy Resources and is responsible for consolidating Sarawak Energy's upstream resource activities.

Alvin has served with Sarawak Energy for 26 years in various roles ranging from technical to corporate management positions. Starting as an electrical engineer, he joined Sarawak Electricity Supply Corporation (SESCO), now a wholly-owned subsidiary of Sarawak Energy Group.

Prior to his appointment as Vice President of Coal Resources, Alvin served as General Manager for Planning and Strategy, during a time of significant growth for the Company. He led the Group's development strategies in areas such as system planning, key accounts and corporate development.

Born and raised in Kuching, Alvin holds a Bachelor's Degree in Electrical and Electronics Engineering (Hons) from the University of Tasmania, Australia.

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STATEMENT OF CORPORATE GOVERNANCE

The Sarawak Energy Berhad Board of Directors ("Board") is committed to ensure that the highest standard of Corporate Governance is practised throughout the Group with the objective of strengthening the Group's corporate accountability and safeguarding the interests of the stakeholders.

The Board is pleased to present a statement to the Shareholders on how the Group has applied the principles of good governance taking into consideration the best practices set out in the Malaysian Code of Corporate Governance.

THE BOARD OF DIRECTORS

The Board's principal responsibilities for corporate governance are to set out the strategic direction of the Group and establish the objectives and to guide Management towards the achievement of the objectives and goals.

The current Board consists of six (6) members, whereby five (5) of the members are Non-Independent Non-Executive Directors and one (1) member is an Independent Non-Executive Director. The Directors collectively have a wide range of experience and expertise drawn from various industries and in the areas of business, accounting, economics, legal as well as public administration. Their expertise, experience and background are vital for the strategic direction of the Group. The profiles of the Directors are set out on pages 40 to 42 of the Annual & Sustainability Report.

The Chairman's responsibility is to ensure the effectiveness and efficiency of the Board meetings and their conduct, whereas the role of the Independent Non-Executive Director is to ensure that the views provided are professional and independent and that the advice and judgment made on issues and decisions are in the best interest of the stakeholders and the Group.

The Group has put in place the Sarawak Energy Berhad Group Manual of Authority, which provides a consistent and formal framework for approving matters. It sets out clear lines of accountability and responsibility as to the matters over which the Sarawak Energy Berhad's Board of Directors reserves authority and those which it has delegated to Management.

The Board meets at least four (4) times in a year, with additional meetings held as and when required. There were seven (7) Board meetings held during the financial year ended 31 December 2021.

A summary of the attendance of each Director at the Board meetings in 2021 is as follows:

YBhg Datuk Amar Abdul Hamed bin Sepawi	Non-Independent Non-Executive Chairman	100%	7/7
YBhg Tan Sri Datuk Amar Haji Mohamad Morshidi bin Haji Abdul Ghani	Non-Independent Non-Executive Director	100%	7/7
YB Dato' Haji Idris bin Haji Buang	Non-Independent Non-Executive Director	86%	7/7
YBhg Dato Sri Fong Joo Chung	Non-Independent Non-Executive Director	100%	7/7
YBhg Tan Sri Dato Sri Mohd Hassan bin Marican	Independent Non-Executive Director	86%	6/7
YBhg Dato Sri Dr. Haji Wan Lizozman Bin Wan Omar *(Appointed with effect from 1st October 2021)*	Non-Independent Non-Executive Director	100%	1/1

(% of Attendance / Meetings Attended)

SUPPLY OF INFORMATION

The Board and its Committees have full and unrestricted access to all information within Sarawak Energy pertaining to the Group's business and affairs.

All the Directors are notified of the Board meetings within a stipulated time prior to the date of the meetings. The Directors are also provided with an agenda and a set of Board papers prior to each Board meeting to enable them to be well informed and properly briefed before the meeting.

In most instances, Senior Management of the Group are invited to attend the Board meetings and external advisors are sometimes also invited to provide further information and to clarify issues that may be raised by the Board.

Board members also have access to the Company Secretary to obtain any further details they may require. Directors may also seek independent professional advice on any matter connected with the discharge of their responsibilities if deemed necessary and appropriate, whether as a full Board or individually in their capacity as a Director, at the Company's expense.

RE-ELECTION OF DIRECTORS

In accordance with the Company's Constitution, all Directors appointed by the Board are subject to election by Shareholders at the first Annual General Meeting after their appointment. One-third of the remaining Directors are required to submit themselves for re-election by rotation at each Annual General Meeting. All Directors must submit themselves for re-election at least once every three years.

DIRECTORS' TRAINING

The Directors have the option to attend various programmes organised by various course leaders to enhance their knowledge and skills to enable them to carry out their role as Directors effectively. The Company informs Directors of relevant courses and will make the necessary arrangements for their attendance.

Additionally in 2021, the Company Secretary has initiated a Directors' Refresher Series that consists of a recap of key directors' duties and responsibilities as well as updates on evolving regulatory changes and developments in corporate governance.

BOARD COMMITTEES

The following Committees have been established to assist the Board in the execution of its responsibilities. These Committees have written terms of reference approved by the Board that set out their authority and duties.

1. Board Audit and Risk Committee (BARC)

The BARC plays an important role in reviewing the Group's financial management as well as reporting and assessing the integrity of the Group's accounting procedures and financial controls.

The BARC is responsible for the review of accounting policy and the presentation of external financial reporting including the Group's interim results and its disclosures. It also oversees the activities of the internal audit function and ensures an objective and professional relationship is maintained with the External Auditors and that conflicts of interest, if any, are avoided. The BARC has full access to both Internal and External auditors, who in turn, have access to the Chairman of the BARC at all times.

The BARC members are appointed by the Board from amongst its non-executive members and comprises one independent non-executive director and two non-independent non-executive directors of the Board.

The Chairman of the BARC, YBhg Tan Sri Dato Sri Mohd Hassan bin Marican is a Fellow of the Institute of Chartered Accountants in England and Wales, a Member of Malaysian Institute of Accountants and Malaysia Institute of Certified Public Accountants.

During the financial year under review, the BARC convened five (5) meetings. The attendance record of the members is as follows:

YBhg Tan Sri Dato Sri Mohd Hassan bin Marican	Independent Non-Executive Director	100%	5/5
YBhg Tan Sri Datuk Amar Haji Mohamad Morshidi bin Haji Abdul Ghani	Non-Independent Non-Executive Director	100%	5/5
YB Dato' Haji Idris bin Haji Buang	Non-Independent Non-Executive Director	100%	5/5

(% of Attendance / Meetings Attended)

The Vice President/Head of Internal Audit and the Group Company Secretary, being Secretary of the BARC, were present at all the meetings. Upon invitation, representatives from the External Auditors, Group Chief Executive Officer/Chief Financial Officer and other members of senior management and external parties also attended specific meetings whenever required.

STATEMENT OF CORPORATE GOVERNANCE

Summary of Activities of the BARC

During the financial year ended 31st December 2021, the BARC carried out the following main activities:

- Reviewed and recommended the Quarterly Group Management Reports and Audited Financial Statements of the Company to the Board for approval.
- Reviewed and endorsed the External Auditors Audit Plan, Scope of Work and Fees for the Company and recommended the same for approval by the Board.
- Reviewed the Quarterly Enterprise Risk Management Report – Updates on Sarawak Energy Berhad's Risk Profiles, Key Strategic and High Risks and Key Mitigation Actions taken by Management to address the risks.
- Reviewed and noted the strategic risk for SCORE and Export Customers' demand.
- Reviewed and approved the enhancement to Sarawak Energy Berhad's Risk Management Frameworks with regards to risk appetite and risk organisation.
- Reviewed and endorsed the BARC Reports, Statement on Risk Management & Internal Controls and Corporate Governance Statement for inclusion in Sarawak Energy Berhad Annual Reports.
- Reviewed and discussed Sarawak Energy Berhad Group Annual Revenue and Capital Budget & Year End Estimates and recommended the same for submission to the Board.
- Reviewed and endorsed the Report of Sarawak Energy Forex Hedging Committee on the hedging activities transacted during the year.
- Reviewed and noted on the status updates on Sarawak Energy's insurance coverage and initiatives.
- Reviewed and approved/noted the Group Internal Audit Plans, KPIs Achievement and Quarterly Internal Audit Update Reports.
- Reviewed and deliberated reports issued by the External Auditors and Group Internal Audit on significant findings and remedial actions taken by Management to address the issues raised.
- Reported to the Board on its activities and any significant issues and remedial actions taken by Management arising from the audits undertaken by the External and Internal Auditors on specific areas and reports/papers presented by Management at each BARC meeting.

2. Governance, Nomination and Remuneration Committee (GNRC)

The responsibilities of the GNRC are to identify potential candidates for Directorships to the Board and make recommendations for all new or re-appointments of members of the Board. Further, the GNRC also makes recommendations on the Company's framework for remuneration and its cost as well as determines specific remuneration packages on behalf of the Board and the terms and conditions of employment for the Group's employees.

The GNRC's additional duties are to provide remuneration input on contracts of employment with executive directors and senior management, determine the terms of any compensation in the event of early termination of the employment contracts, make recommendations on human resource policies from time to time and discuss and approve the revision of the Group's organisation structure as and when needed.

The GNRC also acts as a disciplinary committee to decide and recommend disciplinary action for senior staff misconduct to the Board for approval.

The composition of the GNRC members for the financial year ended 31st December 2021 is as follows:

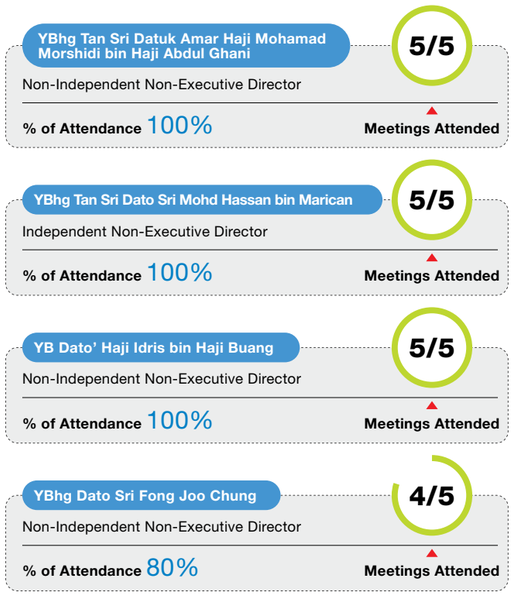
i. **YBhg Tan Sri Datuk Amar Haji Mohamad Morshidi bin Haji Abdul Ghani**
(Non-Executive Director) – Chairman

ii. **YBhg Tan Sri Dato' Sri Mohd Hassan bin Marican**
(Non-Executive Director)

iii. **YBhg Dato Sri Fong Joo Chung**
(Non-Executive Director)

iv. **YB Dato' Haji Idris bin Haji Buang**
(Non-Executive Director)

The GNRC held five (5) meetings during the financial year ended 31st December 2021. The attendance record of the members is as follows:



3. Bumiputera Participation Board Committee (BPBC)

The responsibility of the BPBC is to ensure participation of local and Bumiputera service providers or contractors in Sarawak Energy's contract and procurement activities in line with the State government's vision to maximise local and Bumiputera participation and content in contract and procurement in Sarawak.

BPBC has formulated an overall plan and is implementing the plan to ensure that Sarawak Energy's current and potential contractors are fully aware of the opportunities and incentives available. The objective of these initiatives is to expand the pool of qualified local Bumiputera contractors that can participate in Sarawak Energy's projects.

The composition of the BPBC members for the financial year ended 31st December 2021 is as follows:

i. **YB Dato' Haji Idris bin Haji Buang**
(Non-Executive Director) – Chairman

ii. **Dzulkornain bin Masron**
(Public Sector) - Member

iii. **Dato Ir. Abang Jemat bin Abang Bujang**
(Professional & Entrepreneurial Group) - Member

iv. **Datu Haji Wan Kassim bin Tuanku Zubir**
(Professional & Entrepreneurial Group) – Member

v. **YB Dr. Simon Sinang Bada**
(Professional & Entrepreneurial Group) – Member

vi. **Ir. Haji Zawawi bin Haji Embong**
(Professional & Entrepreneurial Group) – Member

vii. **Stell Sindau**
(Professional & Entrepreneurial Group) – Member

viii. **Datu Haji Abang Helmi bin Tan Sri Ikhwan**
(Bumiputera Business Chambers) – Member

ix. **Datuk Mutang Tagal**
(Bumiputera Business Chambers) – Member

x. **Dato Allan Keripin Nangkai**
Bumiputera Business Chambers) – Member

The BPBC held four (4) meetings during the financial year ended 31st December 2021.

STATEMENT OF CORPORATE GOVERNANCE

The attendance record of the members is as follows:

YB Dato' Haji Idris bin Haji Buang	Chairman	4/4	% of Attendance 100%
Dzulkornain bin Masron	Member	4/4	% of Attendance 100%
Dato Ir. Abang Jemat bin Abang Bujang	Member	3/4	% of Attendance 75%
Datu Haji Wan Kassim bin Tuanku Zubir	Member	4/4	% of Attendance 100%
YB Dr. Simon Sinang Bada	Member	3/4	% of Attendance 75%
Ir. Haji Zawawi bin Haji Embong	Member	4/4	% of Attendance 100%
Stell Sindau	Member	4/4	% of Attendance 100%
Datu Haji Abang Helmi bin Tan Sri Ikhwan	Member	1/4	% of Attendance 25%
Datuk Mutang Tagal	Member	3/4	% of Attendance 75%
Dato Allan Keripin Nangkai	Member	3/4	% of Attendance 75%

Meetings Attended

MANAGEMENT COMMITTEE

The Group Executive Committee ("GEC") is established to provide a meeting and decision-making forum on specific matters with the view of reporting, information sharing, establishing cooperation or collaboration amongst the various departments or cross functions and finding resolutions to issues.

The GEC shall also function as the Executive Risk Committee ("ERC") for the Group, to promote risk discussion at the top management level.

The GEC has written terms of reference approved by the Board, and their authority and duties are set out as follows:-

(a) Monitor and evaluate political, economic and business conditions and formulate measures to ensure that any potential material impact is identified and managed;

(b) Review, decide on or endorse strategic decisions and policy discussions or such other matters that require submission to, or further deliberation on a decision from, the Board of Directors, Board Committees or Subsidiary Company Boards;

(c) Review, decide on or endorse strategic directions of the Sarawak Energy Group, including Decision Gates on projects, new business directions and the like;

(d) Review, decide on or endorse strategic directions and policies relevant to the Sarawak Energy Group (such as Human Resources and leadership development, implementation of management leadership, change management and continuous improvement programmes and initiatives for the Sarawak Energy Group);

(e) Review, decide or endorse strategic directions and policies for Key Performance Indicators ("KPIs") for the Sarawak Energy Group;

(f) Review, decide or endorse issues of timely importance to the Sarawak Energy Group (such as Corporate Risk, Health, Safety, Security and Environment, Customer related issues, land access concerns and the like);

(g) Manage and regularly review the operational and financial performance of the Sarawak Energy Group;

(h) Optimise and allocate the Sarawak Energy Group's resources;

(i) Discuss and debate Sarawak Energy Group's corporate culture and set ways forward to address any issues or encourage beneficial developments;

STATEMENT OF CORPORATE GOVERNANCE

(j) Oversee the establishment, implementation and consistent adoption and communication of the Group's risk management framework, which includes policies, processes and procedures to identify, analyse, evaluate, monitor and report on significant financial and non-financial risks, and respond to changes in the Group's internal and external environments;

(k) Endorse any changes to the Group's Risk Management Framework to Board Audit and Risk Committee and Sarawak Energy Board for approval;

(l) Set the risk appetite within which the Board expects Management to operate and ensures that actions are taken in a timely manner when risks are outside acceptable tolerance ranges;

(m) Monitor risk exposure against risk appetite tolerance ranges;

(n) Deliberate and provide directives, where applicable, on risk appetite metrics and tolerance ranges, portfolio of key risks and risk issues highlighted to the ERC, through regular reports;

(o) Ensure that controls are in place to mitigate and manage the key risks of the Group;

(p) Provide reasonable assurance that any adverse impact arising from a foreseeable future event or situation on the Group's objectives is mitigated and managed; and

(q) Consider other matters as required by the Board;

As of 31st December 2021, the GEC comprises the following members:

i. **Datu Haji Sharbini Bin Suhaili**
(Group Chief Executive Officer) - Chairman

ii. **Lu Yew Hung @ Lu Yew Hong**
(Group Chief Operating Officer)

iii. **Lau Kim Swee**
(Chief Executive Officer, Syarikat SESCO Berhad)

iv. **Ung Sing Kwong, James**
(Chief Executive Officer, SEB Power Sdn. Bhd.)

v. **Ting Ching Zung**
(Executive Vice President, Strategy & Corporate Development)

vi. **Pramod Kumar Karunakaran**
(Executive Vice President, Project Delivery)

vii. **Alexander Chin**
(Chief Financial Officer)

viii. **Haji Sulaiman bin Haji Abdul Hamid**
(Senior Vice President, Contract & Procurement)

ix. **Dr Mak Anak Met**
(Senior Vice President, Human Resource)

x. **James Paul**
(Senior Vice President, Legal, Land & Company Secretary)

xi **Hajah Siti Aisah Bt. Adenan**
(Senior Vice President, Corporate Services)

xii **Nick Wright**
(Senior Vice President, Business Development)

xiii **Sim Ko Sin**
(Senior Vice President, Information & Communication Technology)

xiv **Marconi Madai**
(Senior Vice President, Health, Safety, Security & Environment)

xv **Alvin Lim Khiok Leong**
(Chief Operating Officer, SER [COO SER]/Vice President, Coal Resources [VP CR])

The management meetings held during the financial year ended 31st December 2021:

Management Meetings Held	
GEC meetings	16
Special GEC meetings	17
GEC Workshop	1
GEC Brainstorming Day	1
GEC Technology Council meetings	4
Group Digital Council meetings	4
GEC HSSE Council meetings	4

102-16

STATEMENT OF CORPORATE GOVERNANCE

TENDER COMMITTEES

Tender committees are established to approve the award of tenders in line with Procurement Limits of Authority that was approved by the Board.

CONFIDENTIALITY OF INFORMATION

Under the Company's Enterprise Information Management guidelines, documents are to be classified based on the confidentiality or sensitivity of their contents. For documents classified as Confidential, Secret or High Secret, there are stipulated guidelines to be adhered to.

Staff or external parties privy to information or documents classified as "Confidential" or higher are required to sign a Secrecy Oath or Confidentiality Agreement.

ACCOUNTABILITY AND AUDIT

Financial Reporting

The Directors are responsible for ensuring that the annual financial statements of the Group are drawn up in accordance with the applicable approved accounting standards in Malaysia and the provisions of the Companies Act, 2016.

The Board aims to provide and present a balanced and meaningful assessment of the Group's financial performance and prospects, primarily through the annual financial statements and quarterly financial results as well as the Chairman's Statement and Review of Operations in the Annual & Sustainability Report. The Board is assisted by the Board Audit & Risk Committee in overseeing the Group's financial reporting processes and the quality of its financial reporting.

Relationship with Auditors

Through the BARC, the Board has established a formal, transparent and appropriate relationship with the Group's Auditors, both External and Internal. The BARC meets regularly with External and Internal Auditors to discuss the yearly audit plan, quarterly financial results, annual financial statements and internal audit reports, and at every Board meeting convened, the Chairman of the BARC briefs the Board on significant matters discussed and deliberated at each BARC meeting and makes recommendations for the Board's approval and endorsement.

Internal Controls

Information of the Group's internal controls system is presented in the Statement of Risk Management and Internal Control as set out on pages 55 to 59 of this Annual & Sustainability Report.

DIRECTORS' RESPONSIBILITY STATEMENT

The Board is responsible to ensure that the financial statements are prepared in accordance with the Companies Act, 2016 and the applicable approved accounting standards set by the Malaysian Accounting Standards Board to present a true and fair, balanced and understandable assessment of the Group's financial position and results. In this Annual & Sustainability Report, an assessment is provided in the Directors' Report of the Audited Accounts.

The BARC reviews the statutory compliance and scrutinises the financial aspects of the Audited Accounts prior to deliberation at the Board level.

ADDITIONAL COMPLIANCE INFORMATION

To the best of the Directors' knowledge:

- Material Contracts
  Neither the Company nor its Subsidiaries entered into any material contracts not in the ordinary course of business during the financial year ended 31st December 2021.
- Sanctions/Penalties
  There were no material sanctions and/or penalties imposed on the Company and its subsidiaries, Directors or Management by any relevant regulatory authorities during the financial year ended 31st December 2021.
- Revaluation Policy on Landed Properties
  The Group did not adopt any revaluation policy on landed properties during the financial year ended 31st December 2021.

102-15, 103-1, 103-2, 103-3

STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

As part of its commitment to good corporate governance, Sarawak Energy has voluntarily adopted the best practices for Sarawak Energy's Board of Directors (Board) to provide a statement in its Annual and Sustainability Report on the state of risk management and internal control as a Group.

Sarawak Energy's Board is pleased to present the following statement that has been prepared in accordance with the best practices recommended by the Statement on Risk Management and Internal Control: Guidelines for Directors of Listed Issuers (2012). This Statement outlines the nature and scope of the risk management and internal control systems within the Group during the year under review.

The Board is committed to its responsibility of maintaining a sound risk management framework and system of internal control, covering financial and operating activities to safeguard Shareholders' investment, the Group's assets and customers' interests. This Statement on Risk Management and Internal Control outlines the structure and processes that have been implemented to ensure the adequacy, effectiveness and integrity of the risk management framework and system of internal control of Sarawak Energy Group during the financial year ended 31st December 2021.

The Group's risk management framework and system of internal control apply to Sarawak Energy and its subsidiaries. Associated companies and joint ventures are excluded because the Group does not have full management control over them. Nonetheless, the Group through its Board representations, exercises the power to participate in policy decisions of the associated companies and joint ventures.

BOARD RESPONSIBILITY

The Board has an overall responsibility for the Group's risk management framework and system of internal control to provide reasonable assurance of efficient operations, effective internal checks and compliance with laws and regulations.

The ongoing process for identifying, evaluating, monitoring and managing the significant risks faced by the Group is periodically reviewed by the Board during the financial year under review. However, the Board recognises that the Group's system of internal control is designed to manage rather than eliminate the risk of failure to achieve its objectives, hence it can only provide reasonable but not absolute assurance against material misstatement, fraud or loss.

The Board is supported by the Group Executive Committee in the implementation of the approved policies and procedures on risks and controls, in which the Management identifies and assesses the risks faced as well as implements and monitors appropriate control measures to mitigate and control these risks.

Further, the Board is assisted by the Board Audit and Risk Committee (BARC) to review the adequacy and effectiveness of the system of internal controls in the Group as part of the governance and risk management processes.

ENTERPRISE RISK MANAGEMENT (ERM)

The Board acknowledges that effective risk management is part of good business practices and recognises the need for a sound system of internal control capable of managing the significant risks of the Group.

In addition to discharging its duties and responsibilities in maintaining a robust and sound system of internal control, the Board has implemented an ERM Framework for the Group to provide guidance relating to the implementation of enterprise risk oversight and management processes. This framework incorporates the identification, assessment, mitigation and control, monitoring and reviewing processes especially relating to significant risks and their trending.

The ERM framework ensures that significant risks are continuously identified and that instituted controls are efficaciously applied by the management to manage risk exposure at levels that are tolerable and acceptable to the Group, consistent with its risk appetite and risk management practices.

102-15, 103-2, 103-3

STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

The following risk management tools are used to ensure effective risk management in the Group:

- The Group's Risk Appetite Statement (RAS) articulates strategic and business risks that the company is willing to accept in pursuit of its strategic ambitions. The Board determines the Group's risk appetite and tolerance which provides early warning of increasing risk exposures and potential risk events. The Group RAS is monitored and reported on a quarterly basis to the Executive Risk Committee (ERC), BARC and the Board.

- The Strategic Risk Profile consists of strategic and emerging risks with the corresponding risk mitigations. This allows sufficient management oversight, the ability for timely intervention or mitigation of risks, as well as enabling risks to be appropriately considered in business decision making.

- The Group Risk Parameters and Matrix, in alignment with the Group's risk appetite, are used to guide the assessment and prioritisation of risks that are identified during planning initiatives, projects and operations, thereby developing appropriate mitigation and resolution plans.

In view of shifts in macro-economic trends post COVID-19 and the Group's regional expansion plans which lead to an increased magnitude and exposure to new risks, the Group reviewed its risk profile, risk appetite and approach to risk quantification and prioritisation to incorporate these new risks. A leading external consultant with global expertise in risk and strategy was engaged for the review to provide outside-in perspectives, as well as benchmark against leading risk management practices.

During the year, the Group further strengthened its risk management by implementing the following enhancements to the risk governance and organisation structure:

- Established risk committees at the Core Business Units and Project Delivery Department to promote regular risk discussions, as well as to ensure close monitoring of the risk profile and risk appetite; and

- Appointed additional Head Risk Controllers and Risk Controllers in the Core Business Units and Corporate Support Functions, to further strengthen risk processes in these functions.

In line with the Group's aspiration to be the best operator and regional powerhouse by capturing growth through Continuous Improvement (CI) and leveraging technology and digitalisation, Sarawak Energy Enterprise Risk (SEERisk), an enterprise risk management system was developed in-house and rolled out to the Group in stages.

SEERisk serves as the single source of truth for enterprise risk information and facilitates the identification, assessment, monitoring and mitigation of enterprise risk, which aims to streamline the annual risk review process across the Group with timely review and updates of risks and mitigation actions, enhance the visibility of risks and progress of mitigation actions, speed up work processes through online approvals, monitoring and system-generated customised risk reports, among others.

In supporting the above enhancements and implementation of the new system and as part of inculcating a risk-conscious culture within the Group, risk awareness and education programmes were conducted for Head Risk Controllers, Risk Controllers, and risk owners through engagement sessions internally and risk sharing sessions with other leading risk practitioners.

BUSINESS CONTINUITY MANAGEMENT (BCM)

The Board acknowledges the significance of instituting a holistic BCM Framework and Crisis Management Plan for the Group to build and enhance organisational resilience with the capability and capacity to create an effective response that safeguards the interests of its key stakeholders, reputation, and value-creating activities.

The Group has implemented the BCM Framework, Crisis Management Plan and continues its rollout of the BCM implementation roadmap and related programmes.

In addition, Crisis Simulation Exercises, BCM Awareness and Refresher training, as well as Business Impact Analysis/Business Continuity Plan documentation review workshops were conducted to enhance business resiliency by building organisational capability and capacity for effective emergency responses and systematic recovery strategies to maintain business continuity.

While the world gradually transitions into COVID-19 endemic phase, Sarawak Energy Group has in place the following measures to mitigate the impact of COVID-19 to the Group in 2021:

- Continue to monitor and conserve the Group's cashflow through the cross-functional Cash Conservation and Management Office and building liquidity buffers;

- The Group Crisis Management Team and COVID-19 Contingency Plans which were rolled out across the Group in 2020 are still in effect;

- Continual proactive engagement with the relevant ministries, agencies and State Disaster Management Committee (SDMC);

- Extension of the Group New Work Arrangement as an important workplace circuit breaker and safeguard amid the rising daily number of COVID-19 cases; and

- Enhancement of the use of information and communication technology through extending secure and remote working, implementing additional information security controls, and implementing digital literacy and comprehensive cyber security awareness campaign aimed at developing employees' digital capabilities and competencies.

SYSTEM OF INTERNAL CONTROLS

Some of the key elements of the Group's System of Internal Control are as follows:

- The Group's Organisational and Management Structure formally defines the line of responsibility for all aspects of the Group's affairs which is aligned to its strategic and operational requirements. The structure will be reviewed and updated as and when needed to reflect the changing business environment and operating activities within the Group.

- Senior Management prepares and presents the business plans and budgets to the Board annually for approval and updates on the progress on a quarterly basis.

- Measurement of performance is regularly monitored through reports incorporating key project progress, financial and operational key performance indicators and departmental initiatives by the Group Chief Executive Officer to the Board.

- The BARC reviews the statutory annual financial statements and the quarterly group management reports and recommends them to the Board for approval.

- The Sarawak Energy Berhad Group Manual of Authority has been formalised and rolled out in 2020, as a means of governing and safeguarding the Group in key approval matters for strategic and critical financial and non-financial matters as well as sets a sound framework of authority and accountability to facilitate timely, effective and quality decision-making.

- Under the custody of the Governance and Compliance Unit of the Legal Division, the Sarawak Energy Group Policy Central was established as a centralised portal for the Group's Policies, Procedures and Guidelines. These documents are consistently reviewed and enhanced when necessary to ensure relevance and effectiveness.

- Finance Policies and Procedures covering key processes, including Invoice to Pay, Record to Report, Planning, Budgeting & Forecasting, Order to Cash, Taxation, Treasury, Corporate Finance & Investor Relations, have been reviewed and enhanced to ensure compliance and control.

- Procurement Policies and Procedures are updated and in place to govern the procurement activities within the Group.

- Sarawak Energy Project Model (SEPM) is a business process that facilitates prudent management of capital expenditure. As a stage gated process, SEPM ensures commercial viability, effective front-end planning, and design, contracting and final investment decisions. All capital projects undertaken by Sarawak Energy and its subsidiaries shall comply with the requirements as defined in the SEPM.

- The suite of Human Resources Policies, Procedures and Guidelines encompasses areas of human resources management such as recruitment, onboarding, employee development, benefits and remuneration among others and is supported by the promotion of a high performance culture to enable Sarawak Energy to achieve its strategic goals and objectives.

- The Group strives to implement best practices, some of which have been recognised and awarded with International Organisation for Standardisation (ISO) Management System certifications. The ISO 27001:2013 Information Security Management System (ISMS) compliance assessments are conducted at planned intervals by the Integrated Management System & Assurance (IMSA) Division to ensure compliance with ISO Standard and internal requirements, as well as the effectiveness of implementation.

- Assessment of the adequacy of insurance coverage for employees and assets are conducted annually to safeguard against any contingent incidents that could result in material losses.

102-15, 103-2, 103-3

STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

- Significant contracts and legally enforceable agreements are reviewed by the Legal Division prior to finalisation and execution.

- All regulatory non-compliance or breach of laws and regulations are reported to the BARC on a quarterly basis.

INTERNAL AUDIT FUNCTION

The BARC, assisted by the Group Internal Audit (GIA), provides the Board with the assurance it requires on the adequacy and effectiveness of the system of internal controls. The BARC has an oversight function of all activities carried out by the GIA.

The GIA adopts a risk-based approach in preparing its audit strategy and annual plan. The GIA independently reviews the risk exposures and control processes implemented by the Management and conducts assignments that cover auditing and review of critical areas within the Group, including financial, operations, projects and IT/information systems. The internal audit functions and activities are guided by its internal audit charter and annual audit plan which are approved by the BARC and the internal audit reports are tabled at the BARC meetings for review and deliberation.

Furthermore, the GIA engages in regular communication with the senior management team and various departments within the Group related to internal audit activities and efforts for continuous improvement in operations and systems. In addition, external auditors' recommendations for improvements noted during their audit, if any, are also closely monitored and followed up to ensure that they are promptly implemented.

INTEGRITY AND FRAUD CONTROL FUNCTION

In 2020, the Integrity and Fraud Control Unit was established under the GIA. The Group appointed a Chief Integrity and Fraud Control Officer whose key role is independent oversight of integrity and fraud control in the Group.

The Management of the Group has implemented the following key initiatives, which demonstrate Sarawak Energy's commitment to integrity and zero tolerance to fraud, corruption and bribery as well as continuous efforts toward meeting the Adequate Procedures requirement of Section 17A of the MACC (Amendment) Act 2018:

- Continuous enhancements to the Code of Ethics and relevant Policies Procedures and Guidelines to reflect Sarawak Energy's commitment to integrity and ethical practices;

- Established the Anti Bribery and Corruption (ABC) Policy Statement and policy proper, including rolling out awareness training;

- Established the Gifts Entertainment and Hospitality (GEH) Policy and rolled out awareness training;

- Conducted refresher training on the Whistle Blowing Policy, as well as enhanced the Whistle Blowing Channel by commencing the design of a digital platform;

- All employees are required to sign the Sarawak Energy Integrity Pledge, including new recruits as part of its recruitment and onboarding process effective August 2020, whereas existing employees are required to renew their pledge;

- Conducted mandatory Online Anti-Bribery and Corruption trainings;

- Revised the Fraud Risk Management Framework; and

- Carried out an Integrity Survey for all Sarawak Energy employees.

Continual implementation of the Integrity, Fraud and Corruption roadmap, which includes all fraud, corruption and bribery related policies and plans, as well as continuous anti-fraud corruption and bribery training and education and related programmes.

A COMMITMENT TO GOVERNANCE

sarawak energy

102-15, 103-2, 103-3

STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

CONCLUSION

The Board has obtained assurances from the Group Executive Committee that to the best of their knowledge and belief, the Group's risk management and internal control system is operating adequately and effectively, in all material aspects. Where weaknesses are identified, rectification steps have been put in place.

To the best of their knowledge and belief, the Board is of the view that the risk management and internal control system in place for the year under review and up to the date of approval of this statement for inclusion into the Annual & Sustainability Report, is adequate and effective to safeguard shareholders' investment, the interests of customers, regulators and employees, and the Group's assets.

REVIEW OF THE STATEMENT BY EXTERNAL AUDITOR

The external auditors have reviewed this Statement on Risk Management and Internal Control pursuant to the scope set out in Audit and Assurance Practice Guide 3, Guidance for Auditors on Engagements to Report on the Statement on Risk Management and Internal Control included in the Annual Report (AAPG3) issued by the Malaysian Institute of Accountants (MIA) for inclusion in the Sarawak Energy Annual & Sustainability Report for the year ended 31 December 2021, and reported to the Board that nothing has come to their attention that causes them to believe that the statement intended to be included in the Annual & Sustainability Report is not prepared, in all material respects, in accordance with the principle disclosures required by paragraphs 41 and 42 of the Statement on Risk Management and Internal Control: Guidelines for Directors of Listed Issuers nor is the Statement factually inaccurate.

AAPG3 does not require the external auditors to consider whether the Directors' Statement on Risk Management and Internal Control covers all risks and controls, or to form an opinion on the adequacy and effectiveness of the Group's risk management and internal control system including the assessment and opinion by the Directors and management thereon.

The report from the external auditors was made solely for and directed solely to the Board in connection with their voluntary adoption of the best practices recommended by the Statement on Risk Management and Internal Control: Guidelines for Directors of Listed Issuers (2012) which is for the Board to make a statement in its Annual & Sustainability Report about the state of risk management and internal control as a Group and for no other purpose or parties. The external auditors do not assume responsibility to any person other than the Board in respect of any aspect of this report.

This statement is made in accordance with the resolution of the Board dated 25th May 2022.

102-15

OUR STRATEGIC ROADMAP

Building on the successes of our Sarawak Energy Excellence (SEE) 2017 journey, in 2020 we concluded what we had set out to accomplish under the SEE 2020 Strategic Roadmap.

To enhance our ability to sustain value creation and drive the continuous growth that we experienced over the course of SEE 2020, we embarked on SEE 2022 to become the best operator and capture growth through continuous improvement. This next phase of our strategic roadmap will pave the way for us to achieve our regional powerhouse ambition by 2023 and beyond by guiding and focusing the Company to work towards a common goal.

Anchored on six Key Focus Areas in Health, Safety, Security and Environment (HSSE), Operational, Project Delivery and Talent Management Excellence, underpinned by a Progressive Corporate Culture and Commercial Excellence, Sarawak Energy is committed to delivering on our promises and improving our business operations at all levels in order to build and retain the trust of our stakeholders and the communities we support.

SARAWAK ENERGY EXCELLENCE (SEE) 2022

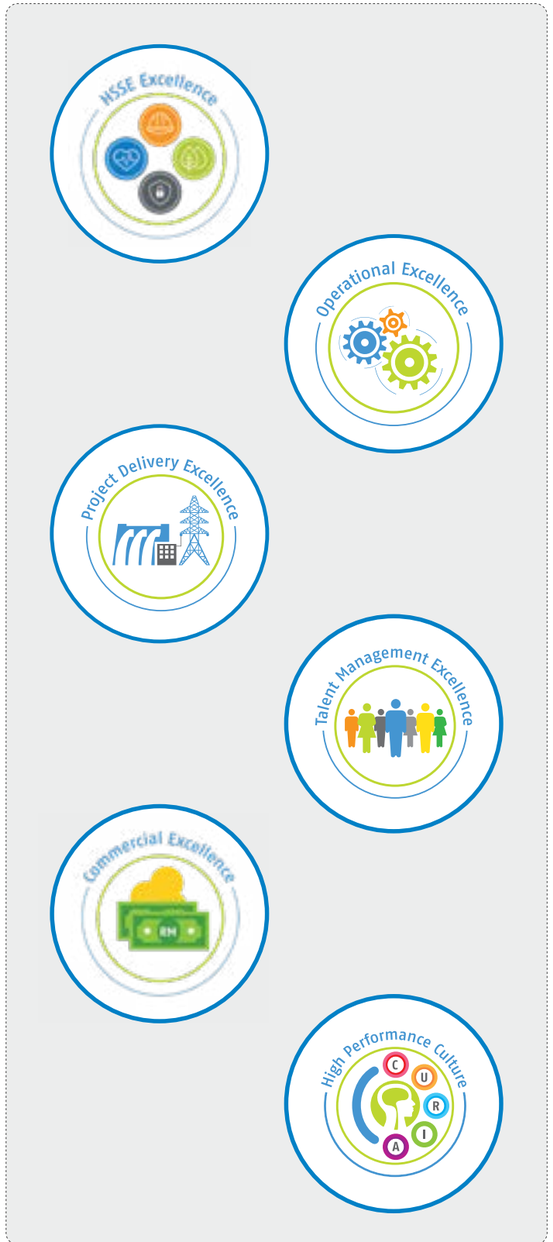
Our SEE 2022 journey aspires to take us from good to great, with the roadmap being enabled by a mindset of continuous improvement to achieve the targets outlined under our six key focus areas as well as our regional goals.

Since the inception of our HSSE Transformation Journey in 2017, we have implemented major HSE policies and initiatives that have helped create a more sustainable and safer organisation overall. To sustain this performance, we have embarked on a cultural transformation programme within the organisation to ensure all employees and stakeholders continue to embed a strong HSSE culture and make safety a top priority and shared responsibility.

To achieve Operational Excellence, we are driving continuous improvement across our value chain to maximise operational efficiency and output. A strong and determined focus on digitalisation, technology and innovative thinking has enabled us to deliver on our promises during the COVID-19 pandemic. Digital transformation continues to play a central role in driving Operational Excellence and our objectives remain centred on ensuring customer satisfaction by supplying safe and reliable power at all times.

102-15

OUR STRATEGIC ROADMAP



For Sarawak Energy's sustainable growth, all our projects must be delivered safely, within cost, on schedule and with strict adherence to quality standards. Since implementing the Project Delivery Transformation initiative, we have made tremendous progress in our approach to project delivery excellence, which includes advancements in our systems, processes, people capabilities and networks. Backed by external benchmarking against other top-quartile utilities, we are confident in our progress towards achieving world-class project delivery performance by 2023.

Our holistic people strategy of "Let's ADD (Acquire, Develop and Deploy) our talent" has enabled us to successfully attract, retain, nurture and grow our talents. Our Talent Management Excellence Framework effectively guides Sarawak Energy's talent development programmes to help our people grow in their careers while preparing them for critical positions and succession plans. As an employer of choice, we also benchmark ourselves against international and regional companies in terms of infrastructure and incentives to make sure we offer the best benefits to our people – Sarawak Energy's greatest asset.

A progressive, resilient and high-performing corporate culture is essential to ensure the delivery of targets and excellence in the key focus areas. Thus, we strive to imbue our people with Sarawak Energy's winning behaviours by assigning them to roles that maximise their potential. Leveraging our collective strengths to achieve greater heights of excellence for Sarawak Energy, we encourage our people to conduct themselves according to our core values of courage, unity, respect, integrity and accountability.

Our latest key focus area, Commercial Excellence, will play an important role in our Company's future by facilitating the transition from a technically proficient company to one that is both technically and commercially savvy. Commercial Excellence will be a fundamental part of our decision-making process going forward; it will inform how we utilise our money, assets and resources to generate the maximum value for the Company. This will ensure long-term profitability and sustain our growth.

We are halfway through SEE 2022 and I know it will continue to guide us towards delivering on our regional expansion ambitions and becoming a best-in-class utility. Our exceptional team synergy, investments in digitalisation, commitment to delivering on our targets and strong support for one another will continue to empower us to produce sustainable and resilient results in the years ahead.

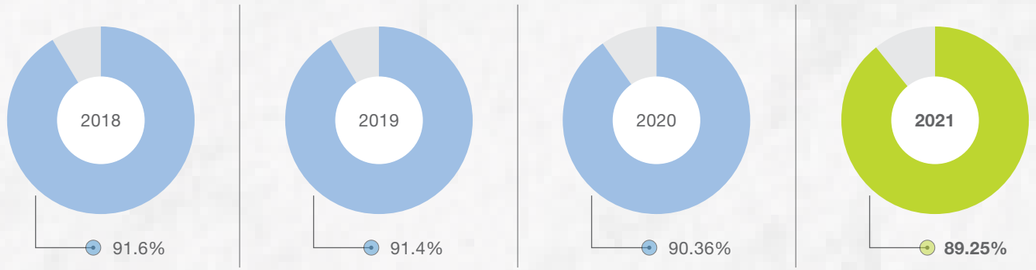
Datu Haji Sharbini Suhaili
Group Chief Executive Officer

103-3, EU30

REPORT CARD 2021

GENERATION OPERATIONAL EXCELLENCE

Equivalent Available Factor (Weighted Average)



Plant		2018	2019	2020	2021
Coal	EAF	83.4%	77.49%	82.07%	**78.8%**
	FOR	2.06%	10.53%	2.94%	**5.05%**
Gas	EAF	88.46%	91.06%	79.23%	**79.4%**
	FOR	2.91%	0.38%	1.14%	**5.99%**
Hydro	EAF	93.28%	93.41%	94.74%	**95.2%**
	FOR	0.42%	1.28%	0.49%	**0.42%**

Notes:

- *Equivalent Available Factor (EAF) is weighted.*
- *2021 is 12 months' rolling average up to December.*
- *Forced Outage Rate (FOR) is a simple average.*
- *2021 is average for January to December.*

102-43, 103-3, EU12, EU28, EU29

REPORT CARD 2021

NETWORK AND CUSTOMER SERVICE EXCELLENCE

Indicator	Actual 2021	Target 2021	SEE 2022 KFA Target
System Average Interruption Duration Index (SAIDI)	120.74 minutes[1]	85 minutes	**60 minutes**
System Average Interruption Frequency Index (SAIFI)	1.61 times[1]	1.32 times	**1 time**
Age of Debtors > 42 days	26.94%	< 29.33%	**< 20%**
Non-Technical Losses	4.12%	≤ 3.55%	**< 2%**
Street Lighting Repair	94.49% ≤ 24 hours	95% ≤ 24 hours	**90% < 24 hours**
Release of Connection Charges	96.27% ≤ 14 days	92% ≤ 14 days	**90% < 14 days**
Service Call Attendance	88.15% ≤ 45 minutes	90% ≤ 45 minutes	**90% < 45 minutes**
Service Line Installation	96.63% ≤ 7 days	95% ≤ 7 days	**90% < 7 days**
Service Cable Installation	97.91% ≤ 7 days	75% ≤ 7 days	**90% < 7 days**
Customer Satisfaction Index	96.51%	≥ 90%	**> 90%**

Note:

[1] Includes generation, transmission and distribution.

COMMERCIAL EXCELLENCE

Value Optimisation

Return on Assets

2.2% Actual 2021 → **>3%** **Target 2022**

High Performance Culture

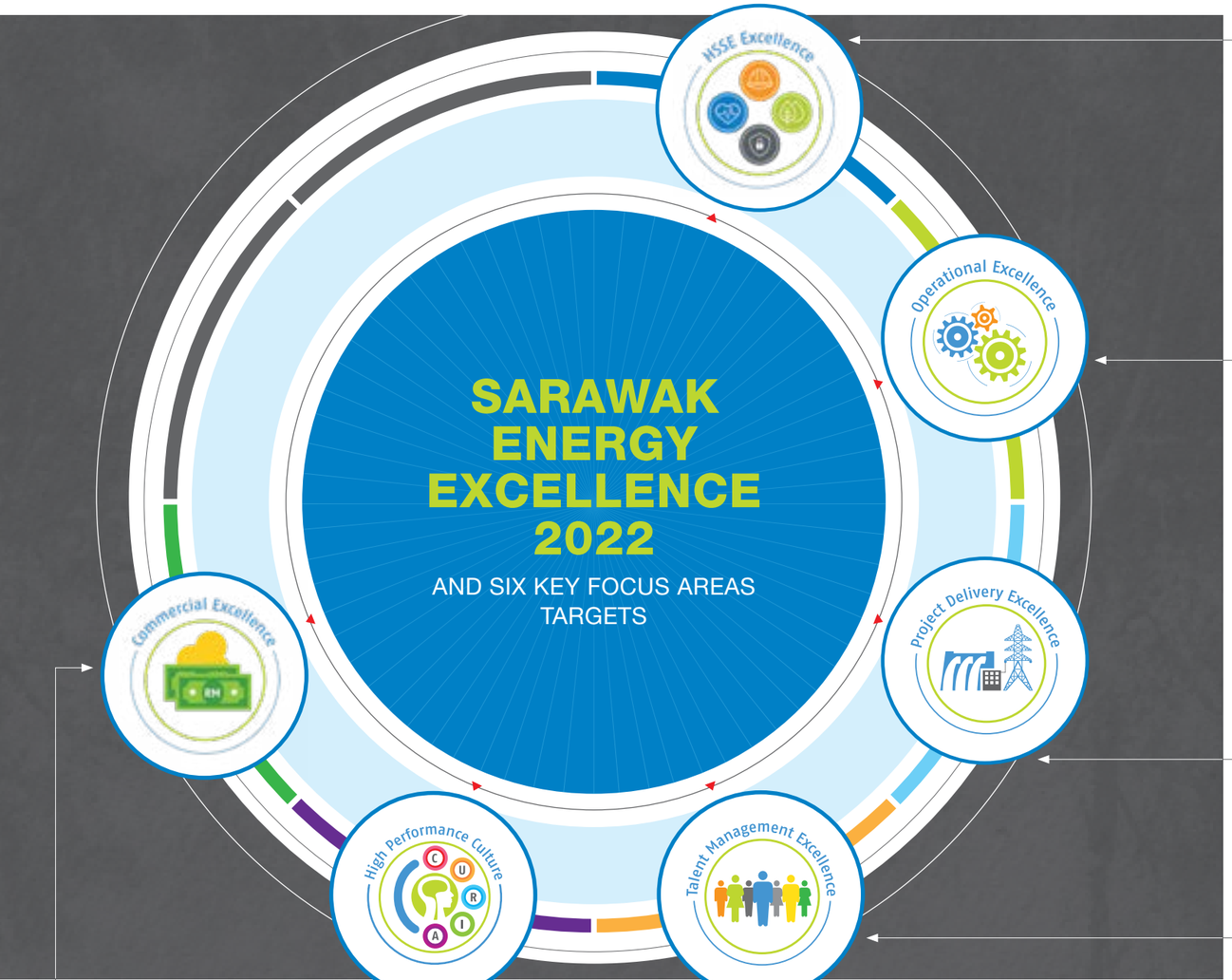
Sarawak Energy Employee Survey (SEES)

Employee engagement score was **88%** in 2021 against target score of 80%.

STRATEGY ALIGNED WITH VALUE CREATION

102-43

KEY FOCUS AREAS' TARGETS



103-3, 307-1, 403-6, 403-9, 404-3, EU12, EU28, EU29, EU30

KEY FOCUS AREAS' TARGETS

Key Focus Areas

HEALTH

90%

employees with **Body Mass Index (BMI)** < 30

SAFETY

ZERO

Loss Time Injury (LTI)

Fatalities

SECURITY

ZERO

intrusion at all guarded **power stations, substations and offices**

ENVIRONMENT

100%

compliance with **environmental regulatory laws**

Key Focus Areas

GENERATION EXCELLENCE

Coal	Gas	Hydro
EAF ≥ 87%	EAF ≥ 89%	EAF ≥ 93%
FOR ≤ 2%	FOR ≤ 2%	FOR ≤ 1%

Notes:

- ***EAF*** *– Equivalent Availability Factor*
- ***FOR*** *– Forced Outage Rate*

NETWORK & CUSTOMER SERVICE EXCELLENCE

SAIDI	SAIFI	Customer Satisfaction Index	Non-Technical Losses	Age of Debtors	90% Resolution of Key Services	Street Lighting Repair	Service Call	Connection Charge	Service Line/ Cable Installation
< 60 min	< 1 time	> 90%	< 2%	> 42 days < 20%		< 24 hours	< 45 mins	< 14 days	< 7 days

Key Focus Areas

TIMELY COMPLETION

70%

of projects are **completed on time**

COST DISCIPLINE

Within **1st Quartile Benchmark**

CAPEX execution within ≥ 90% and ≤ 105%

QUALITY

No malfunction/ major equipment failure during defect liability period

Conformance to **Quality Audit Criteria** 80%

Audit Non-conformance closeout 80%

Key Focus Areas

VALUE OPTIMISATION

Return on Asset (ROA) ≥ 3%

Key Focus Areas

WE KNOW THAT SARAWAK ENERGY IS A GREAT PLACE TO WORK IN WHEN:

- Our people demonstrate Winning Behaviours
- Culture enables the delivery of aspirational targets for all Key Focus Areas
- Employees share their positive experiences as indicated by Sarawak Energy Employee Survey (SEES) scores
- We receive external recognition

Score target above 80%
Employee Engagement
Continuous Improvement
Diversity & Inclusiveness

Key Focus Areas

SUSTAINABLE TALENT BENCH STRENGTH

2 "Ready Now" & 2 "Ready Later" successors for critical positions 100%

INDIVIDUAL DEVELOPMENT PLAN (IDP)

For every employee 100%

COMPETENT ASSURANCE FRAMEWORK (CAF)

90% Self-assessment

70% SME assessment

102-8, 102-16, 103-2

OUR PEOPLE

103-2, 404-2

OUR PEOPLE

Our people are Sarawak Energy's greatest asset and have been the driving force behind our successes over the past century. The resiliency, adaptability and diversity of our employees have become core components of our organisation's progressive corporate culture.

We prioritise and invest in our people, providing them with a multitude of opportunities to build their respective capabilities and competencies in alignment with business needs.

We also continuously improve our internal processes, practices and work culture to make Sarawak Energy a great place to work.

SARAWAK ENERGY'S WORKFORCE

In tandem with the growth of Sarawak Energy, our multidisciplinary workforce has grown in numbers and their roles expanded to cover the business requirements through the years. Starting with a humble team of about 30 employees in 1921, we now have a workforce of 5,442, making Sarawak Energy the largest employer of local Sarawakian talents.

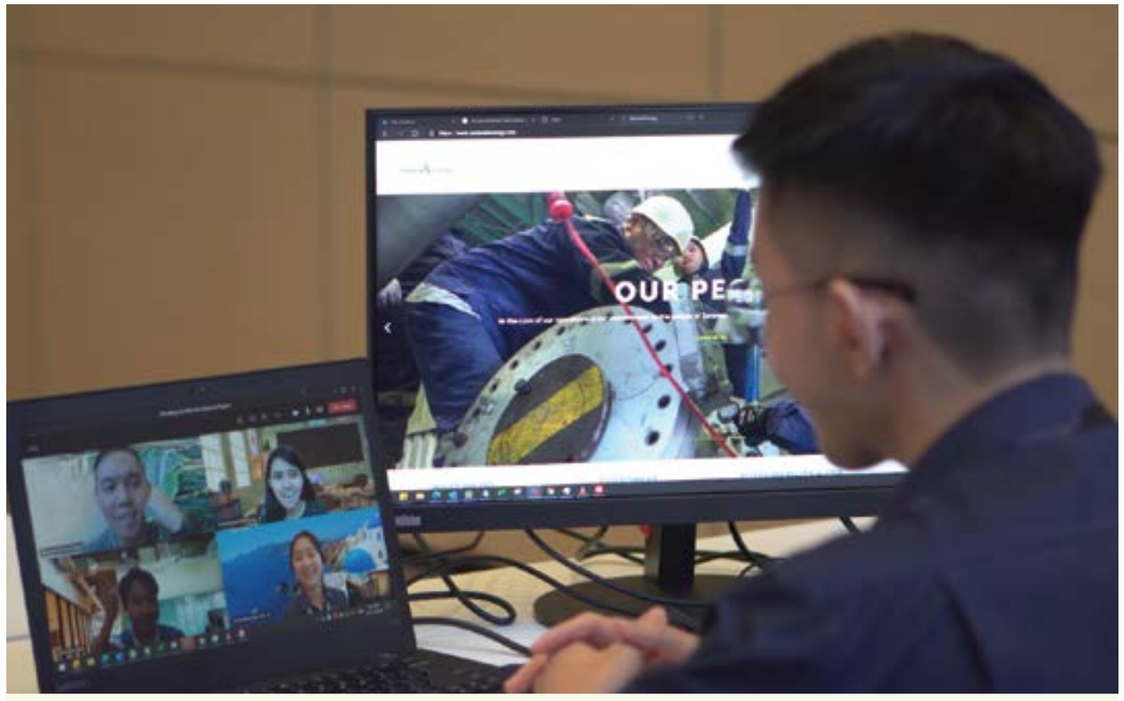
This expansion has been buoyed by our robust People Strategy of Acquire, Develop and Deploy (ADD), which covers the talent management value chain end-to-end, entailing the acquisition of the right talents and developing them effectively before deploying them in roles that maximise their potential.

The implementation of this People Strategy is supported by a talent management ecosystem made up of key components such as Talent Councils, the Individual Development Plan, Subject Matter Experts and the Competence Assurance Framework, Structured Development Programmes and more.

OUR PEOPLE STRATEGY PRIORITIES

ADD has been particularly important since its introduction, as it has allowed us to employ the best people to drive Sarawak Energy forward in realising our aspiration of moving from good to great.

This focus remained unchanged in 2021, as we continued to enhance our existing ADD people strategy, building upon the successes and progress that we have enjoyed in previous years.



Our workforce expansion has accelerated over the past years to keep up with growing business requirements.

TALENT MANAGEMENT

People development remains a high priority and the Company continues to accelerate our people development efforts through a Talent Management Excellence Roadmap. This has resulted in more concerted efforts to foster talents through targeted development for different groups in the Company, ensuring our people are equipped with the necessary skills to stay abreast of the newest technologies and processes in an increasingly challenging work environment.

COVID-19 reinforced the importance of our Learning and Development (L&D) initiatives, and we responded in kind by transitioning to digital and virtual learning with agility, guided by an experimental mindset. We continued to provide learning and growth opportunities through our in-house Learning Hub to address specific competency needs according to the 70:20:10 methodology (on-job-training: social learning: formal learning). Additionally, our people actively organised technical and non-technical knowledge-sharing activities through Microsoft Teams, thereby increasing access to learning. As of October 2021, 72% of our employees' learning activities have been made possible via virtual delivery.

Similarly, competency and certification assessments were reconfigured to allow for virtual invigilation and interviews. Leveraging our robust network of partners, we took great care in redesigning our programmes to provide a wholesome L&D experience for our employees. For example, our flagship Executive Leadership Programme, in collaboration with the Melbourne Business School, was optimised for virtual delivery while maintaining its emphasis on thought leadership and innovation.

Furthermore, we shifted away from a purely technical approach to personal development, investing in a new holistic approach to leadership development at every level.

Sarawak Energy has invested significantly into developing our workforce into Digital People, continuing to progress our Sarawak Energy Digital Acculturation Programme (SEDAP) in 2021 with the aim of cultivating digital savviness among our people and ensuring that our people are empowered to adopt digital ways of working.

EMPLOYEE-DRIVEN CAREER GROWTH

In making Sarawak Energy a great place to work, we drive and empower employees by providing them with more agency in planning and paving their own career paths. Through the Individual Development Plan, employees are able to chart their career path in the Company, monitor and review work performance and identify learning and development needs.

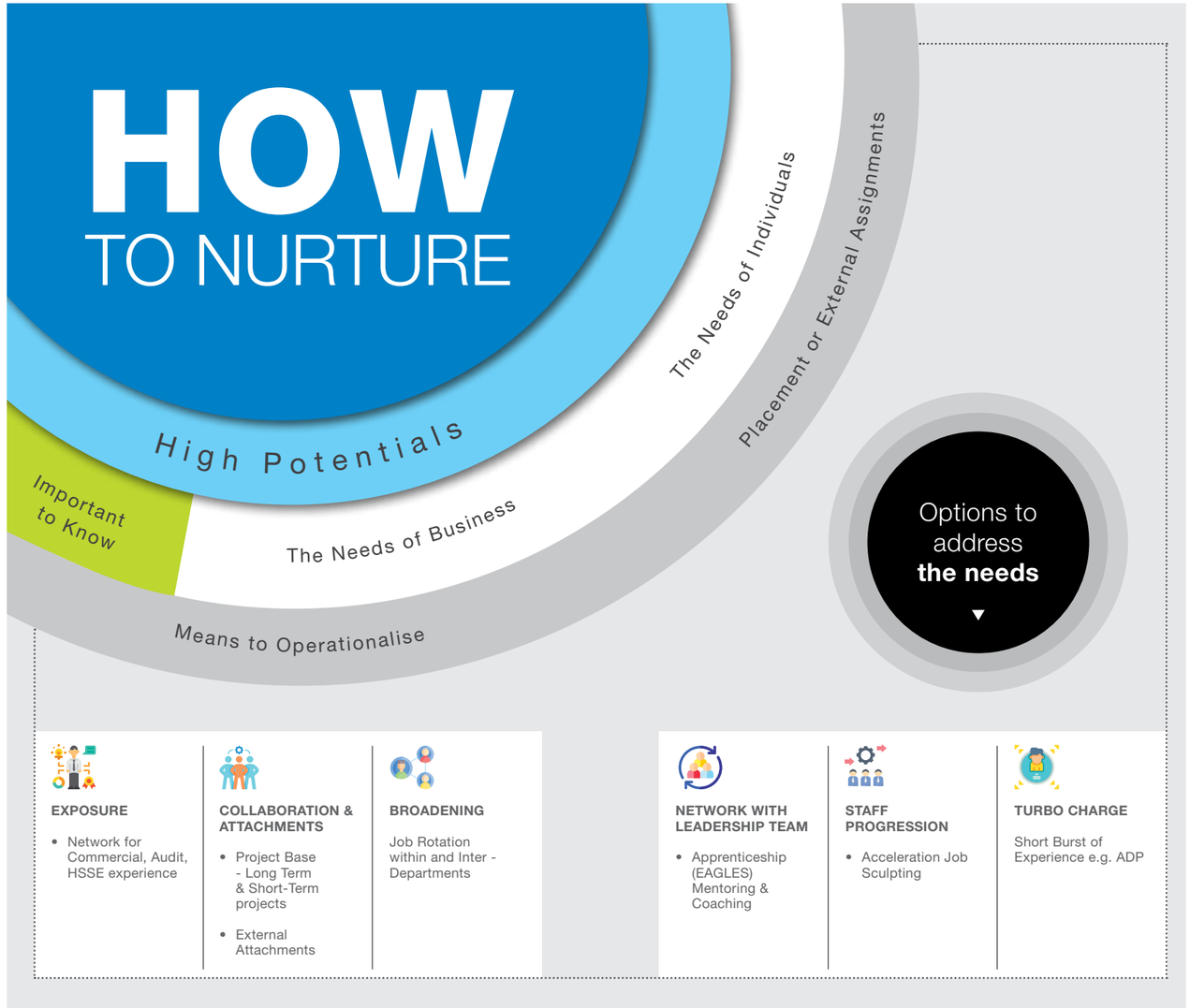
Those who are at senior professional levels (manager and above) can choose to grow within the organisation through the generalist path or the specialist path. In view of the various roles that the members of the top management juggle, discussions are ongoing to consider a potential hybrid path for employees at the highest levels of our Company.

We are similarly focused on developing non-executives and junior executives to build ground technical capabilities and professional skills to progress up to senior executive level.

NURTURING HIGH POTENTIAL

To nurture high-potential employees who are prepared to fulfil their individual needs and the organisation's overall business goals, we provide them with opportunities for exposure and collaboration with the leadership team, thus increasing their exposure as well as broadening their business knowledge and skills.

Sharpening their skills and capabilities will allow them to undertake more significant job responsibilities, bridging gaps in the business and their own career growth and ensuring that they will progress into the right positions at an appropriate pace.



ACCELERATED DEVELOPMENT PROGRAMME

To develop our people to be forward-thinking and agile leaders, the Accelerated Development Programme (ADP) was developed in 2021 to facilitate and accelerate development of top talents in the company.

The ADP identifies talent in each department with GEC-1 potential to maintain our bench strength – ensuring that we have future leaders waiting in the wings.

Beyond accelerating the growth and development of identified talents, the ADP is key to our diversity and inclusiveness (D&I) efforts – identified candidates must be at least 40% female with an even 50/50 split between Bumiputeras and non-Bumiputeras. We managed to achieve both these targets this year.

All these programmes and initiatives have yielded fruit, with a total of 710 progressions being approved in 2021, which was the highest total we have achieved since 2017.

103-2, 103-3, 404-2

OUR PEOPLE

This also allowed us to meet many of the targets that we set for ourselves this year.

Key Performance Indicators	2021 Results	Target
Sustainable Talent Bench Strength	96%	90%
Individual Development Plan Completion	99%	95%
Competence Assurance Self-Assessment	91%	80%
Competence Assurance Subject Matter Expert (SME) Assessment	68%	60%

Under the ADP, we established specific programmes to develop two clusters of executives: the Young Professional Programme (YPP) for early career professionals or fresh graduate recruits, and the Advanced Professional Programme (APP) for foundational professionals or mid-tier executives. Both programmes aim to assist our executives to chart their career development journey in Sarawak Energy and collectively achieve stronger business outcomes.

DRIVING LEADERSHIP AT ALL LEVELS

Sarawak Energy prioritises talent and leadership development for our entire population, as we aim to build the competencies of all our people and help them progress in the organisation.

Aligned with this, we launched CLAP Symphony 2021, a three-month-long leadership programme centred on the theme of "Participative Leadership". Under this programme, employees collaborated with and were mentored by GEC members as part of the EAGLES initiative.

CLAP Symphony culminated in the highly anticipated Leadership Conference 2021, which featured presentations and speeches from renowned leadership coaches.

The programme ultimately drove leadership transformation across Sarawak Energy, fostering a strong participative and continuous learning culture among our staff, and laying the foundations for the next phase of our nine-year leadership transformation, "Inspirational Leadership".

This next phase will focus on the development of role models and influential leaders at all levels of Sarawak Energy, which will be increasingly important as we continue emerging on the world stage as an international sustainability leader and regional renewable energy powerhouse.

SARAWAK ENERGY MENTORING PROGRAMME

The Sarawak Energy Mentoring Programme, which is part of our Talent Management Excellence ecosystem, is a community where leaders develop leaders, providing talents with the right platform to network with and learn from experienced leaders in the organisation.

The programme helps people realise their professional and personal development goals while enabling Sarawak Energy to build talents and leaders internally.

This year, a total of 207 new mentees onboarded the programme and began their one-year mentoring journey with matching mentors. As of 31 December, we have developed 106 mentors and coached 251 mentees in the organisation.

103-2, 404-2

OUR PEOPLE

In addition, Sarawak Energy Leading Women Network's (SELWN) Women Mentoring Women Programme saw a total of 44 ladies join the programme, comprising people from both non-executive and executive groups. This programme is a platform for female talents to network – getting to know one another while providing each other with career support within the organisation.

DIVERSITY AND INCLUSIVENESS AT THE WORKPLACE

A diverse and inclusive workforce is critical to driving the progressive work culture and sustainable growth of our Company.

Sarawak Energy's D&I efforts are focused on achieving a balanced workforce in terms of gender, race, age, socio-economic background, experience and more, with appropriate representation at every level. We are also committed to providing our people with a safe and supportive environment where differences are recognised and celebrated. Through this approach, we hope that everyone can reach their full potential and contribute meaningfully to Sarawak Energy's sustainable growth.

Our D&I Framework was introduced this year, integrating D&I into the Company's progressive and high performance culture. The framework applies strategies, approaches and tools that challenge the conventional way of working and encourage an inclusive work environment.

As part of this framework, 59 D&I ambassadors, comprising employees from various levels in the organisation, were appointed to drive awareness and spearhead educational campaigns among their colleagues. They were tasked with sharing Sarawak Energy's D&I framework and guiding principles as well as engaging with employees and leaders in D&I-related dialogues to address unconscious biases in the working culture.

> At Sarawak Energy, diversity and inclusion are firmly on our agenda, with hard targets for a more proportional representation of talents in terms of gender and ethnicity that better reflects the society in which we operate. The representation and contributions of our female talents have grown significantly, especially in recent years.
>
> By embracing diversity and inclusion, we strengthen our long-term social licence to operate. Diversity and inclusion ensure that the decisions we make take into consideration different perspectives for greater value creation so that we can move effectively towards achieving our ambition.
>
> **DATU HAJI SHARBINI SUHAILI**
> *Group CEO*

SARAWAK ENERGY LEADING WOMEN NETWORK (SELWN)

SELWN continued to champion D&I in the Company, serving as a professional networking platform to develop, empower and support our female staff through structured development programmes, professional networking and learning experience.

Working together with various business units, SELWN supports the improvement of governance, policies, internal controls and initiatives that promote a conducive work environment that will enable talent retention and give women equal opportunities for growth and progression.

These efforts are also geared towards reducing gender disparities at every level, as well as realising the national goals of increasing women in the workforce, particularly in STEM-related industries, and of having 30% women's representation in decision-making positions.

SELWN has contributed to the growth and development of Sarawak Energy's women employees across the organisation at different stages of their respective career journeys through various programmes, including:

- Women Mentoring Women Programme
- SELWN Empowering Women Series Workshop
- Participation in external forums and round tables to discuss and advocate for D&I at the workplace and in the energy industry
- Annual SELWN International Women's Day (IWD) celebration.

WOMEN'S EMPOWERMENT PRINCIPLES
Established by UN Women and the UN Global Compact Office

To further seal our commitment to D&I, we became a signatory of the Women's Empowerment Principles (WEPs) in September this year. The WEPs commitment requires Sarawak Energy to be part of a global movement to show support for the advancement of equality between women and men, including equal pay for work of equal value, gender-responsive supply chain practices and zero tolerance against sexual harassment in the workplace.

Through Sarawak Energy's implemented measures and hard targets to address any gender imbalance, we are moving closer to more equitable representation for all groups by undertaking intentional, structured and concentrated approaches.

102-16, 102-43, 103-2, 403-6, 404-2

OUR PEOPLE

MENTAL HEALTH & WELL-BEING

Sarawak Energy places great emphasis on the overall health and well-being of our people, including their mental health. This will ensure that our people are in the best shape possible to perform to their full potential.

While we had already established the Employee Assistance Programme (EAP), which allowed employees to seek consultation services from counsellors on mental well-being challenges, Sarawak Energy recognised that more needed to be done. Steps had to be taken to create safe spaces within the organisation for open discussions on mental health in line with our D&I goals, encouraging those who needed support to seek it out.

As such, the inaugural "Mental Health & You: It Is Okay to Not Feel Okay" campaign was rolled out in October with the aim of destigmatising mental health and improving organisational literacy on the subject.

This half-month campaign, which was aligned with our commitment to Healthy Living and our High Performance Culture, was key to cultivating a healthy, productive, resilient and agile workforce.

On top of this, we revised the EAP Policy, Procedure and Guideline (PPG) this year to optimise existing processes and make it easier for employees to access mental health counselling services. A compassion-based approach towards our people welfare strategy will remain and continue in 2022 and beyond.

STRENGTHENING CORPORATE GOVERNANCE

To embed and inculcate a strong culture of compliance across the organisation, Sarawak Energy continues to enhance our approach to corporate governance. We have zero tolerance for fraud, corruption and unethical behaviour.

These efforts are supported by the CURIA core values and High Performance Culture, both of which are fully embodied by Sarawak Energy's greatest asset, our people. To further embed integrity, one of our five core values, into Sarawak Energy's organisational culture and strengthen corporate governance, several initiatives were rolled out, including:

- New Group Manual of Authority (MoA)
- Revised Code of Ethics (CoE)
- Sarawak Energy Integrity Pledge
- PPGs for Gifts and Hospitality as well as Conflicts of Interest
- Mandatory Anti-Bribery and Corruption (ABC) Learning Programme.

Good corporate governance is key to Sarawak Energy's business survival, and Sarawak Energy strives to uphold the highest legal, ethical and moral standards.

SARAWAK ENERGY EMPLOYEE SURVEY (SEES)

Our continued efforts to make Sarawak Energy a great place to work for all our people have yielded positive results, as exemplified by the good scores we achieved in the annual SEES, with scores of 80% and above for categories like employee engagement, continuous improvement, diversity & inclusiveness and work from home.

RECOGNISING OUR PEOPLE

We reached our 100-year milestone thanks to the commitment and contributions of our people, past and present. To acknowledge the important role that they have played and continue to play in our success, Sarawak Energy recognised employees and celebrated their hard work over the course of the year and, in some cases, of their careers.

The Sarawak Energy Hall of Fame (SEHoF) was launched in 2017 and is an annual award ceremony that celebrates colleagues who have gone beyond the normal call of duty, making significant contributions to the Company's key focus areas and overall strategic objectives. In 2021, Sarawak Energy recognised a total of eight GCEO Award Winners and two Chairman's Award Winners.

We also have the Loyalty Service Award (LSA) and Retirement Event, which celebrates long-service employees who have served Sarawak Energy for 10, 20, 25, 30, 35 and 40 years, as well as retirees. Many of them have spent their entire careers with Sarawak Energy and have been key contributors to our past 100 years of powering Sarawak. We would not be the top-quartile utility and regional powerhouse that we are today without their support. In 2021, we recognised 480 long-service employees and 92 retirees from 2020 for their service.

With our many concerted efforts, Sarawak Energy is achieving marked improvements in Talent Management Excellence and in making Sarawak Energy a great place to work.

Scan here to read our feature article.

EXTERNAL RECOGNITION

Our commitment to Talent Management Excellence and making Sarawak Energy a great place to work has not gone unnoticed, as we have been recognised with the COVID Management Initiatives of the Year – Utilities Award at the Malaysia Management Excellence Awards 2021.

102-16, 102-43, 103-2, 403-6

A SAFE AND HEALTHY WORKPLACE

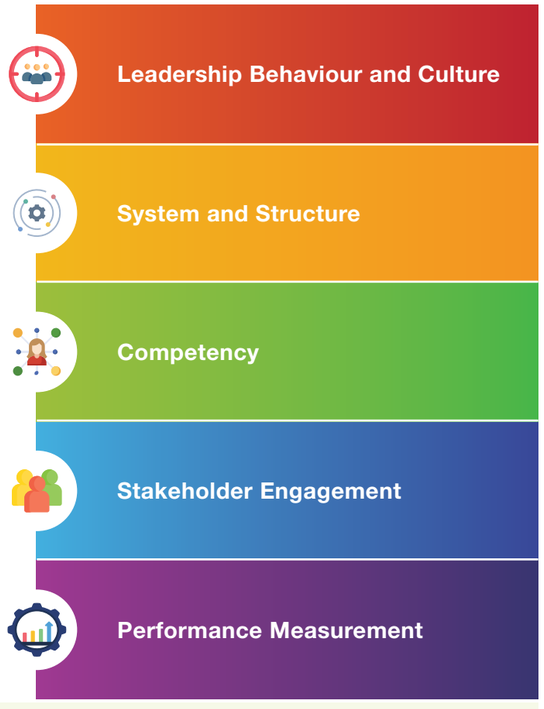
Recognising the importance of having everybody go home safely every day and a commitment to zero harm to our assets and environment, Sarawak Energy is progressing a generative health, safety, security and environment (HSSE) culture within the organisation. Everyone, regardless of their role and duties, must take ownership of HSSE; it is a shared responsibility and top priority. Through this, we will be able to establish best-in-class HSSE.

HSSE EXCELLENCE: TOWARDS A GENERATIVE HSSE CULTURE

Over the past decade, our HSSE transformation journey has accelerated, with many new initiatives, programmes and developments being introduced to build on what has been established in our prior 90 years of operation.

This commitment to doing things the right and safe way has allowed us to maintain our social licence to operate while simultaneously increasing productivity. These benefits will be more important than ever as we embark on our regional expansion; we need a strong HSSE culture to have credibility on the international stage.

VALUE DRIVERS



To enable business delivery, continuous growth and value protection, as well as maintain our social licence to operate, our efforts are anchored on five value drivers.

103-2, 403-1, 403-2, 403-4

A SAFE AND HEALTHY WORKPLACE

HSSE GOVERNANCE

HSSE governance is a fundamental part of Sarawak Energy's overall risk management function. We have invested in HSSE Management Systems, integrating governance to ensure a holistic approach to and standardisation of HSSE processes and practices for greater operational efficiency.

Our HSSE Management Systems comprise two components: the HSE Management System (HSEMS) and Security Management System (SeMS). Each of the systems contains specific scopes and states to drive HSSE Excellence in Sarawak Energy, thus ensuring organisational compliance with HSSE best practices and supporting our efforts to close existing gaps in achieving Goal Zero.

To help employees and contractors comply with Sarawak Energy's HSSE PPGs, regular cascading sessions are held to keep everyone updated on all HSSE requirements.

These systems supplement our existing programmes and initiatives regarding occupational safety and health (OSH):

- The Sarawak Energy Ergonomics Programme
- Emergency equipment training
- Automated Emergency Defibrillator (AED) factory acceptance testing for remote locations
- Chemical and Health Risk Assessment (CHRA) site assessments.

103-2, 403-4, 403-6

A SAFE AND HEALTHY WORKPLACE

Safety

Initiatives to cultivate a safe working environment for our people and the surrounding communities include:

- Organising the Sarawak Energy HSSE Excellence Week to drive an HSSE excellence mindset and behavioural transformation in the organisation.
- The development of internal PPGs on coal mining operations like the Internal Permit to Operate Mining Heavy Equipment as well as the Safety Standard Criteria for Mining Vehicles and Heavy Equipment.
- The creation of Golden Mining Rules (GMR), which detail mandatory safety rules that all Sarawak Energy Resources employees and contractors must follow.
  - These rules are aligned with our Sarawak Energy Life-Saving Rules (SELSR), especially as they pertain to coal mining operations.

In addition, we recently collaborated with the Department of Occupational Safety and Health (DOSH) to develop the Guidelines on Occupational Safety and Health in Coal Mining Operations, which will support existing acts and regulations relating to coal mining safety in Malaysia. Once approved and endorsed, these guidelines will be adopted nationwide.

Health

A healthy workforce is a happy and productive workforce. In recognition of this, several occupational health programmes were rolled out to help safeguard employees' physical and mental well-being. We started with the introduction of Healthy Living as an additional focus area in 2020 and declared Thursdays as corporate sports days to promote an active lifestyle, healthy eating habits and mental well-being within our workforce.

Sarawak Energy measures the physical well-being of employees by setting a corporate target of 85% of our workforce having a BMI of 30 and below. At present, we are nearing the target with 80.9% of employees achieving BMIs below 30.

To help further increase this percentage, we launched several Sarawak Energy Good 2 Great Health Campaigns in early 2021 to encourage our people to become more physically active in a fun and collaborative manner. As part of the Digital Wellness Education Programme, we held regular health talks on a variety of topics like diabetes and liver health to educate employees on overall well-being, ergonomics and chronic diseases.

This organisational focus on physical well-being has now been expanded to include mental health as well, with the Mental Health & You campaign and the Employee Assistance Programme being the hallmarks of our approach thus far.

103-2, 103-3

A SAFE AND HEALTHY WORKPLACE

Security

Aligning with its ongoing transformation and expanded role within the Company, Sarawak Energy's corporate security team has expanded from traditional security services such as static guarding to a flatter, cross-functional structure with separate management for various operational and governance areas, including:

- Physical security
- Crisis management
- Investigation and surveillance
- Close protection services
- Intelligence gathering
- Risk management

Key initiatives conducted under the Security Management System include:

- Identification of Sarawak Energy's critical assets
- Engagement with the Royal Malaysian Police for firearms licence renewal and conditioning
- Implementation of real-time guard tours at 54 substations
- Fleet management CCTV consultation
- Installation of auto-barrier gates at Menara Sarawak Energy and in the Western Region
- Enhanced perimeter fencing at our substations
- Video surveillance training for all auxiliary police

This year, we established a Security Management System that will provide better integration of all corporate security activities and processes within the organisation, enhancing overall operational efficiency.

The implementation of this system is set to contribute towards achieving an optimal state of security for Sarawak Energy, predicated on our continued commitment to:

- Physical Security Enhancement
- Security System Optimisation
- Security System Training
- Security System Governance
- Repair and Maintenance Services.

Our Corporate Elite Squad has also expanded and now comprises 26 Auxiliary Police (AP) who have undergone special training on video and physical surveillance, counterterrorism, shooting skills and drone patrolling. This has led to a continued decrease in overall intrusion cases, from 39 in 2020 to 29 in 2021.

103-2, 103-3

A SAFE AND HEALTHY WORKPLACE

Environment

Sarawak Energy strives to minimise the negative and maximise the positive impacts of our projects and operations on the surrounding environment. As a responsible corporate citizen and to maintain our licence to operate, we have launched many programmes and activities that promote compliance and awareness among our employees by engaging and collaborating with them.

One such programme is the Sarawak Energy Digitalised Waste Management 3R Programme, which is built on the success of our previous Zero Polystyrene & Reduce Single-Use Plastic Campaign and leverages our ongoing digitalisation and enterprise modernisation efforts to simplify waste management and recycling processes within the Company.

We also launched the Sarawak Energy Ecolution Challenge to encourage our staff to live a greener and healthier eco-lifestyle by participating in activities like plogging, chilli planting and repurposing used materials, among others.

Beyond this, we launched a Biodiversity Conservation Committee that aims to integrate and streamline biodiversity conservation initiatives focusing on three key areas: project impact management, conservation education and collaboration and partnership.

We have also continued environmental-focused training for the following:

- Industrial effluent treatment system (IETS) and sewage treatment system (STS) design and operation requirements
- Air pollution control system (APCS) and fuel burning equipment (FBE) design and operation requirements
- Erosion and sediment control (ESC) Scheduled waste management

Sarawak Energy also collaborates with like-minded organisations and institutions in our environmental excellence journey, working with parties like the Department of Environment (DOE) Sarawak, Universiti Malaysia Sarawak (UNIMAS), the Natural Resources and Environment Board (NREB) Sarawak and Forest Department Sarawak. We recently signed a memorandum of understanding with the Forest Department on conservation at our hydropower catchment areas.

CORPORATE ACTIVISM AND STAFF VOLUNTEERISM

As part of our efforts to continue our environmental stewardship and commitment to combating climate change, Sarawak Energy has embarked on a 10-year Corporate-Wide Integrated Tree Planting and Protection Campaign to plant and protect 500,000 trees from 2021 to 2030. This campaign supports the Sarawak Government's efforts to plant 35 million trees by 2025 and to achieve 1 million hectares of Totally Protected Areas in Sarawak, in line with UN SDG No. 13 on Climate Action and 15 on Life on Land as well as the COP26 Goal of "Adapt to Protect Communities and Natural Habitats".

Working across Sarawak Energy's assets, facilities and locations, and together with communities and authorities, this environmental initiative is another step in our corporate sustainability journey and reaffirms our commitment to sustainability and climate action.

RECOGNISING STRONG HSSE PERFORMANCE

As part of creating a strong and generative HSSE culture, we seek to cultivate a sense of ownership among our people and those we work with. To this end, we have launched several platforms and awards to recognise the exceptional performance of employees and contractors in embedding HSSE Excellence into our operations:

- Contractor Transformation Programme (CTP)
- Contractor EIA Compliance Award (CECA)
- Best Station Award
- Group CEO Appreciation Award.

AWARDS AND ACCOLADES

Our commitment to HSSE Excellence did not go unnoticed in 2021. We received several external awards and recognitions throughout the year, including:

- Sarawak Chief Minister's Environmental Award
- Malaysian Society for Occupational Safety & Health (MSOSH) Awards 2021
  - One Gold Merit Award
  - Seven Gold Class 1 Awards
  - Two Gold Class 2 Awards
  - Two Silver Awards
- Prime Minister's Hibiscus Award (PMHA)

102-12, 102-16, 102-43, 103-2, 203-1

DELIVERING SUSTAINABLE GROWTH

Customers and stakeholders have much higher expectations and standards of energy security and sustainability today, especially in relation to climate change and affordability. With the world turning to sustainability and renewables as the drivers for post-COVID-19 recovery, and as Malaysia's largest renewable energy developer, our prospects have strengthened further.

In line with global energy transition trends, renewable hydropower will continue to be a key contributor to Sarawak's sustainable growth, with renewable hydropower remaining dominant in our generation mix as we diversify by incorporating a higher percentage of alternative energy.

SUSTAINABLE RENEWABLE HYDROPOWER DEVELOPMENT

Sarawak Energy's hydropower dams are designed and constructed according to stringent guidelines set by the International Commission on Large Dams (ICOLD) to ensure that dams are built and operated safely, efficiently and economically and are environmentally sustainable and socially equitable. Our dams also adopt guidelines set by the Hydropower Sustainability Assessment Protocol (HSAP) of the International Hydropower Association.

The HSAP is a globally recognised framework used to holistically assess hydropower projects against social, environmental, technical and economic considerations. Sarawak Energy has adopted HSAP within our processes and has implemented our internal HSAP governing structure since 2014.

BALEH HEP

The 1,285MW Baleh HEP is Sarawak Energy's second hydropower development project under the SCORE initiative after Murum HEP and will be the largest HEP developed by the Company once completed.

With the full commissioning of Baleh HEP expected in 2027, the surrounding communities stand to benefit from adjacent infrastructure development and sustainable livelihood programmes such as capability building, entrepreneurial development, agriculture, indigenous fisheries, education and more.

Last year, we achieved a critical milestone at Baleh HEP with the completion of the diversion tunnel and the closing of the Baleh River, enabling us to proceed with the construction of the main dam this year. By November, we reached 28% project completion.

To provide a clear and transparent framework to address grievances related to the project, we have in place a grievance mechanism to ensure we effectively and proactively manage concerns on the ground. The grievances can be submitted online or physically. The grievance mechanism aims to ensure comments, feedback and grievances are addressed in a fair, transparent and timely manner.

Scan here to view the Baleh HEP Grievance Mechanism

102-12, 102-16, 103-2, 203-1

DELIVERING SUSTAINABLE GROWTH

Sarawak Energy aims to maximise the positive impacts of our operations and projects on the community. This includes increasing local content and developing local talents.

Approximately 3,000 jobs will be created at the peak of Baleh HEP's development and we are prioritising locally sourced manpower to fill the positions. Currently, 45% of Baleh HEP's manpower is local, and we are increasing that number by training workers in the various skills needed for the project.

In our ongoing efforts to deliver benefits to our project-affected community through community development initiatives, 10 youths who have completed their training under the Baleh Skills Training programme have started their careers with our project partner, China Gezhouba Group Co. Ltd. (CGGC). To further provide career opportunities to the communities in the area, CGGC has also set up an office in Kapit to recruit local talents for the project.

MENTARANG INDUK HEP

Sarawak Energy, together with PT Kayan Patria Pratama (PT KPP), through our joint venture (JV) company, PT Kayan Hydropower Nusantara (PT KHN), is progressing efforts to realise the proposed Mentarang Induk HEP (MIHEP). This proposed hydropower development is located 35 kilometres upstream of Kota Malinau in Indonesia's Northern Province of Kalimantan (KALTARA). The 1,375MW HEP is geared towards providing affordable, reliable and sustainable energy to support Indonesia's National Strategic Project, *Kawasan Industri dan Pelabuhan Internasional* (KIPI) Tanah Kuning Green Energy Park, in Bulungan Regency, North Kalimantan.

The ground-breaking event for KIPI Tanah Kuning was graced by the President of Indonesia on 21 December. During the event, Sarawak Energy's JV company, PT KHN, signed a Heads of Agreement with PT Kalimantan Energi Lestari (PT KELi) to supply green energy from MIHEP to KIPI Tanah Kuning through PT KELi.

As part of our commitment to sustainable hydropower development, we are submitting MIHEP for certification under the Hydropower Sustainability Standard during construction to ensure compliance with the Hydropower Sustainability Assessment Protocol's strict criteria.

The project achieved significant progress this year on both the technical and stakeholder fronts, with strong support from the communities surrounding the project area in KALTARA, the Provincial Government and the Sarawak Government.

Key milestones in MIHEP's preparations in 2021:

- Completion of Field Study for the Environment and Social Impact Assessment and *Analisis Dampak Lingkungan* (AMDAL), Indonesia's Environmental Impact Assessment, which experienced nine months' delay due to COVID-19 travel restrictions. The AMDAL document was submitted to the Indonesian Ministry of Environment and Forestry in November for assessment.
- Completion of the pre-engineering works in September.
- Market Briefing and Pre-Qualification Exercise for MIHEP's Main Works Packages (Main Civil and Electrical and Mechanical).
- Contract signing with PLN Enjiniring for transmission system design consultancy.
- Completion of Independent Project Analysis (IPA) in September.
- First Independent Hydropower Environment Social and Governance Assessment during project preparation for early identification of areas for improvement to ensure sustainable hydropower development.

MIHEP is set to reach Final Investment Decision by early 2023. Once realised, this will be our first international project and a significant milestone for Sarawak Energy towards becoming a regional powerhouse in Southeast Asia.

102-15, 103-2

DELIVERING SUSTAINABLE GROWTH

ALTERNATIVE ENERGY DEVELOPMENT

In advancing Sarawak Energy's commitment to climate action, we continue to explore alternative energy sources to further decarbonise our energy system and support the diverse application of other renewables.

Currently, alternative energy contributes about 1% to Sarawak's generation mix and we aim to increase the percentage to 4% with large-scale solar integration by 2030. Our efforts are geared towards our support for a net zero carbon emissions future, in line with COP26 goals.

Hydrogen Fuel Cell Research

Sarawak's ample water supply and affordable renewable power give us an advantage in advancing green hydrogen as a source of clean energy.

The Sarawak Government embarked on hydrogen fuel cell application research in 2017 and Sarawak Energy was entrusted with spearheading hydrogen research as a potential energy source. As a result, Southeast Asia's first Integrated Hydrogen Production Plant and Refuelling Station was built and commissioned in 2019.

This pilot facility laid the foundation for research into the commercial viability of a hydrogen economy for Sarawak through the production, delivery, storage and utilisation of this "fuel of the future", particularly in a tropical environment. The plant also supports research into the development of an emissions-free transportation sector and powers Malaysia's first hydrogen-powered public buses in Kuching.

We are collaborating with like-minded organisations to explore the feasibility of large-scale hydrogen production in Sarawak for export, in line with Sarawak's ambition to become a regional hub for hydrogen production.

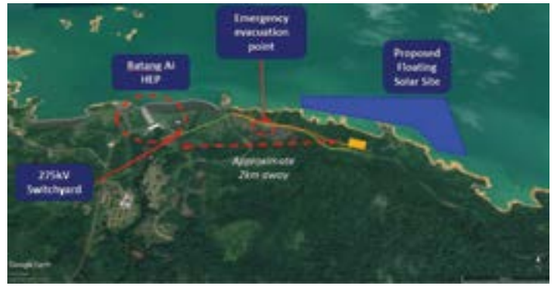
Learn more about how Sarawak Energy is spearheading this green energy technology research

FLOATING SOLAR

Sarawak Energy is also developing a floating solar facility at the reservoir at Batang Ai HEP. The 50MW solar farm, once commissioned in 2023, is expected to offset about 52 kilotonnes of carbon emissions annually, further decarbonising Sarawak's power system.

This will be Sarawak's first major generation synergising hydro and solar, utilising floating solar farm technology.

Batang Ai's floating solar will pave the way for similar projects at other hydropower reservoirs, further contributing to our aim of having 4% large-scale solar in our generation mix by 2030.



103-2, 203-1

DELIVERING SUSTAINABLE GROWTH

REINFORCING SARAWAK'S POWER SYSTEM

Sarawak Energy is prioritising the reinforcement of our network system to deliver reliable supply to customers and in the long-term address supply interruption.

In Southern Sarawak, the Tondong Static Synchronous Compensator is targeted for commercial operation in December 2022. It will provide dynamic voltage support to the main state grid, enhancing grid supply stability, especially for the Kuching grid system.

The Sejingkat Battery Energy Storage System is expected to be commercially operational in Q3 2023. It will support the Kuching grid through a peak shaving application and will provide spinning reserve to capitalise on Tanjung Kidurong CCPP's available capacity.

Kuching Network Reinforcement is scheduled to be commissioned by Q4 2025 to cater for the rapid growth in the organic and industrial load in Kuching, including Samajaya. A new Tg. Bako 275/132/33kV substation near to Samajaya industrial area will be developed and supply electricity via a new 275kV transmission line from the new Entinggan B 275kV Substation. The Tg. Bako 275/132/33kV substation will serve as a new bulk supply injection point to strengthen Kuching's transmission network and support Sejingkat Power Plant's retirement.

To reinforce electricity supply in Lundu and Sematan up to Telok Melano, over RM223 million worth of new facilities and installations are being invested to reinforce the electricity network system and some of these projects have already reached completion. The residents in these areas are currently being supplied electricity through very long feeder lines that are susceptible to interference and faults.

We are also enhancing our distribution network through several projects which are ongoing. In 2021, the Asajaya 33/11kV Substation has been completed to improve the supply reliability at Asajaya and its surrounding areas. Meanwhile, under the Rural Electrification Scheme (RES), we have completed and commissioned 33/11kV substations in Julau, Pakan, Nanga Ngungun, Dalat, Selirik and Sangan while awaiting the completion of the ongoing Medium Voltage Covered Conductor (MVCC) Project.

Sarawak Energy is working on completing the Tondong EHV – Bau 33/11kV substation which is expected to commission next year. The underground cable was laid in 2021. With the substation's completion, the supply in Bau, Batu Kitang Water Treatment Plant, Lundu and Sematan will be improved significantly. The underground cable works from Eastwood EHV to Marina 33/11kV Substation and Town 33/11kV Sub cable laying work is also expected to complete in 2022. Both circuits to Marina 33/11kV and Town 33/11kV will further improve supply reality in Miri town and eliminate system constraints in Miri, further reducing the network dependencies on Pujut Power station.

Kanowit 33/11kV Substation

Eastwood 33/11kV Substation

103-2, 203-1, EU26

DELIVERING SUSTAINABLE GROWTH

RURAL ELECTRIFICATION EFFORTS

We are in our last mile to electrify the remaining households in Sarawak's remote areas and achieve full electrification by 2025.

Key programmes under the Accelerated Rural Electrification Masterplan include:

- **Rural Electrification Scheme (RES) Last Miles**: Extends existing distribution lines to enable accessibility to the grid for every rural household.
- **Rural Power Supply Scheme (RPSS)**: Complements the RES by introducing new transmission and distribution lines and substations at strategic rural locations.
- **Sarawak Alternative Rural Electrification Scheme (SARES)**: A fast-track solution to provide off-grid stand-alone solar power systems to very remote villages and longhouses not accessible by road or not reachable by grid.
- **Solar Hybrid Project:** Utilises solar technologies combined with diesel-generator sets to provide reliable electricity supply to remote rural villages.

Our progress in 2021 →	**The RES Last Miles programme lit up 3,042 households in about 150 villages.**	**SARES electrified 64 remote villages and 1,894 households.**	**The Additional Late Applicants Fund (ALAF) programme connected 3,833 households throughout Sarawak.**

For communities living far from the grid, we utilised the off-grid stand-alone SARES system, which mobilises government machinery and agencies to help villages build, own and operate more sustainable and affordable solar generating systems. SARES replaces noisy and pollution-producing generators that can only provide limited hours of reliable electricity supply for each household's needs.

Since the SARES project began in 2016,

426 villages,

comprising more than

12,650 household,

have gained access to 24/7 reliable electricity supply.

Stand-alone Solar Hybrid Power Stations

In Sarawak's remote interiors, where grid solutions are not viable, Sarawak Energy utilises off-grid utility-scale projects with two generation sources to power up a sizeable settlement. To date, there are:

- 31 solar hybrid power stations
- four mini-hydros
- one micro-hydro hybrid power station in operation
- Another six stations in various stages of implementation that are expected to be commissioned.

Sarawak Energy also undertakes the operation and maintenance of these solar hybrid power stations after completion.

Rural School Electricity Supply

We partnered with the federal Ministry of Education, Ministry of Utilities Sarawak, Sarawak Education Department and Sarawak Public Works Department to extend the grid to 123 rural schools under the Rural School Electricity Supply programme.

To create a more conducive learning and working environment for students and teachers, 44 schools were connected to the grid in 2021. The schools now enjoy a secure and reliable electricity supply, displacing the diesel generators that the schools previously depended on. More efforts are being made to ensure that another 79 schools under this programme will be connected to the grid by 2022.

The commissioning of the Dalat 33/11kV substation this year also benefitted four schools in the Central Region, which saw their premises connected to the main power grid and electricity meters installed.

Under the *Lampu Jalan Kampung* programme, we have installed 55,301 streetlights in 5,976 villages across Sarawak to date.

103-1, 103-2, 103-3, 203-1, Former EU8

DELIVERING SUSTAINABLE GROWTH

RESEARCH AND DEVELOPMENT

Enhancing In-house Competency and Facilities to Support Business Needs

In progressing our efforts to enable key R&D services to be conducted in-house, we opened our new Research and Development Laboratory in Kuching in September 2020. This sophisticated lab is a big investment by the Company and a necessary one as R&D plays an increasingly important role as the growth engine of our business. The new laboratory will enhance data collection for better decision-making and conduct internal studies and analyses, reducing our dependence on external laboratories and ensuring that we make the most informed choices possible in determining our business' direction. On top of ensuring quality, speed and efficiency when processing samples and conducting studies, it will contribute to our ongoing cost optimisation efforts as we will no longer have to engage third parties.

Advancing Rural Electrification with Innovation

Through our research into hydrogen storage solutions, we have been able to explore a Containerised Solar Hydrogen Research Project to contribute to rural electrification efforts and provide communities with greater access to energy.

The containerised and modular hydrogen storage system converts excess renewable energy into hydrogen, which can then be transformed into electric power through fuel cells when required. The hydrogen storage system is a clean solution that will replace chemical batteries, has a higher capacity and a longer lifecycle in comparison to traditional battery solutions, saves costs and maximises longevity.

The project, installed at Song, Kapit, Sarawak was highlighted in the World Hydropower Congress 2021's Innovations Hub, which featured hydropower innovations and the latest developments in renewable energy technology, environmental, social and governance.

Learn more about our efforts in powering local communities with solar-hydrogen batteries.

103-2, Former EU8

DELIVERING SUSTAINABLE GROWTH

Maximising Resource Utilisation

Sarawak Energy and Swinburne University of Technology Sarawak embarked on a joint research study to explore the potential utilisation of Circulating Fluidised Bed (CFB) fly ash at Balingian Coal-fired Power Plant as a construction material.

Under this partnership, the study will identify the characteristics of the fly ash generated from Balingian Coal-fired Power Plant and develop a suitable activator that can harden the ashes into a larger structure. We will also explore the potential of casting the structure into a suitable form that can be utilised in the construction sector.

The project furthers our commitment to environmental sustainability and embedding the circular economy into our business and operations.

OUR PERFORMANCE sarawak energy

103-2, Former EU8

DELIVERING SUSTAINABLE GROWTH

Greening Coal Power Plant

In ensuring energy security, thermal generation still plays a crucial role in Sarawak's generation mix despite having a higher carbon footprint compared to hydropower.

As part of our sustainability efforts in line with the COP26, Sarawak Energy established a microalgae cultivation project to capture the carbon emissions from Sejingkat Power Corporation, turning them into biomass for downstream applications such as pharmaceuticals, food additives, animal feed and biofuels.

In partnership with Chitose Laboratory Corp. of Japan and the Sarawak Biodiversity Centre, this project adopts circular economy principles where the flue gas from the plant is directly channelled to the closed-system cultivation facility and is thereafter captured by the microalgae via photosynthesis.

Innovation through Robotics and Autonomous Systems

Sarawak Energy continues to explore and develop innovative technological solutions such as robotics and automation to better meet business needs.

With more solar panels installed within Sarawak, cleaning and maintenance of the panels are crucial to maintaining their efficiency. Sarawak Energy is developing an Automatic Solar Panel Cleaning System to enhance solar module cleaning by integrating smart features such as dust sensing, rain detection and IoT capabilities.

Furthermore, we are developing the Sarawak Energy Environment Monitoring Remotely Operated Vehicle (SEEMROV) to collect environmental data using sensors and water samples from various underwater sampling points at our hydropower reservoir. With robotics technology and 3D printing, the SEEMROV reduces existing intensive manual manpower and promotes innovation in environmental monitoring.

103-1, 103-2, 203-2, 413-1

POWERING OUR COMMUNITY

SARAWAK ENERGY AND THE COMMUNITY

In line with Sarawak Energy's corporate social responsibility (CSR) philosophy, we are committed to powering community development through partnerships and social investments, benefitting communities through diverse opportunities.

Besides creating employment and economic opportunities for Sarawakians and implementing sustainable projects, we power community development through annual social investment programmes in four main areas, namely:

1. **Education and Young People**
2. **Environmental Management and Conservation**
3. **Culture and Heritage**
4. **Community Development and Entrepreneurship**

We partner and engage with the communities we work with to promote transparency.

Despite the challenges presented by the pandemic, we have continued to strengthen relationships with communities using a variety of hybrid engagement and consultation approaches to successfully implement planned CSR projects.

Some of our major highlights this year:

Education and Young People

Sarawak Energy believes that education is the key to new opportunities and experiences for future generations. In line with this belief, we initiate talent development and incentive programmes like bursaries, scholarships, internship placements and campus ambassadorships to help develop Sarawak's young pool of talents.

Programme	Description
Trust Fund	Sarawak Energy collaborated with the Bakun Charitable Trust to set up four Education Funds for communities in Bakun, Belaga, Batang Ai and Baleh, with an annual revolving fund of RM200,000 each. This special fund is dedicated to supporting the educational needs of the targeted rural communities where we operate.
Scholarships	In order to broaden the development of young Sarawakian talents, we allocate RM8 million annually for scholarships. Between 2014 and 2021, Sarawak Energy has awarded 744 scholarships to school leavers and employees pursuing further studies. About 30% of the recipients were students from rural areas, fulfilling our CSR purpose.
Bursaries	We offer bursaries through schools to Sarawakian students (in Forms 1 to 5) who have achieved excellent results and display leadership qualities, based on academic and co-curriculum assessments.
Powering Young Minds through SCIENCE	The 4th Sarawak Community Innovation Engineering Competition (SCIENCE), organised by Sarawak Energy, was held on 17 November 2021 with the theme "Circular Economy". As part of our efforts to drive interest in STEM among female students, this year we introduced a new category, "Best Female Engineering Team Award".
Others	Collaborating with the Selangau and Mukah District Education Offices, Sarawak Energy organised a 12-day Ceramah Bimbingan Pintar SPM for 678 students via Google Meet and Pejabat Pendidikan Daerah Selangau TV YouTube Live. The students were from SMK Ulu Balingian, SMK Mukah, SMK Three Rivers and SMK St. Patrick. Our Baleh HEP Project Team and Reach Ten Communication Sdn Bhd installed a new VSAT system at SK Temenggong Koh, Nanga Antawau to provide high-speed internet connection and coverage to the school and surrounding community.

103-2, 413-1

POWERING OUR COMMUNITY

Environmental Management and Conservation

As an advocate of sustainable hydropower development, Sarawak Energy is committed to efforts in conserving our flora and fauna. In line with UN SDG No. 15: Life on Land, we collaborated with various State agencies, higher learning institutions, local communities and stakeholders to manage and conserve the environment.

Programme	Description
Corporate-Wide Integrated Tree Planting and Protection Campaign	Working with Forest Department Sarawak and several other stakeholders, Sarawak Energy is progressing a Corporate-Wide Integrated Tree Planting and Protection Campaign to plant and protect 500,000 trees over 10 years. The campaign will be rolled out throughout Sarawak Energy's assets and facilities as part of our commitment to environmental sustainability.
Conserving Hydropower Catchment Areas	In conjunction with the International Day of Forests, Sarawak Energy signed a memorandum of understanding with Forest Department Sarawak to collaborate in the protection and conservation of hydropower catchment areas as well as in carbon sequestration initiatives through enrichment planting and reforestation of degraded areas.

103-2, 413-1

POWERING OUR COMMUNITY

Culture and Heritage

Sarawak Energy, through various social investment initiatives, works in partnership with local communities to promote, protect and preserve their unique heritage, cultural knowledge and practices.

Programme	Description
Murum Batu Tungun Blessing Ceremony	Sarawak Energy organised the annual Murum Batu Tungun Blessing Ceremony 2021 in collaboration with the Murum Penan Development Committee and Murum community leaders.
Murum Handicraft Book	Sarawak Energy collaborated with the community from Murum and Universiti Malaysia Sarawak (UNIMAS) to produce the Murum Handicraft Book in 2021. The book shares the history of Penan arts and crafts and the Murum Penan artisans' stories and experiences in the Murum Handicraft Project organised by Sarawak Energy and UNIMAS.
Warisan Sape Telang Usan	Warisan Sape Telang Usan welcomed 28 additional young sape players for its second intake. This programme was launched in 2016 to grow and develop young sape players in the Long San community of Ulu Baram. Since then, 20 young sape players from its first intake have completed the programme.

103-2, 203-2, 413-1

POWERING OUR COMMUNITY

Community Development and Entrepreneurship

Sarawak Energy supports project-affected communities by enabling them to participate in and benefit from the social and economic development that can be derived from our projects.

Programme	Description
Baleh Youth Skills Training Programme	To date, a total of 704 youths from Baleh and Kapit have undergone and completed the Baleh Skills Training Programme in various fields such as welding technology, occupational safety and health, entrepreneurship, human resource management, heavy vehicle driving, painting, metal blasting and rigging and slinging. The programme's objective remains focused on enhancing the ability of youths from project-affected communities to tap into potential business and employment opportunities with the development of Baleh HEP.

POWERING OUR COMMUNITY

AWARDS AND RECOGNITION

Sarawak Energy's emerging leadership in sustainability and community development initiatives received international recognition at the recent 13th Annual Global Corporate Social Responsibility (CSR) Virtual Summit and Awards 2021.

Sarawak Energy received Gold for Best Community Project for its "Longhouse Adoption Programme" in Bakun Resettlement Scheme (BRS) for the 2021 edition of the awards.

The "Longhouse Adoption Programme" was set up in 2018 to enhance community well-being in the BRS. Under the programme, fifteen longhouses were 'adopted' on a rotational basis to streamline efforts in improving support to the individual longhouses.

The leaders of each longhouse were consulted in developing proposals to enhance the longhouse environment, including facilities improvement by gotong-royong basis, upgrading of infrastructure, supporting cultural activities for heritage preservation as well as organising community development programmes and entrepreneurial activities.

Sarawak Energy has also worked with the community on infrastructure enhancement, including levelling land within village compounds to build additional housing to meet the demand for a growing population and expanding gravesite areas.

sarawak energy | 100 YEARS Power to Grow

SUSTAINABILITY REPORT 2021

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204-1, 305-4, EU29

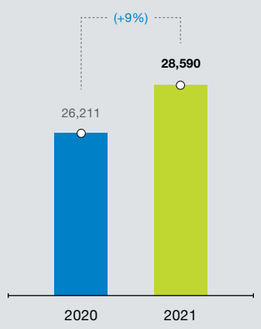
SUSTAINABILITY KEY HIGHLIGHTS

PERFORMANCE AT A GLANCE

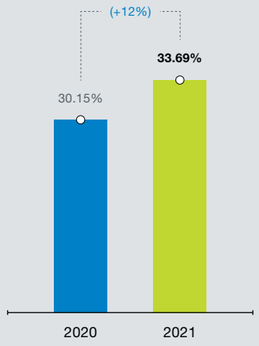
Sarawak Energy is committed to providing reliable and renewable energy for the people of Sarawak in the long term. We are always seeking opportunities for long-term sustainable growth to create value and positive impacts for our stakeholders and the region. As we continue to generate financial growth, we strive to conserve natural resources and uplift our society. Above all, we endeavour to meet the region's energy needs and achieve prosperity for Sarawak. To ensure sustainable growth, we measure our performance against Economic, Environment and Social, the key pillars of sustainability, as presented in the following infographics:

2021 Highlights

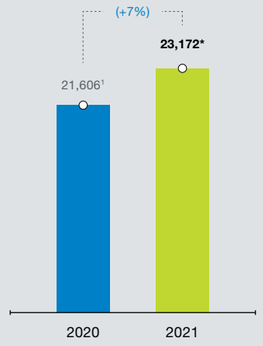
Total Electricity Sales (GWh) - **28,590 GWh**



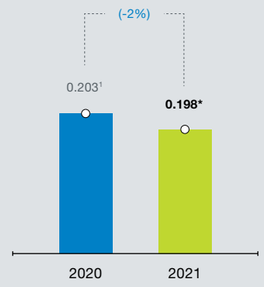
Operating Expenses Ratio (%) - **33.69%**



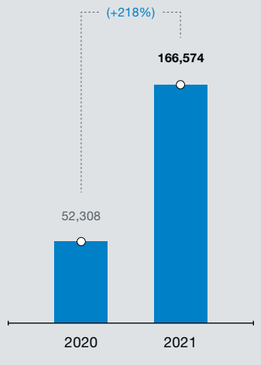
Renewable Energy Generated (GWh) - **Main Grid**: **23,172 GWh***



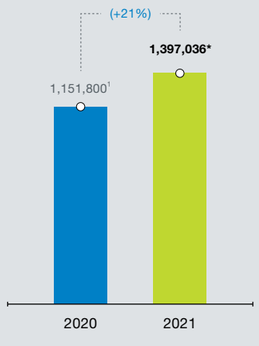
Emissions Intensity - Main Grid (tCO_2eq/MWh) - **0.198 tCO_2eq/MWh***



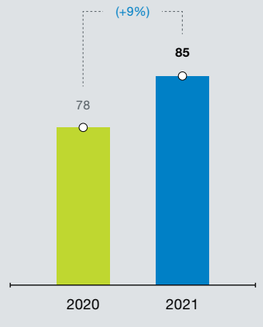
Total Hours of Training (Hours) - **166,574 hrs**



Tenders Awarded to Local Sarawakian Companies (RM'000) - **RM1,397,036***



SAIDI – Distribution (Minutes per Customer) - **85**



First utility company in the country to secure a

100 million

sustainability-linked loan (SLL) in the form of a revolving credit facility - a loan linked to measurable sustainability performance targets

- reaffirms Sarawak Energy's commitment to keep its grid emissions intensity in alignment with the Paris Agreement and light up 100% of Sarawak by 2025

Notes:

[1] These main grid CO_2 emissions intensity, net energy generated and total value of tenders awarded to local Sarawakian companies' data have been assured by a third party for Sustainability Report 2020.

** These main grid CO_2 emissions intensity, net energy generated and total value of tenders awarded to local Sarawakian companies' data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-42, 102-43, 102-44, 102-47, 102-49

MATERIALITY ISSUES

Material issues are sustainability matters that are most significant to our stakeholders and our business. Knowing our material issues will allow us to identify the opportunities and mitigate the risks of each material issue. Our material issues are identified through various methods such as thought leader perspectives, surveys and stakeholder feedback, as well as social media coverage.

In 2017, we conducted a comprehensive materiality assessment guided by GRI Standards and identified 32 material issues according to Sarawak Energy's Economic, Environment and Social impacts.

Review of Material Issues

Reviewing and updating material issues that are in line with any development in:

- Business landscape
- Internal policies
- Key Performance Indicators (KPIs)
- Local and global trends
- Regulatory requirements
- Stakeholder feedback

Stakeholder Engagement

Prioritising and engaging with stakeholders through continuous dialogue for insights to meet the needs of stakeholders and develop strategies and initiatives

Prioritising Material Issues

Identifying material issues before prioritising the issues that are in line with the Company's business needs

Our materiality matrix is shown below:

EU4, EU12, EU26, EU29, EU30

INTERNALISING THE GLOBAL SUSTAINABILITY AGENDA

The United Nations Development Programme has identified 17 Sustainable Development Goals (SDGs) to make the world a better place by 2030. To realise the goals, it requires contribution from governments, corporate organisations, civil society and the general public.

At Sarawak Energy, we are actively doing our part to work towards six selected SDGs that are aligned with our business activities.

7 - Affordable and Clean Energy

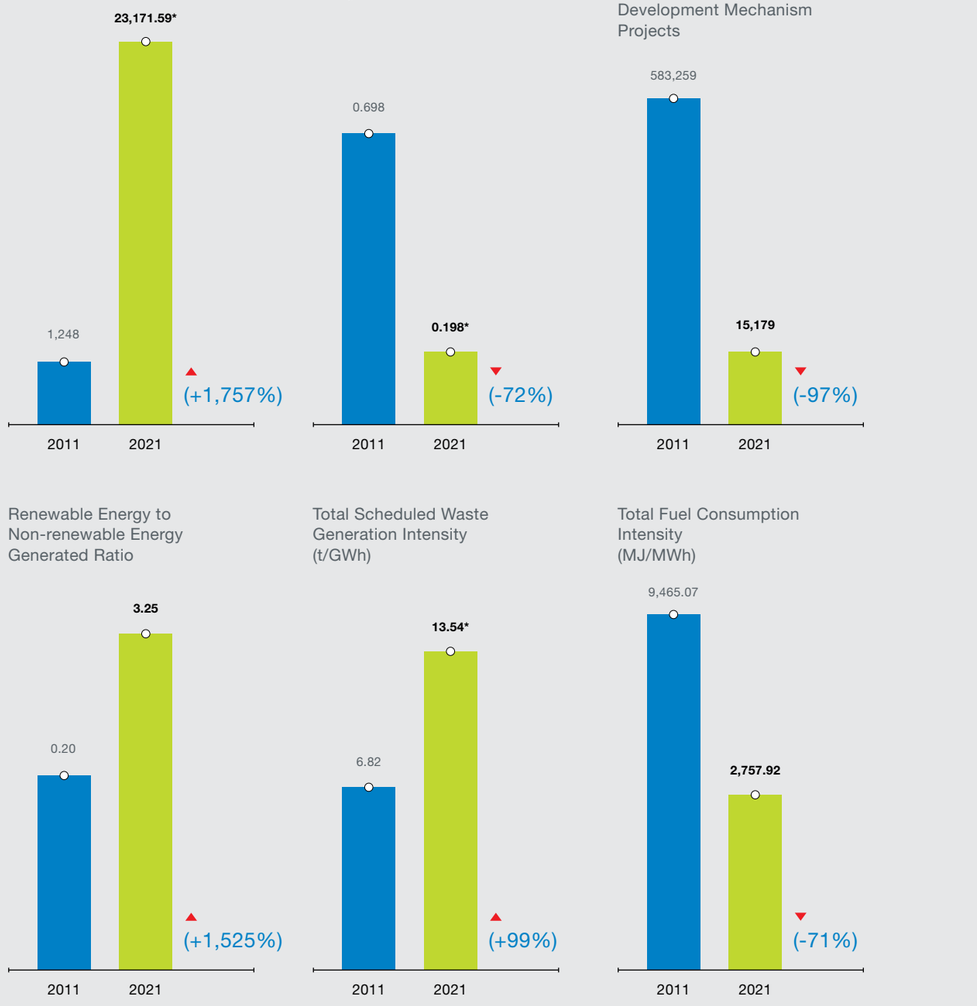
Note:

** This Sarawak electrification coverage data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

305-4, 305-5

INTERNALISING THE GLOBAL SUSTAINABILITY AGENDA

13 - Climate Action



Note:

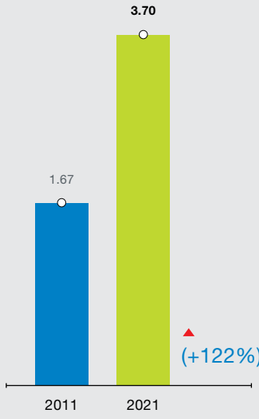
** These net energy generated, main grid CO_2 emissions intensity and scheduled waste generation intensity data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-8, 204-1

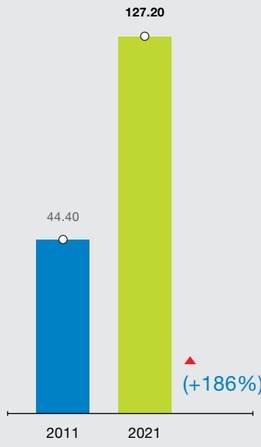
INTERNALISING THE GLOBAL SUSTAINABILITY AGENDA

8 - Decent Work & Economic Growth

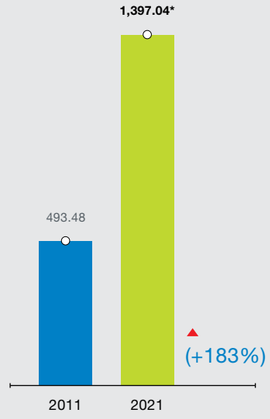
Electricity Sales/ GDP[1] (%)



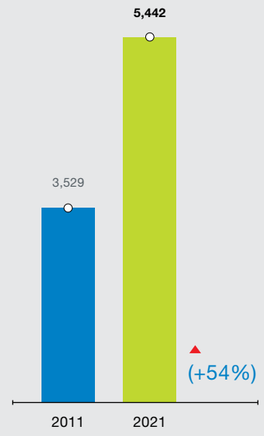
Tax Paid to Government (RM'Mil)



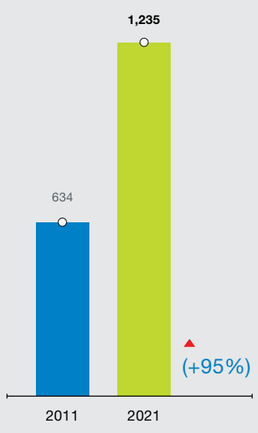
Tenders Awarded to Local Sarawakian Companies (RM'000)



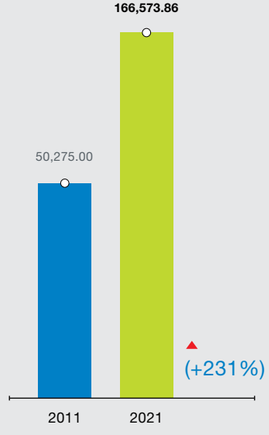
Total Number of Employees



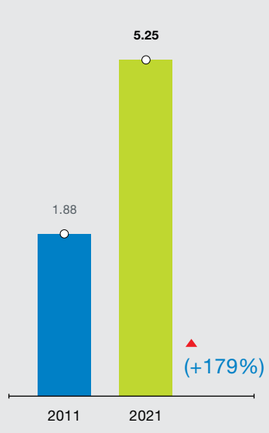
Total Number of Women in Our Workforce



Total Training Hours Provided



Electricity Sales/ Number of Employees (GWh/ Staff)



Notes:

[1] GDP for State of Sarawak in 2021 based on current prices.

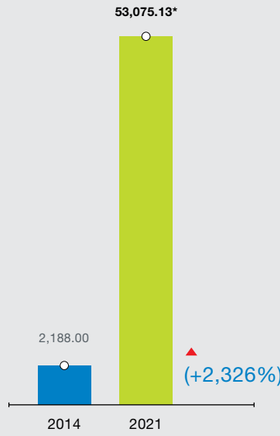
** This total value of tenders awarded to local Sarawakian companies' data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

301-1, 304-1, 304-2

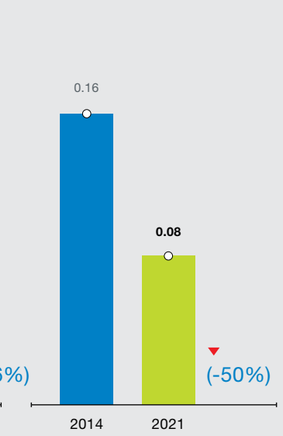
INTERNALISING THE GLOBAL SUSTAINABILITY AGENDA

6 - Clean Water and Sanitation

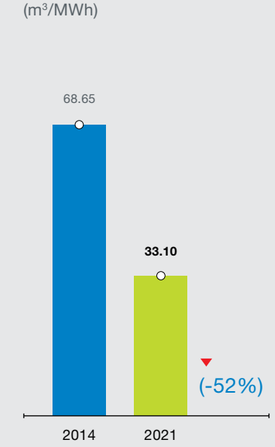
Water Volume Regulated by Hydropower Plants for Electricity Generation (million m³)



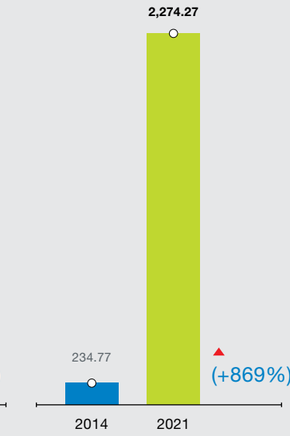
Water Intake Intensity by Thermal Plants by Source for Cooling Process – Municipal Water (m³/MWh)



Water Intake Intensity by Thermal Plants by Source for Cooling Process – Sea Water or Other Natural Water Sources (m³/MWh)



Water Volume Intensity Regulated by Hydropower Plants for Electricity Generation (m³/MWh)



We are a member of the state's Integrated Watershed Management Committee that supports and contributes to the development of state policy, procedures and guidelines for Integrated Watershed Management.

15 - Life on Land

- Supported the Heart of Borneo Initiative
- Baleh National Park gazetted
- Conducted various workshops on watershed management
- Nurtured the Flora Conservation Garden
- Enrichment Planting at Batang Ai Dam for Carbon Sequestration

17 - Partnerships for the Goals

- Partnership for conservation and protection of Heart of Borneo areas
- Collaboration with government agencies, NGOs such as WWF and universities in developing Integrated Catchment Management Policy, Procedures, Guidelines and Plan
- Collaboration with local universities on our Environmental Sustainability Programme
- Partnership with IHA, UNGC Network Malaysia & Brunei and GRI in championing Sustainability global agenda in local context

102-8, 103-1, 103-2, 301-1, 303-3

CREATING LONG-TERM VALUE

103-3, 204-1, 305-4, 401-1, EU26

CREATING LONG-TERM VALUE

We continuously deliver returns and create positive impacts throughout our value chain by producing renewable energy with local resources. We strive to champion climate action and safeguard the interest of our stakeholders to achieve prosperity for Sarawak and sustainability for our business and communities, as well as the environment.

Input

POWERING LOW CARBON ECONOMY

Electricity Generated & Fuel Consumption by Type:

Hydro	Natural Gas	Coal
23,171.59 GWh* (77%)	3,279.48 GWh* (11%)	3,712.31 GWh* (12%)

Hydro – Water Volume Regulated for Electricity Generation:
53,075.13 million m³*

Natural Gas
32,806,349.50 mmBtu*

Coal
2,940,286.82 tonnes*

Thermal – Water Utilisation
1,021 million m³*
(Cooling process)

EMPOWERING OUR PEOPLE

Total Workforce (People):

+4.51%

2020	5,207
2021	5,442

Note:
* *These fuel consumption, net energy generated, annual water volume for electricity generation and total water withdrawn by source data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Output

CONTRIBUTING TO ECONOMIC DEVELOPMENT

Operating Expenses Ratio
34%

Economic Value Retained
(RM Million)
RM2,441*

Payments to the Government
(RM Million)
RM127

Employee Remuneration
(RM Million)
RM596

Electricity Sales
28,590 GWh

SAFEGUARDING NATURAL RESOURCES

Grid Emissions Intensity
(Main Grid)
0.198 tCO_2eq/MWh*

▼ 2% (Decreased from 2020)

GENERATING POSITIVE IMPACTS

Return on Assets
(%)
2.2

Total Assets
(RM Million)
RM37,697

Operating Costs
(RM Million)
RM2,073

Tenders Awarded to Local Sarawakian Companies
(RM Million)
RM1,397*

Sarawak's Rural Electrification Coverage
(%)
97%*

Benefitted at least
135,490 rural households since 2009

NURTURING OUR WORKFORCE

HUMAN CAPITAL DEVELOPMENT

Total Training Hours
166,574 hrs

Employee New Hires
163

Note:
* *These main grid CO_2 emissions intensity, economic value retained, total value of tenders awarded to local Sarawakian companies and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-2, 102-12, 102-15, 103-2, 203-1, 305-4

GLOBAL TRENDS TOWARDS NET ZERO

VISION & GLOBAL TRENDS TOWARDS NET ZERO

In order to accelerate climate action, we aligned our emissions reduction efforts and low carbon economy initiatives with the latest climate action trends across all levels.

Global – Net Zero

- ✓ Pursue efforts to limit global temperature rise to 1.5°C above pre-industrial levels – reducing global CO_2 emissions by 45% by 2030 relative to the 2010 level and to net zero around mid-century
- ✓ Calls upon Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies to:
  - Transition towards low-emission energy systems
  - Rapidly scale up the deployment of clean power generation and energy efficiency measures
- Accelerate efforts to the phasedown of unabated coal power and phase-out of inefficient fossil fuel subsidies
- Provide targeted support to the most vulnerable, in line with national circumstances and in support of a just transition
- ✓ Nations reach new agreements for market mechanisms, supporting the transfer of emissions reductions between countries while incentivising the private sector to invest in climate-friendly solutions

ASEAN

- ✓ Communicating their respective Nationally Determined Contributions (NDC) to reflect the highest possible ambitions and facilitate the purpose of the contributions, which are in line with the respective UNFCCC decisions
- ✓ Promoting sustainable management of forests, including the implementation of UNFCCC decisions on reducing emissions from deforestation and forest degradation, as well as the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
- ✓ Welcoming cross-ASEAN pillar cooperation; among others, the development of the ASEAN Taxonomy for Sustainable Finance (ASEAN Taxonomy)

Malaysia

- ✓ Malaysia intends to reduce its economy-wide carbon intensity (against GDP) to 45% in 2030 compared to the 2005 level. The updated Nationally Determined Contribution (NDC) submitted to UNFCCC in July 2021 includes the following increased ambitions:
  - The 45% of carbon intensity reduction is unconditional;
  - This target is an increase of 10% from the earlier submission; and
- The GHG coverage is expanded to seven greenhouse gases (GHG): Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF_6) and Nitrogen trifluoride (NF_3).
- ✓ In the 12th Malaysia Plan, outlined selected key performance indicators that aligned with the Sustainable Development Goals (SDGs)
  - Aspires to become a Net Zero nation by 2050
- In fulfilling Malaysia's commitment to the Paris Agreement of the UNFCCC to reduce up to 45% GHG emissions intensity to GDP by 2030 based on emissions intensity in 2005, the focus will be on developing enabling instruments for climate action, including carbon pricing, such as carbon tax and the Emissions Trading Scheme
- 31% Renewable Energy of Total Installed Capacity by 2025
- The private sector will be encouraged to invest in advancing next generation vehicles, technologies and supporting infrastructure, such as energy-efficient, hydrogen-powered and electric vehicles and their charging stations
- Formulating a Comprehensive National Energy Policy – the prospect of future growth related to energy, particularly the potential of new energy from clean and sustainable sources including hydrogen, will be explored

Sarawak

Sarawak, in its Post COVID-19 Development Strategy 2030 (PCDS 2030), has highlighted its development targets and strategies towards its 2030 goals in prioritising environmental sustainability and aligning its development path with Malaysia's commitment to the Paris Agreement and the Sustainable Development Goals (SDGs), among others:

Renewable Energy Sector
- ✓ Stimulate Sarawak's hydrogen economy by 2030
- ✓ Promote & increase private sector participation in renewable energy by 2030, e.g. Pilot Batang Ai floating solar project, & establish large scale solar (LLS) IPPs

Energy Generation & Usage
- ✓ Maintain at least 60% electricity generation mix from hydro

Decarbonisation
- ✓ 12.5 mil tonnes of CO_2 avoidance from renewable energy initiatives

Innovation
- ✓ 6% reduction of CO_2 emissions through digital solutions

Transport Sector
- ✓ Support growth of 300 MW RE generation for green hydrogen production
- ✓ Target reduction by 15% carbon emissions by year 2030
- ✓ Promote electric vehicles (i.e. battery & fuel cell EVs) by 2030 - reducing CO_2 footprint by displacing 0.6 million tonnes of CO_2/ year
- ✓ EV penetration target:
  - 20% electric cars
  - 50% e-bikes

Sarawak Energy

Sarawak Energy's efforts in alignment with the state, Malaysian, ASEAN and global commitment to the Paris Climate Agreement, the aim of which is to keep global warming well below 2°C, preferably at 1.5°C, compared to pre-industrial levels:

Renewable Energy Sector
- ✓ Sarawak Energy's Batang Ai 50 MW floating solar is the first major hybrid of hydro and solar in Sarawak
- ✓ Utilises floating solar farm technology targeted at minimising land usage and project footprint
- ✓ Aiming to have 4% large scale solar in Sarawak Energy's generation mix by 2030
- ✓ Sarawak Energy aims to attain sustainable growth and prosperity by becoming a Southeast Asian powerhouse to provide the region with affordable and reliable renewable energy
- ✓ Since 2016, we have been exporting predominantly renewable electricity to West Kalimantan (Indonesia) and in the near future, we will commence power export to Sabah. We eventually aim to materialise the Borneo Grid and become the 'Battery of ASEAN'

Energy Generation & Usage
- ✓ Sarawak Energy's electricity generation mix 2021 (77% from hydro)

Decarbonisation
- ✓ Sarawak Energy's Main Grid emissions intensity 2021 – 0.198 tCO_2eq/ MWh*, a 72% reduction from 2011
- ✓ In 2021, Sarawak Energy began preparations to have its emissions reduction target certified by SBTi in year 2022

Innovation
- ✓ Sarawak Energy has embarked on a digital transformation and modernisation journey to enable the Company to achieve its ambition of becoming a digital utility by 2025 and advance us towards our Vision 2022 regional powerhouse aspirations. Five strategic pillars were identified to empower the Company's digitalisation journey, including:
  - A robust and fit-for-purpose digital foundation
  - Data as strategic assets
  - A modernised, new way of working
  - Smart business
  - Staying ahead of the curve

Transport Sector
- ✓ Sarawak Energy is the first company in Sarawak to incorporate electric and hydrogen fuel cell vehicles into its corporate fleet (as pilot projects)
- ✓ Sarawak Energy inked a memorandum of understanding with PETRONAS to jointly explore the potential of hydrogen as an energy source
- ✓ Shared ambition to scale up and venture into energy export with hydrogen as an energy carrier to meet global clean energy demand and position Sarawak as the hub for the hydrogen value chain

Note:

** This main grid CO_2 emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

STRATEGY sarawak energy

102-12, 102-15, 103-2, 203-1

GLOBAL TRENDS TOWARDS NET ZERO

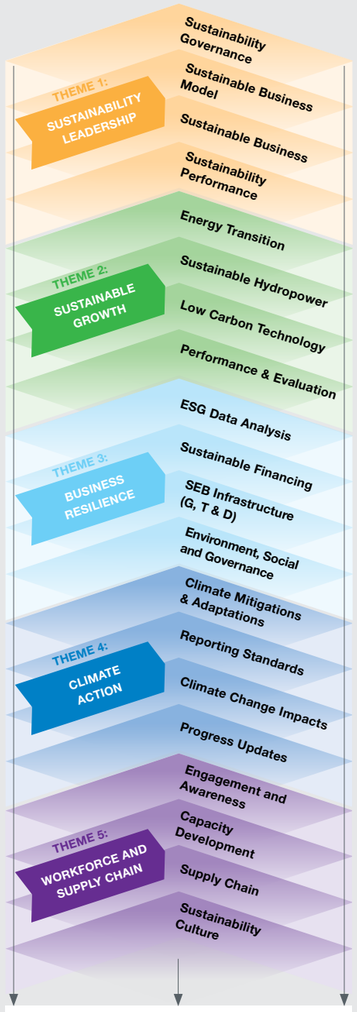
102-15

SARAWAK ENERGY'S SUSTAINABILITY STRATEGY & ROADMAP

102-12, 102-15

SARAWAK ENERGY'S SUSTAINABILITY STRATEGY & ROADMAP

In 2021, Sarawak Energy strengthened its sustainability journey, focusing on five key themes:



- Race to Net Zero
- Just Transition
- Low Carbon Economy
- Circular Economy
- Sustainable Finance Requirements (ESG)
- Digitalisation
- Sustainable Renewable Energy

CORPORATE SUSTAINABILITY PERFORMANCE

Menara Sarawak Energy.

103-1, 305-1, 305-4, 305-5

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Murum HEP.

Emissions Intensity (Main Grid)	Emissions Intensity (Northern Grid)	Total CO_2 Emissions (Main Grid)	Total CO_2 Reduction from Clean Development Mechanism Projects
0.198 tCO_2eq/MWh*	0.600 tCO_2eq/MWh*	5.98 million tCO_2eq	15,179 tCO_2

Notes:

[1] Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.

** These main grid CO_2 emissions intensity and northern grid CO_2 emissions intensity data have been assured by a third party. Read the Assurance Report on pages 178-182.*

Climate change continues to be one of the major challenges faced by many industries due to extreme weather conditions that can disrupt business operations and cause major financial losses. As a responsible corporate organisation with sustainability at its core, Sarawak Energy strives to build business resilience through innovative solutions. Our venture into digitalisation and the use of hydropower as our source of renewable energy enables us to move closer to our targets for Sarawak's sustainability, economy and social development.

Our focus on hydropower as a renewable energy source has helped to provide clean, reliable and affordable energy for Sarawak. In 2021, the renewable energy share in Sarawak's generation mix continued to grow to 23,172 GWh* from 1,248 GWh in 2011. This helped to lower Sarawak's main grid CO_2 emissions intensity by 72%, which was 78% lower than the global average of 450 gCO_2eq/kWh.

Note:

** This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

103-2, 103-3, 305-4

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

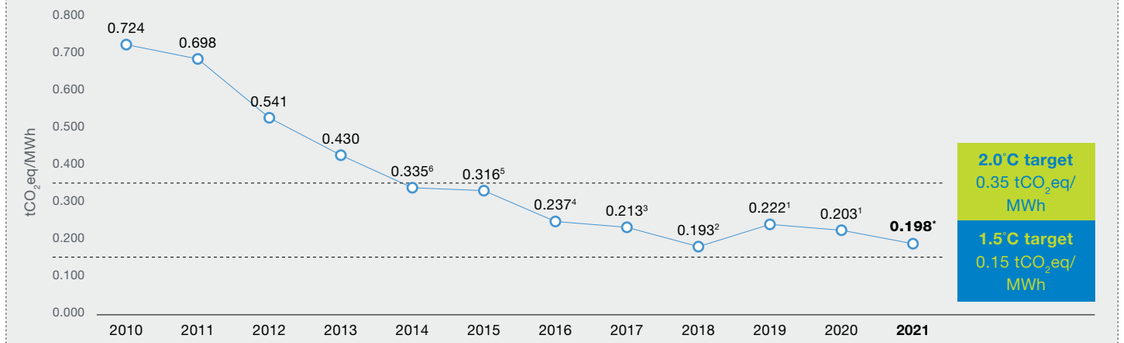
MEETING THE PARIS AGREEMENT

Sarawak Energy is committed to the Paris Agreement made at the United Nations Framework Convention on Climate Change, which aims to substantially limit global temperature rise to well below 2°C above pre-industrial levels.

Since 2014, our Scope 1 Main Grid CO_2 emissions intensity has already been achieved and is within the 2°C and 1.5°C targets in accordance with the Paris Agreement. Moving forward, we are committed to setting a science-based emissions reduction target across relevant scopes to further pursue efforts to meet the 1.5°C target by 2030.

We are proud to report that we were among the 1,045 global companies in 2021 that pledged to support the UN Global Compact's Business Ambition for 1.5°C. This is a significant step towards leading Malaysian industries in working towards net zero carbon emissions by 2050.

Scope 1 Main Grid CO_2 Emissions Intensity within the 2°C and 1.5°C Targets in Accordance with the Paris Agreement



Notes:

[1] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2020.

[2] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2018.

[3] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2017.

[4] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2016.

[5] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2015.

[6] This main grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2014.

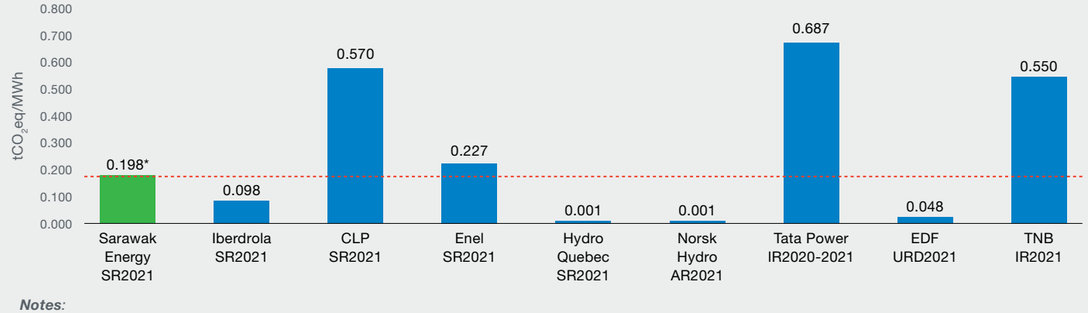
** This main grid CO_2 emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

103-3, 305-1, 305-4

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

In the year under review, our total main grid emissions were 5.98 million tCO_2eq, which was a 7% increase from 2020, mainly due to the full operation of our Tanjung Kidurong Combined Cycle Power Plant in 2021. Our emissions intensity of 0.198 tCO_2eq/MWh* continues to be one of the lowest in comparison with other international power utility companies.

International Comparison of CO_2 Emissions Intensity among Power Utility Companies

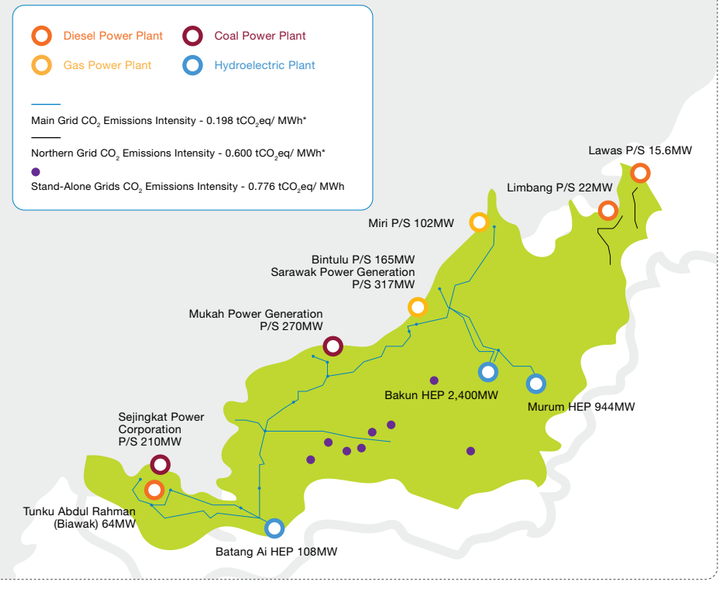


Notes:

1 Published Annual, Sustainability & Integrated Reports 2021.

** This main grid CO_2 emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

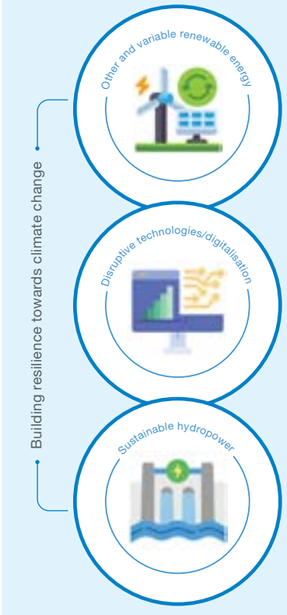
Sarawak Energy CO_2 Emissions Intensity Based on Grids



Note:

** These main grid CO_2 emissions intensity and northern grid CO_2 emissions intensity data have been assured by a third party. Read the Assurance Report on pages 178-182.*

BUILDING BUSINESS RESILIENCE



102-15, 103-2, 305-4

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Renewable Energy Certificate

Sarawak Renewable Energy Certificate (REC) mechanism was launched in 2019 and began embarking on the REC journey with Tradable Instrument for Global Renewables (TIGR) registry for REC supply from Batang Ai Hydroelectric Plant to enable corporate purchases of certified renewable energy in Sarawak.

Since 2019, Sarawak Energy has been supporting business organisations from various industries including petrochemical, manufacturing and financial service in attaining the REC to bolster their sustainability journey. In 2021 alone, Sarawak Energy has committed a total of 245,424 RECs (MWh). The year under review also saw Sarawak Energy working closely with International Renewable Energy Certificate (I-REC) registry to provide REC from Murum Hydroelectricity Plant.

Aspiration for Sarawak REC Mechanism

With a strong commitment to providing a sustainable energy future for Sarawak, Sarawak Energy will continue to collaborate and work closely with REC registries and business organisations from all sectors to strengthen our REC mechanism in Sarawak. This is amid the aspiration for REC to catalyse renewable energy development through increased sustainability awareness and higher renewable energy usage among industry players. The support and participation of corporate organisations will contribute to the opening of more renewable energy plants, accelerating Sarawak's transition towards a low-carbon economy.

Residual Mix Emissions Rate

Sarawak's residual mix emissions rate in 2021 is shown in the table below. The rate was assessed using REC sales data collected from the REC tracking registry, Sarawak Energy's annual power generation data and emissions rates for the publication period.

5,976,874.06 tCO_2eq Main Grid	**30,162,881.89 MWh*** Net Generation	**0.201 tCO_2eq/MWh** Residual mix emissions rate
0.198 tCO_2eq/MWh* Emissions Rate	**449,911 MWh** Voluntary RE	

Note:

1 The residual mix emissions rate is only applicable for the Sarawak main grid.

** These main grid CO_2 emissions intensity and net energy generated data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

DISRUPTIVE TECHNOLOGIES AND DIGITALISATION

Digitalising Sarawak Energy

As Sarawak's key provider of electricity, we have continuously sought out innovative solutions and new technologies to improve our operations and processes. Our transformation is vital, as times are changing with digitalisation at the forefront, reshaping the way we operate to serve a global digital economy. We are committed to learning and adopting new technologies to stay relevant and to increase our value to gain competitive advantage.

With an increased global focus on sustainability, economic, social, environmental and governance concerns, many changes have taken place in the business landscape. It has become necessary to invest in information and communications technology in today's business climate.

102-15, 103-2, 203-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Integrating technology into our business supply chain will yield multiple benefits, including:

- Increasing efficiency
- Optimising resource allocation
- Reducing overall costs

Sarawak Energy has embarked on a digital transformation journey to fulfil its ambition of becoming a digital utility by 2025 and advance us towards our Vision 2022 regional powerhouse aspirations.

Five strategic pillars were identified to empower the Company's digitalisation journey, including:

- A robust and fit-for-purpose digital foundation
- Data as our strategic assets
- A modernised, new way of working
- Smart business
- Staying ahead of the curve

To this end, we have designed new technologies, processes and initiatives that promote excellence in our six Key Focus Areas (KFAs), which hat will expedite system performance and transform our business and process automation across the organisation. These investments in digitalisation have enabled us to transform into a more lean, agile and efficient corporation.

Powering Up for Change

Our digital grid transformation is aligned with the Sarawak Government's five-year Sarawak Digital Economy Strategy, and it is a step towards becoming a digital leader in the utility industry.

The following five trends are vital to Sarawak's grid transformation:

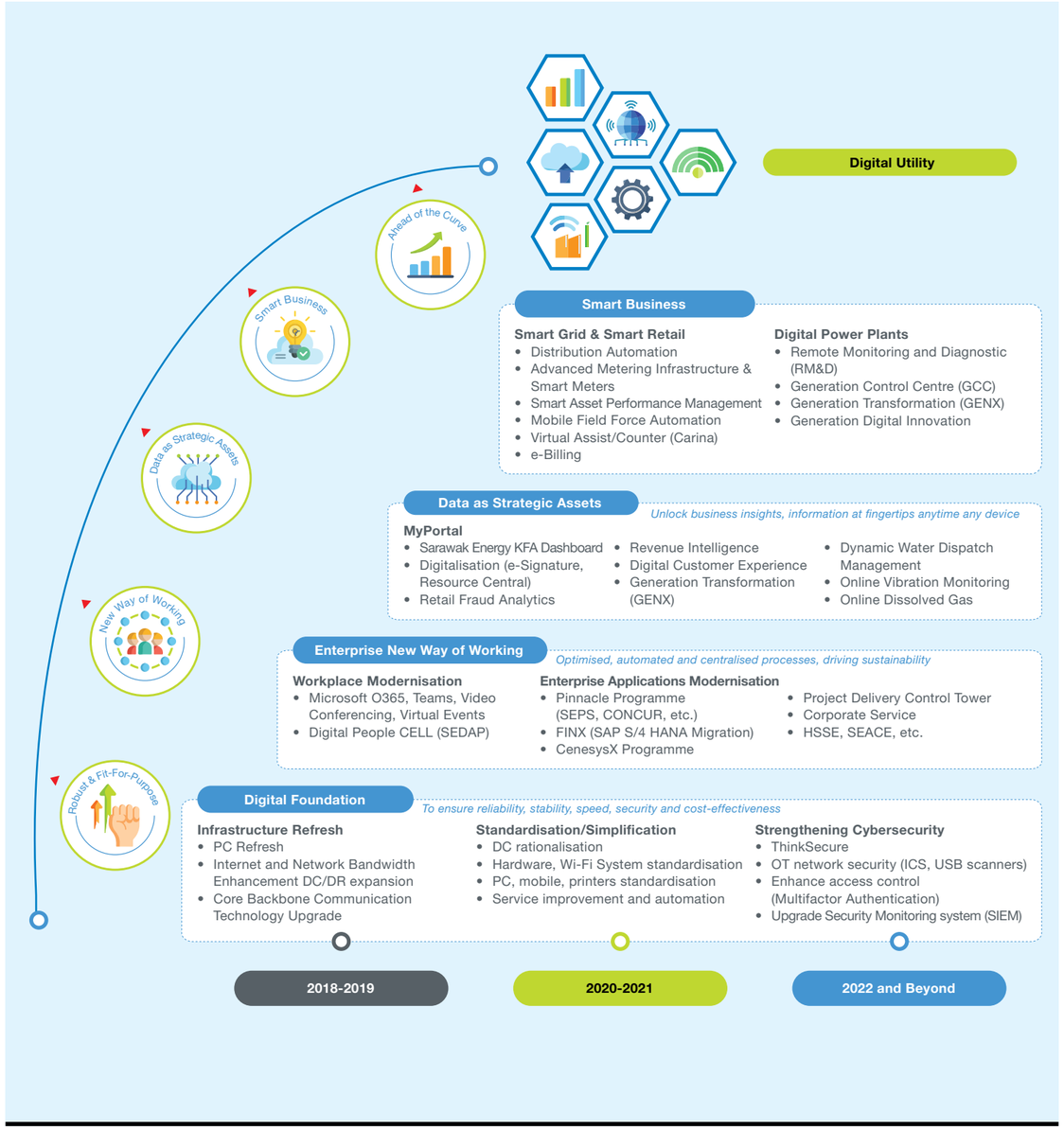
1. Increased distribution of clean renewable energy in generating electricity
2. Growing supply and demand, presenting additional opportunities for customers to participate in the electricity market
3. Growing demand for a more resilient and reliable grid, protected against weather disruptions and cyber and physical attacks
4. Rise of interconnected electricity information and control systems
5. Ageing electricity infrastructure

In response to these trends, we need to adopt a systematic approach in digitalising and modernising processes, technologies, skill sets and competencies throughout our core business and support functions. This led to the development and implementation of our Sarawak Energy Digitalisation Blueprint in 2018.

103-2, 203-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Moving towards World-Class Operational Excellence to Become a Digital Utility by 2025



103-2, 203-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Accelerating Smart Business

Improving the business requires us to transform our business operations through cutting-edge technologies to achieve reliability, affordability, sustainability and growth for Sarawak Energy's business and services.

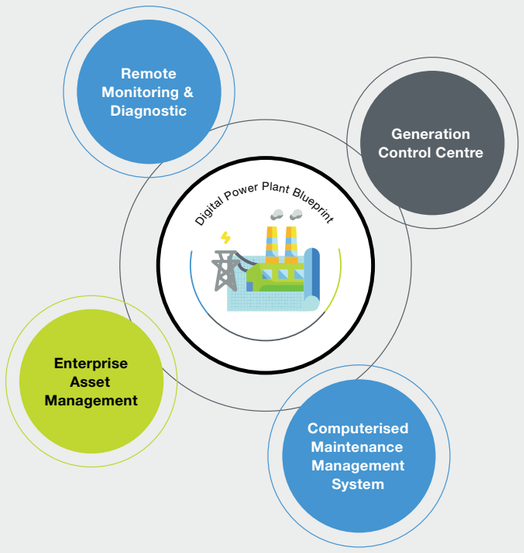
As such, we have developed business digitalisation blueprints and roadmaps for each of our core businesses, including:

Digital Power Plant | Smart Grid | Smart Retail

Digital Power Plant

- To be the best renewable energy powerhouse in the region, we have initiated Generation Operation Excellence through Generation Transformation by improving workforce and asset productivity while mitigating risks through innovative digital technologies

- This involves improving plant operating hours, studying plant operating data to understand and enhance plant performance and health and monitoring operational safety through new technologies



To achieve our Digital Power Plant goal, we will implement the following:

A Remote Monitoring & Diagnostic Centre (RM&D).

- **A Remote Monitoring & Diagnostic Centre (RM&D)**
  A one-stop centre that connects all power stations, powered by advance analytic tools and supported by Subject Matter Experts (SMEs) – enabling plants to reach peak performance by ensuring better reliability, efficiency, productivity and profitability

- **Generation Control Centre (GCC)**
  To unlock remote possibilities through new technologies. Control room operators will be able to easily manage plants remotely from one site and will enable workforce optimisation and greater agility

- **Enterprise Asset Management (EAM) System**
  To elevate our existing business processes by developing a digital asset management strategy that will ensure an asset's life cycle is in line with ISO55001 Asset Management standards

- **Computerised Maintenance Management System (CMMS)**
  To enable better decision-making via reporting and dashboarding with business intelligence tools

103-2

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Smart Grid

- The demand for renewable energy has increased, raising the complexity of grid operation. It is no longer cost-effective and efficient to manually operate, monitor and secure the network and our assets

- We are committed to modernising our grid and operations through digitalisation to develop a smart power grid that is safe and reliable

Smart Grid Focus

Monitoring & Control	Supply Reliability	Data Analytics	Security	Customer Empowerment & Satisfaction
SCADA, DMS/ ADMS	SAIDI, SAIFI	Smart Meter Coverage, Data Analytics Application	IT/OT Cybersecurity	Real-Time Data to Customers, Customer Satisfaction Feedback

By integrating smart grid technologies, we can:
- Ensure a safe, reliable grid and supply system
- Enhance operational safety and efficiency
- Protect our assets and achieve optimum asset performance
- Empower our customers

KEY SMART GRID INITIATIVES FOR THE YEARS AHEAD

Advanced Metering Infrastructure & Smart Meters

Benefits
- Automatic meter reading
- Outage, tampering & energy theft detection
- Remote disconnection/connection
- Power quality monitoring
- Enhanced digital experience for customers

Mobile Field Force Automation

Benefits
- Concise information flow between field crew (FC) and Customer Care Centre (CCC)
- Monitoring work order progress
- Tracking FC performance on response and restoration

Distribution Remote Monitoring System

Benefits
- Sensors for substation and pillar doors and loss of supply (transformer), remote sensing earth fault indicator, street lighting status
- Automated detection and alerts via SMS and email
- Faster restoration

Geographical Information System

Benefits
- Network assets visibility
- Availability of asset information linking to customer information

Substation Smart Surveillance System

Benefits
- Real-time monitoring of substations and assets with alert notifications
- Cases of theft and vandalism have reduced significantly after installation

Distribution Automation

Benefits
- Remote fault indication
- Safe remote operation
- Faster fault isolation and service restoration

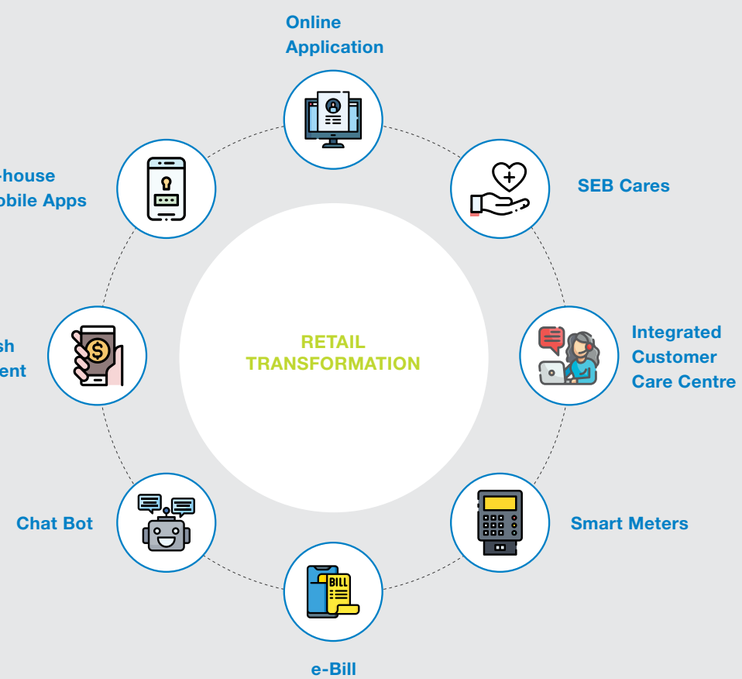
Online Asset Monitoring

Benefits
- Real-time monitoring of asset condition
- Early detection of anomalies and alert notifications

103-2, 203-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Smart Retail



- Provides our valued customers with the best experience, as we have employed various technological innovations to enhance our retail services
- We are working towards providing automated customer service operations to deliver excellence and ease of use
- We have introduced our customer self-service mobile application SEB cares, online applications for electricity supply, self-service payment kiosks and e-billing

Smart Meters

- An advanced electronic device that allows two-way communication between the meter and the central system to record energy consumption and support outage detection
- Smart meters will be provided to about 70% of our customers located in Kuching by 2026, followed by customers in Miri, Sibu, Bintulu, Sri Aman, Betong, Sarikei, Mukah, Kapit and Limbang through to 2029
- Currently, around 5,500 smart meters have been supplied for free to our customers in Kuching, namely at Kampung Gita, Tabuan Jaya Baru and Tabuan Laru

102-12, 102-15, 103-1, 103-2, 103-3, 203-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

Supporting Sarawak's Digital Economy

- In support of Sarawak's Digital Economy agenda, we are moving towards the development of high-speed connectivity by leveraging our fibre optics infrastructure
- We are also working with the Sarawak Multimedia Authority (SMA) and Sarawak Digital Economy Corporation (SDEC) to maximise bandwidth and connectivity coverage across Sarawak through our 500 kV grid network, which will enable Sarawak to progress as a digital leader

Sarawak Energy Fibre Optic Network

Since 2020, Sarawak Energy has built up over 6,500 km of fibre optic connection, including Optical Ground Wire (OPGW), All Dielectric Self Supporting (ADSS) and Optical Underground (OPUG) fibres, with more than 6,000 transmission towers and 400,000 distribution poles.

SUSTAINABLE HYDROPOWER AS AN ENERGY TRANSITION

As we progress in our sustainability journey, we strive to further align our hydropower projects and operations with the UN SDGs and the Hydropower Sustainability Assessment Protocol (HSAP). Sustainable hydropower is an opportunity for us to make a real commitment to change and impact our community for generations to come. It embodies long-term economic viability, the protection and management of natural resources, responsible environmental management and social accountability.

We are committed to incorporating sustainability best practices into the development and management of our hydropower projects, in alignment with international best practices, through good governance. We also ensure that our hydropower projects and operating facilities are embedded with the right principles in managing indigenous peoples. These include respecting their dignity, human rights, aspirations, culture, lands, knowledge, practices and natural resources-based livelihoods.

To ensure our sustainability practices are implemented accordingly in all our HEPs, we have an internal assessment team, with its assessors ranging from being provisionally accredited to internally trained, that assesses the sustainability performance of our hydropower project development and practices. Established in 2014, the team is endorsed and approved by the Sarawak Energy Executive Management Committee.

102-12, 102-15, 103-2

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

SARAWAK ENERGY'S HSAP INTERNAL ASSESSMENT TEAM

- Comprises **33** members from the various departments:

11 are recognised as IHA's Provisionally Accredited Assessors

22 are certified users of the Hydropower Sustainability Assessment Tools (HST)

- These members aim to:
  - Become agents of change in their respective departments/ divisions in ensuring the continuity of embedding sustainability practices in Sarawak Energy's business processes
  - Conduct internal assessments for hydropower projects using the HST in preparation for an official assessment
  - Build internal capacity

HYDROPOWER SUSTAINABILITY ASSESSMENT TOOLS (HST)

We have adopted the globally recognised Hydropower Sustainability Assessment Tools (HST) that provide a holistic sustainability assessment of our hydropower project development and operations. This underscores our commitment to striving to develop our hydropower projects in a sustainable manner, by recognising the need for harmony between the economy, environment and even society, as well as to ensure that the sustainability risks of our projects are assessed and managed comprehensively.

The three complementary tools are:

Hydropower Sustainability Assessment Protocol (HSAP)

Hydropower Sustainability Guidelines on Good International industry Practice (HGIIP)

Hydropower Sustainability ESG Gap Analysis Tool (HESG)

- This is an extensive framework used to assess the sustainability of projects, covering a range of social, environmental and financial topics
- Key drivers of the implementation:
  - To demonstrate how we manage & address sustainability risks and opportunities
  - To meet investors' & lenders' expectations & requirements (access to finance)
  - To benchmark our performance against international best practices

HYDROPOWER SUSTAINABILITY ASSESSMENT PROTOCOL

The Hydropower Sustainability Assessment Protocol (HSAP) is a leading global assessment framework that provides a comprehensive sustainability assessment for hydropower projects to be assessed against economic, environmental and social areas, including technical aspects. The HSAP also includes 'cross-cutting issues' such as gender issues and human rights, which feature in multiple topics.

103-2, 304-2, 413-1

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

ENRICHMENT PLANTING AT BATANG AI DAM FOR CARBON SEQUESTRATION

In our commitment to environmental sustainability and to reduce our impacts on the environment, we executed a project at Batang Ai Dam in the year under review. The project was in partnership with Forest Department Sarawak (FDS) and was a collaborative effort in the form of a forest landscape restoration (FLR) project.

The objective was to restore the vegetation of degraded lands surrounding Batang Ai Dam to further improve the local environment and water catchment functions

Indigenous species of timber trees, fruit trees and non-timber forest species such as rattan were planted at selected areas, at the request of the local community

Through this project, an estimated 229,260 kg of CO_2 can be sequestered

Batang Ai HEP.

PROJECT OUTCOMES

6,000
Indigenous tree species planted and growing

6+ ha.
Of forest conserved and restored

7 longhouses
Received training on forestry

Indigenous Trees Planted
- Belian
- Gaharu
- Engkabeng
- Kapur
- Meranti

200+
People reached through Restoration Awareness Campaigns

4 Projects
Increased vital biodiversity or ecosystem services

100+
Young people learned about our environment and conservation

103-3

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

UNDERSTANDING OUR EMISSIONS COMING FROM OUR HYDROPOWER GENERATION PORTFOLIO

Power density is a predictor of emissions intensity. The recognised relationship between power density and emission intensity indicates that projects with a power density above 5 W/m^2 will exhibit emissions intensity below 100 gCO$_2$eq/kWh.

In predicting the net GHG emissions of the reservoirs, we assess, validate and report the carbon footprint of a reservoir using the G-res Tool- a web-based tool developed by International Hydropower Association (IHA) in collaboration with the UNESCO Chair for Global Environmental Change.

Our hydropower projects' power density are as shown in the table below:

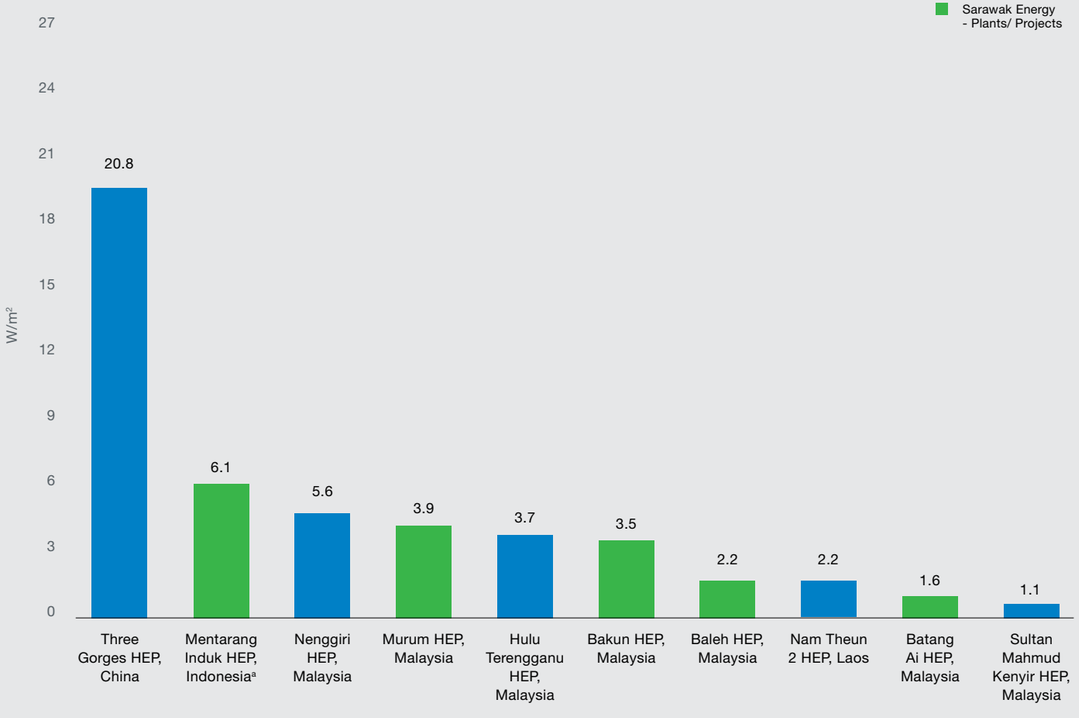
Hydropower Project	G-res ID	Power Density (W/m^2)	Allocated Emissions Intensity (gCO$_2$eq/KWh)
Batang Ai HEP	3.02155	1.6	176.5
Baleh HEP	3.112265	2.2	89.5
Bakun HEP	3.02158	3.5	39.9
Murum HEP	3.02157	3.9	29.4
Mentarang Induk HEP[a]	3.02156	6.1	30.6

Notes:

1. *The Power Density of a hydropower facility is the ratio of installed capacity to total reservoir surface area. Source: The GHG Reservoir Tool (G-res) User guide.*
2. *Allocated Emissions Intensity (gCO$_2$eq/KWh) - The life cycle emission rate of greenhouse gasses (CO$_2$ + CH$_4$) relative to the intensity of power production. Source: The GHG Reservoir Tool (G-res) User guide.*

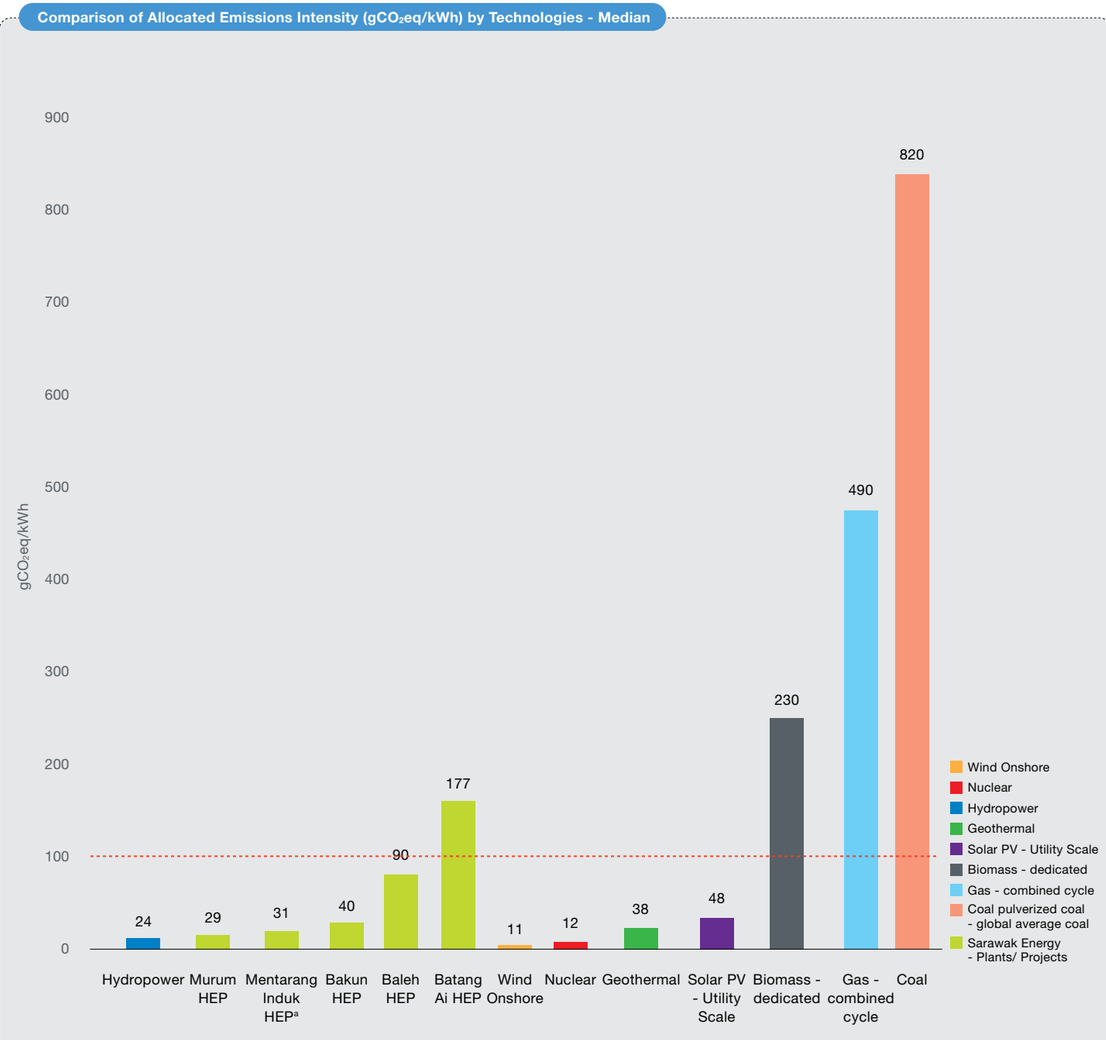
[a] *Mentarang Induk HEP is a joint venture project in Kalimantan Utara, Indonesia between Sarawak Energy & KPP Group.*

International Comparison of HEPs Power Density (W/m^2)



Source:
Published Materials and Reports.

Comparison of Allocated Emissions Intensity (gCO$_2$eq/kWh) by Technologies - Median



Notes:

1. *Source: Hydropower Criteria – Development of Eligibility Criteria for the Climate Bonds Standard & Certification Scheme; Background Paper – March 2021 Ver 1.0.*
2. *Sources: IPCC (2014). IPCC Working Group III – Mitigation of Climate Change, Annex III: Technology - specific cost and performance parameters; IPCC (2014). IPCC Working Group III Mitigation of Climate Change, Annex II Metrics and Methodology.*
3. *Include albedo effect.*

[a] *Mentarang Induk HEP is a joint venture project in Kalimantan Utara, Indonesia between Sarawak Energy & KPP Group.*

STRATEGY

103-3

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

103-1, 103-2

CLIMATE ACTION STEWARDSHIP THROUGH SUSTAINABLE SOLUTIONS

DECARBONISING BEYOND SARAWAK

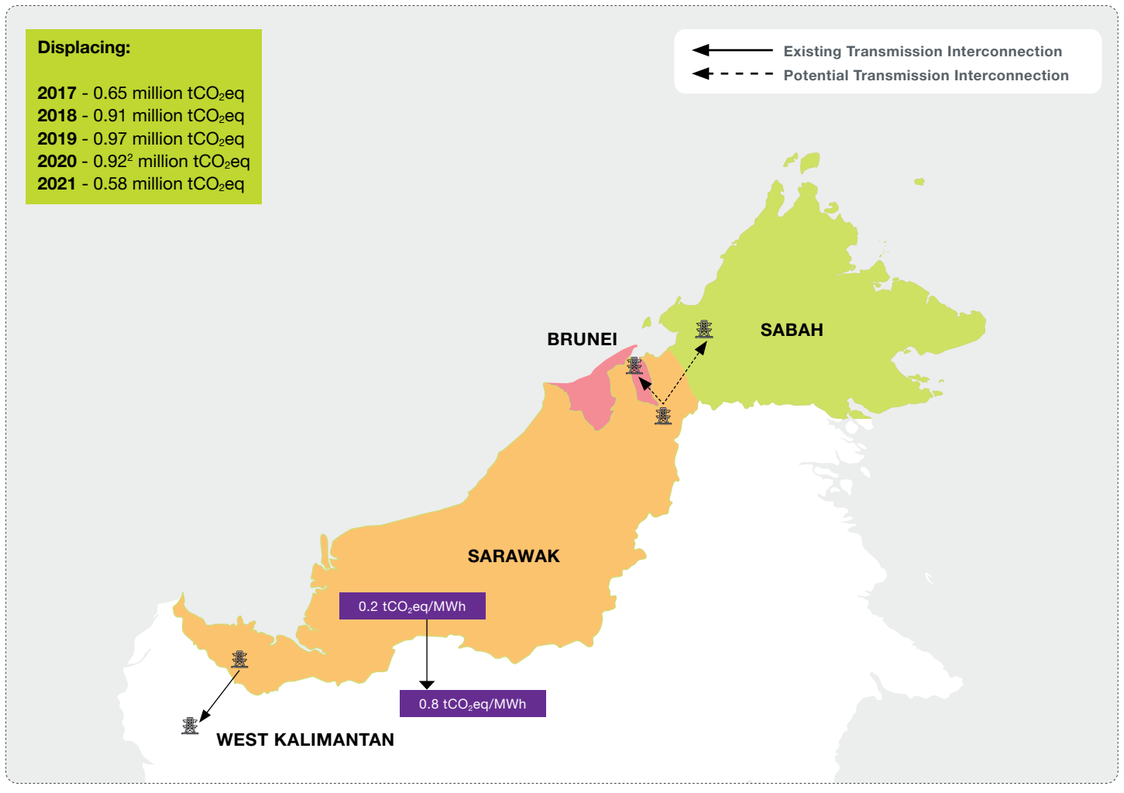
We are committed to reducing the carbon emissions of our energy sources beyond Sarawak to contribute to the global efforts of slowing down global temperature rise to 1.5°C.

We began our mission in 2016 by building the Sarawak-West Kalimantan Interconnection, a cross-border HVAC link that connects the Mambong 275 kV substation in Sarawak to the Bengkayang 275 kV substation in West Kalimantan. As of 2021, we have exported an average of 190 MW to 200 MW of power to Indonesia's utility provider, Perusahaan Listrik Negara (PLN).

The development has enabled us to export 7,474 GWh of energy to West Kalimantan[1] and displaced 4.42 million tCO_2eq, equivalent to sequestering 12,460 ha of tropical forest.

Displacing:

2017 - 0.65 million tCO_2eq
2018 - 0.91 million tCO_2eq
2019 - 0.97 million tCO_2eq
2020 - 0.92[2] million tCO_2eq
2021 - 0.58 million tCO_2eq



Notes:

[1] West Kalimantan grid – using conservative estimation based on diesel emission factor of 0.8 tCO_2eq/MWh (IPCC 2016).

[2] This CO_2 emissions displacement for year 2020 figure has been corrected from the Sarawak Energy Sustainability Report 2020.

102-15, 103-2, 103-3, 305-1, 305-2, 305-3

OUR RESPONSE TO CLIMATE CHANGE

Scope 1 Emissions

Grid emissions
6,086,288.08 tCO_2eq*

Company-owned vehicles
3,766.89 tCO_2eq

Scope 2 Emissions

Buildings and offices
11,991.48 tCO_2eq*

Scope 3 Emissions[1]

Business air travel
252.42 tCO_2*

Notes:

1. Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.

[1] Scope 3 emissions – Business air travel is calculated using ICAO Carbon Emissions Calculator as on 15 March 2022.

** These Scope 1 (grid emissions – main, northern and stand-alone), Scope 2 (buildings and offices) and Scope 3 (business air travel) data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

SARAWAK ENERGY AND THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Sarawak Energy continues to strengthen its strategy against climate-related risks as adverse effects of climate change worsen and impact daily lives as well as business operations. Impacts of rising global temperatures could affect our power infrastructure, power generation and power delivery, in addition to financial growth.

We are committed to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and have progressively incorporated climate action into our decision-making process and business activities. We aim to develop full-fledged TCFD recommendations around the four thematic areas that represent the core elements of how Sarawak Energy operates:

GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS AND TARGETS
• Describing the Board's oversight of climate-related risks and opportunities • Describing management's role in assessing and managing risks and opportunities	• Describing the climate-related risks and opportunities the organisation has identified over the short, medium and long term • Describing the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning • Describing the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	• Describing the organisation's processes for identifying and assessing climate-related risks • Describing the organisation's processes for managing climate-related risks • Describing how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management	• Disclosing the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process • Disclosing Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks • Describing the targets used by the organisation to manage climate-related risks and opportunities and performance against the targets

102-18

OUR RESPONSE TO CLIMATE CHANGE

Governance

Sustainability governance is the foundation for effective sustainability management in a business organisation. It enables us to drive our sustainability strategy across Sarawak Energy and manage sustainability measures and initiatives while strengthening our value creation journey.

Our sustainability efforts are carried out by the Sustainability Division, which aims to embed the principles of sustainability into Sarawak Energy's objectives. The division's responsibilities include measuring and verifying Sarawak Energy's sustainability performance besides ensuring effective implementation of sustainability initiatives. In addition, the division develops, plans, implements and manages the entrenchment of sustainability practices (protocol, best practices and international standards into Sarawak Energy's business system. The division also oversees the alignment of Sarawak Energy's climate-related disclosures with recommendations from the Task Force on Climate-related Financial Disclosures (TCFD) although the Company currently does not have a TCFD Steering Committee or a Board Committee that oversees climate change governance. The division will continue to spearhead the integration of sustainability practices into Sarawak Energy's hydropower projects by focusing on:

In 2022, Sarawak Energy strengthened its commitment towards its sustainability agenda by setting the development of its Sustainability Strategy, Policy and Roadmap as its corporate Key Performance Index (KPI). The Company also enhanced its Sustainability Governance structure for a more effective sustainability management.

Sustainability Division → **Corporate Services** → **Group Executive Committee** → **Sarawak Energy Board**

Benchmarking our internal practices/ processes against global best practices and processes				
Enhancing the adoption of HSAP practices at the project and corporate levels				
Enhancing the technical capabilities of Sarawak Energy's Internal Assessment Team				
Developing the HSAP proficiencies				
Identifying areas for future improvement				
Sustaining our efforts to embed sustainability practices				
Preparing projects for official assessment				

HSAP SPONSOR (Head of Corporate Services)
- Authorise responsibility for the internal assessment programme
- Act as a sponsor for proposals related to the internal assessment programme and embedding process
- Provide support in getting necessary resources for the internal assessment programme
- Provide a measurement of effectiveness of the management system to top management

HSAP FOCAL POINT OF CONTACT (Head of Sustainability)
- Manage the internal assessment exercise
- Manage, monitor and review the assessment and improvement programme
- Improve the competency of the internal IHA assessment team
- Keep appropriate assessment records to monitor and review the assessment programme
- Define audit objectives, scopes, criteria

LEAD ASSESSORS (Various Departments)
- Act as a reference point for other internal assessors
- Oversee the process of evidence collection and evaluate data to determine the extent of conformity
- Lead the closing meeting of the assessment and preparation of the assessment reports

INTERNAL ASSESSORS (Various Departments)
- Conduct assessments
- Ensure independent reviews of documents and processes to determine the extent of conformity with HSAP
- Prepare assessment reports

ROLES & RESPONSIBILITIES

102-15

OUR RESPONSE TO CLIMATE CHANGE

Managing Climate Risks

As a leading power producer, we have an obligation to keep our stakeholders informed of our business decisions and climate-risk mitigation strategy to continue to light up Sarawak and the region. This year, we continue to disclose high-level strategic risks and opportunities presented by rising temperatures and rainfall that will impact our business operations and our stakeholders.

Risks	Impact of climate change on power generation (hydropower & thermal)	Impact of climate change on power infrastructure (transmission & distribution)	Impact of climate change on power delivery	Financial Impact of climate change
OPPORTUNITIES				
1. Clear approach and planning towards GHG reduction, mitigation and adaptation 2. Fostering the adoption of low carbon technology (technical & policy) 3. Increasing the adoption of disruptive technologies	4. Improving the resilience of electricity infrastructure 5. Increasing the integration of other renewable energy sources with hydropower 6. Increasing other green generation 7. GHG mitigation and adaption beyond the power sector			

Table 1: High-level Strategic Risks and Opportunities Arising from Climate Change.

Strategy

Climate Action Strategy

We are guided by a comprehensive five-pronged strategy that covers five key areas across our operations to minimise climate-related risks in our transition to renewable energy to achieve a low carbon economy. The objective of our climate action strategy is to mitigate risks associated with physical impacts of climate change, rising temperatures, changes in weather patterns and the increase in the frequency and severity of extreme weather events.

STRATEGY	KEY AREAS
Developing a holistic approach and plan towards GHG mitigation and adaption for the power sector in Sarawak	• GHG mitigation and adaptation for the power sector in Sarawak
Exploring other renewable energy sources	• Integration of other renewable energy sources (renewable and variable renewable energy) • Small- and large-scale green hydrogen production • Innovative energy extraction for future energy resources (renewable and alternative energy)
Developing an integrated approach in improving resilience of power generation to climate change	• State-wide flood modelling – adaptation to climate change • River Basin Management – Adaptation to climate change for hydropower and water resources • Greenhouse gas (GHG) emissions' measurement from large-scale hydropower reservoirs • Improving the accuracy and method of GHG emissions' estimation
Assessment and planning on disruptive technology in enhancing the adoption of low carbon technology	• Integration of disruptive technology • Guidelines and policies on interconnection within the distributed resources into the local system • Establishing energy efficiency and energy management
Supporting climate action beyond the power sector that is aligned with energy sector directions	• Enhancing the energy sector's role in the adoption of low carbon/smart/green city framework and circular economy • Conservation and protection of catchment/operation areas via integrated catchment management and carbon sequestration

Table 2: High-Level Strategy for Climate Action – GHG Mitigation & Adaptation for the Power Sector in Sarawak.

102-15

OUR RESPONSE TO CLIMATE CHANGE

RISK MANAGEMENT

Climate Scenario Analysis

We further underscore our commitment to the TCFD recommendations by conducting a climate scenario analysis based on the World Bank's Climate Change Knowledge Portal. Comprising five climate scenarios, the analysis covered mean temperatures and average precipitation levels in five probable conditions and time periods (short and medium-short).

The analysis found that average air temperature and the amount of rainfall in Sarawak may increase between 2021 and 2030, while maximum sea levels are expected to rise, increasing the chances of floods. Sarawak is also projected to experience dry spells from 2045 to 2055[1].

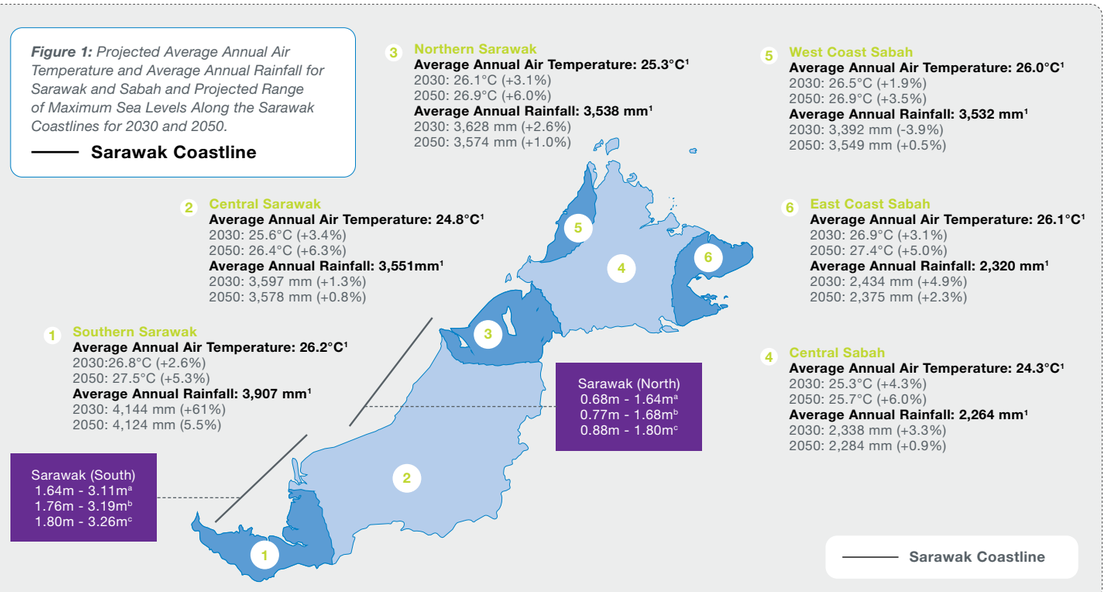
Parameter	Observed (1970 - 2000)	Projected for 2030	Projected for 2050
Average Annual Temperature	24.8 - 26.2 ^{0}C	25.6 - 26.8 ^{0}C (0.6 to 0.8 ^{0}C increase)	26.4 - 27.5 ^{0}C (1.3 to 1.6 ^{0}C increase)
Average Annual Rainfall	3,551 - 3,907 mm	3,597 - 4,144 mm (1 to 6 % increase)	3,574 - 4,124 mm (1 to 5 % increase)

Parameter	Observed Rate (1993 - 2010)	Projected for 2030	Projected for 2050
Sea Level Rise	3.82 - 5.11 mm/year	0.04 - 0.12 m	0.15 - 0.22 m

Table 3: *Observed and Projected Climate Change and Sea Level Rise in Sarawak.*

Note:

[1] *Source: Malaysia Third National Communication and Second Biennial Update Report to the UNFCCC.*



Notes:

[1] *Historical data (average annual air temperature & average annual rainfall: year 1970 - 2000).*

[a] *Current (year 2016) sea level;* [b] *year 2030 sea level;* [c] *year 2050 sea level.*

Source: Malaysia's Third National Communication and Second Biennial Update Report to the UNFCCC.

102-15

OUR RESPONSE TO CLIMATE CHANGE

This year, our projection data is presented as multi-model ensembles, which represent the range and distribution of the most plausible projected outcomes of change in the climate system for a selection of the latest Shared Socioeconomic Pathways (SSPs). SSPs aim to provide insight into future climates based on defined emissions, mitigation efforts and development paths.

Period / Scenario		2020 - 2039					2040 - 2059				
	Historical (Reference Period: **1995-2014**)	SSP 1 - 1.9	SSP 1 - 2.6	SSP 2 - 4.5	SSP 3 - 7.0	SSP 5 - 8.5	SSP 1 - 1.9	SSP 1 - 2.6	SSP 2 - 4.5	SSP 3 - 7.0	SSP 5 - 8.5
Mean Temp. (^{0}C)	25.64	26.17	26.23	26.24	26.23	26.23	26.23	26.50	26.74	26.88	27.14
Average Largest 1-Day Precipitation (mm)	59.81	62.48	59.65	59.36	61.87	61.44	62.38	61.39	62.50	64.74	72.33
Average Largest 5-Day Cumulative Rainfall (mm)	148.12	153.60	150.75	150.77	153.50	152.28	156.13	155.23	156.21	159.20	158.11

Notes:

1. Source: Sarawak Climate Scenario Based on World Bank Climate Change Knowledge Portal (WBCCKP).

2. Data presented is Coupled Model Intercomparison Project 6 (CMIP6), derived from the Sixth phase of the CMIPs. The CMIPs form the data foundation of the IPCC Assessment Reports. CMIP6 supports the IPCC's Sixth Assessment Report.

Based on the climate scenario analysis, we set out the transitional physical risks and opportunities related to our assets and services across Generation, Transmission, Distribution and Retail in the short, medium and medium-to-long terms. The identified risks and opportunities are presented in the following table along with the impacts on our business strategy and financing planning.

Transition – Risks & Opportunities	
Timescale	Short to Medium Term (1 - 5 years)
Type of Risks	Transition Risks
Strategy Response	
RISKS & OPPORTUNITIES	**Corporate** • Enhancing carbon inventory (Scope 1, 2, 3)[1] for better access to relevant data in managing climate-related risks for effectively measuring and evaluating the climate-related risks • Quantifying the climate change impact risks • Enhancing carbon emissions reporting, structure and governance of climate-related risks and climate-related financial disclosure • Renewable energy incentives • Access to new financing platforms • Regulatory and policy frameworks to drive climate-related initiatives • Stringent legal/market requirements on climate change (cost of carbon) • Cost to transition to low carbon technology **Generation** Hydropower & Thermal Generation (Development & Operation) • Embedding climate change risks in hydropower development at design stage • Understanding and quantifying the risks of climate change • Clear & practical approach and planning towards mitigation of and adaptation to climate risks • Technology advancement – efficiency improvement **Other Renewable Energy Sources** • Integration of other renewable energy sources with hydropower generation • Aligning with global, national and state goals and targets in GHG emissions reduction **Transmission & Distribution** • Assessment of climate change risks in hydropower development at design stage • Climate change impacts on electricity infrastructure and delivery
IMPACTS ON BUSINESS STRATEGY AND FINANCIAL PLANNING	• Better assessment, reporting and governance of climate change risks • Detached from non-renewable generation sources • Integrated approach in improving the resilience of electricity assets and infrastructure to climate change risks (including upstream resources) • Holistic and consolidated approach to investment in energy efficiency improvement and adoption of low-carbon technology that is aligned with longer-term emissions reduction initiatives • Resilience of electricity delivery system via efficient, smart & flexible system infrastructure • Advancement in development of flexible system infrastructure as platform for integrating other new renewable energy capacity • Advocating best practices in managing climate risks - ahead of the regulatory frameworks • Meeting the growing expectations of stakeholders (e.g. shareholders, financial institutions, customers and general public)

Table 4: *Climate-Related Transition Risks & Opportunities and Impacts on Business Strategy and Financial Planning.*

Note:

[1] *Guided by Task Force on Climate-related Financial Disclosures (TCFD) and Science Based Targets initiative (SBTi) standards & requirements.*

102-15, 103-2, 103-3, 305-1, 305-2, 305-3

OUR RESPONSE TO CLIMATE CHANGE

Physical – Risks & Opportunities	
Timescale	Long Term (> 5 years)
Type of Risks	Physical Risks
Strategy Response	

RISKS & OPPORTUNITIES

Corporate
- Stringent legal/market requirements on climate change (cost of carbon)

Generation
- Extreme weather events impacting generation assets
- Extreme weather events impacting hydropower generation
- Rising sea levels impacting power assets and infrastructure
- Rising of mean temperatures impacting plant efficiency & reliability

Transmission & Distribution
- Extreme weather events impacting electricity delivery, system reliability and efficiency
- Rising mean temperatures impacting the power delivery efficiency

Customer Services
- Shift in consumer preferences

PLANNING & RESPONSE
- Improving the resilience of electricity assets, infrastructure and upstream resources
- Increasing the resilience of electricity delivery system to climate change
- Integrating other new renewable energy capacity
- Detailed climate modelling studies to assess vulnerability of specific resilience-improvement plans
- Enhancing demand side management to better understand changes in demand patterns
- Establishing a clear linkage between financial planning and carbon intensity
- Establishing solid governance of climate change issues
- Climate change as one of the core elements in corporate planning

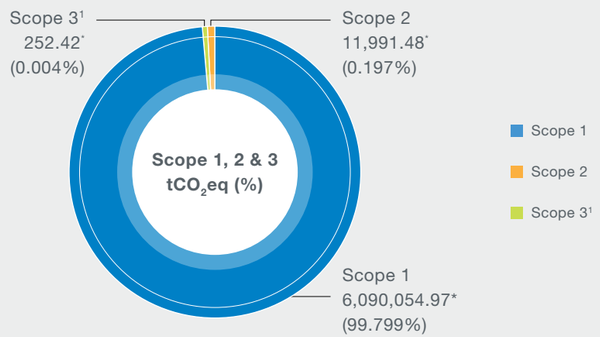
Table 5: Climate-Related Physical Risks & Opportunities and Strategic Response.

INDICATORS AND METRICS

Carbon Inventory

Sarawak Energy continues to strengthen its strategy against climate-related risks as adverse effects of climate change worsen and impact daily lives as well as business operations. Impacts of rising global temperatures could affect our power infrastructure, power generation and power delivery, in addition to financial growth.

We are committed to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and have progressively incorporated climate action into our decision-making process and business activities. We aim to develop full-fledged TCFD recommendations around the four thematic areas that represent the core elements of how Sarawak Energy operates:

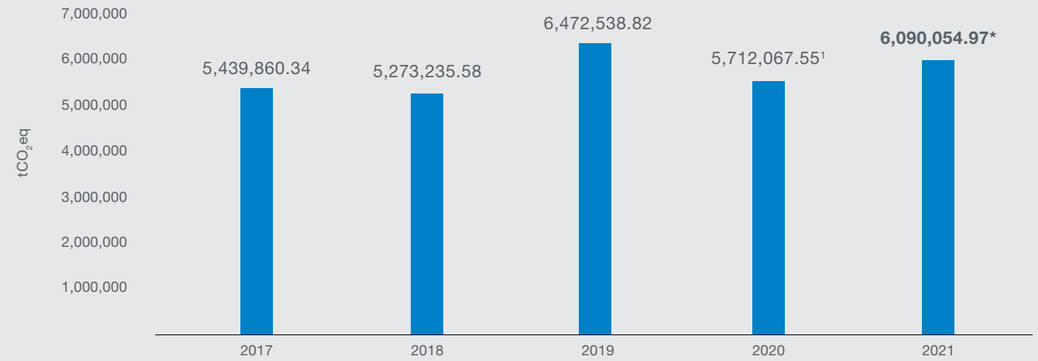


Notes:
1. Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.
[1] Scope 3 emissions – Business air travel is calculated using ICAO Carbon Emissions Calculator as on 15 March 2022.
** These Scope 1 (grid emissions – main northern and stand-alone), Scope 2 (buildings and offices) and Scope 3 (business air travel) data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

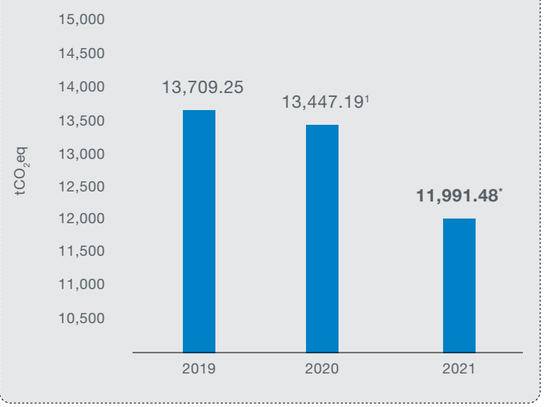
102-15, 103-2, 103-3, 305-1, 305-2, 305-3

OUR RESPONSE TO CLIMATE CHANGE

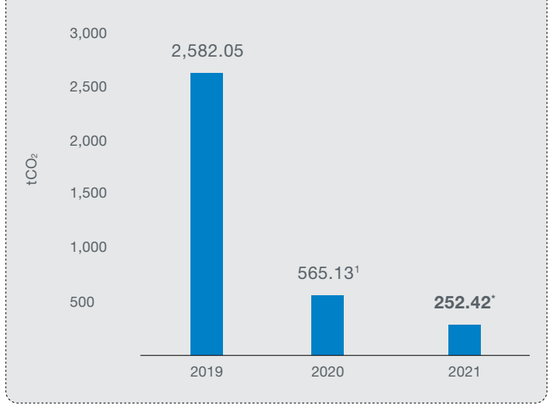
Scope 1 Emissions - Absolute Emissions



Scope 2 Emissions - Buildings and Offices



Scope 3 Emissions - Business Air Travel



Notes:
1. Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.
2. Scope 3 emissions – Business air travel is calculated using ICAO Carbon Emissions Calculator as on 15 March 2022.
3. Scope 2 and scope 3 emissions data monitoring started in 2019.
[1] These Scope 1 (grid emissions – main northern and stand-alone), Scope 2 (buildings and offices) and Scope 3 (business air travel) data have been assured by a third party for Sustainability Report 2020.
** These Scope 1 (grid emissions – main northern and stand-alone), Scope 2 (buildings and offices) and Scope 3 (business air travel) data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

102-15, 103-2, 103-3, 301-1, 303-3, 305-1, 305-2, 305-3, 306-1, 306-3

OUR RESPONSE TO CLIMATE CHANGE

Input

Fuel Consumption

Coal Consumption	Natural Gas Consumption	Diesel Consumption
2020: 2,684,065.69 Tonne[1]	2020: 33,066,287.95 MMBtu[1]	2020: 24,301,619.57 Litre[1]
2021: 2,940,286.82 Tonne*	**2021: 32,806,349.50 MMBtu***	**2021: 26,313,382.07 Litre***

Fuel Consumption Intensity

Coal Consumption Intensity	Natural Gas Consumption Intensity	Diesel Consumption Intensity	Total Fuel Consumption Intensity
2020: 1,531.23 MJ/MWh	2020: 1,228.44 MJ/MWh	2020: 82.23 MJ/MWh	2020: 2,841.90 MJ/MWh
2021: 1,566.85 MJ/MWh	**2021: 1,115.95 MJ/MWh**	**2021: 75.13 MJ/MWh**	**2021: 2,757.92 MJ/MWh**

Water Withdrawal Intensity by Source

Municipal Water Withdrawal Intensity	Sea Water or Other Natural Water Source Withdrawal Intensity
2020: 0.08 M³/MWh	2020: 23.87 M³/MWh
2021: 0.08 M³/MWh	**2021: 33.10 M³/MWh**

Water Regulated Intensity for Hydropower

Water Volume Regulated by Hydropower Plants for Electricity Generation

2020: 2,275.56 M³/MWh

2021: 2,274.27 M³/MWh

Scheduled Waste Generation

Type of Waste	Unit	2020	2021
Fly Ash	Tonne	78,183.21	**152,605.28**
Bottom Ash	Tonne	194,414.13	**243,874.85**
Others (Used Oil, Contaminated Items, E-Waste, Gas Condensate, Contaminated Soil and Chemicals)	Tonne	320.27	**652.97**
Total Scheduled Waste Generation	Tonne	272,917.61[1]	**397,133.10***

Output

Scope 1 Emissions

Main Grid	Northern Grid	Stand-alone Grid	Company-owned Vehicle	TOTAL
2020: 5,600,892.97 tCO_2eq[1]	2020: 97,829.99 tCO_2eq[1]	2020: 9,176.85 tCO_2eq[1]	2020: 4,167.74 tCO_2eq	2020: 5,712,067.55 tCO_2eq
2021: 5,976,874.06 tCO_2eq*	**2021: 100,595.84 tCO_2eq***	**2021: 8,818.18 tCO_2eq***	**2021: 3,766.89 tCO_2eq**	**2021: 6,090,054.97 tCO_2eq***

Scope 2 Emissions

Building Electricity Consumption (Offices & Substations)

2020: 13,447.19 tCO_2eq[1]

2021: 11,991.48 tCO_2eq*

Scope 3 Emissions

Business air travel

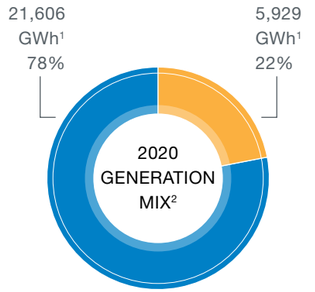
2020: 565.13 tCO_2[1]

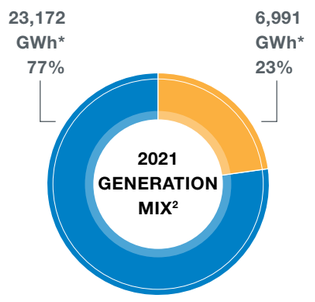
2021: 252.42 tCO_2*

Scope 1 and Scope 2 Emissions Intensity	Unit	2020	2021
Scope 1 Emissions Intensity (normalised by gross energy)	tCO_2eq/MWh	0.201	**0.196**
Scope 1 Emissions Intensity (normalised by net energy)	tCO_2eq/MWh	0.206	**0.201**
Scope 2 Emissions Intensity (normalised by gross energy)	tCO_2eq/MWh	0.000474	**0.000387**
Scope 2 Emissions Intensity (normalised by net energy)	tCO_2eq/MWh	0.000485	**0.000395**

Scheduled Waste Generation

Type of Waste	Unit	2020	2021
Fly Ash	Tonne/GWh	2.77	**5.20**
Bottom Ash	Tonne/GWh	6.90	**8.31**
Others (Used Oil, Contaminated Items, E-Waste, Gas Condensate, Contaminated Soil and Chemicals)	Tonne/GWh	0.01	**0.02**
Total Scheduled Waste Generation Intensity	Tonne/GWh	9.69[1]	**13.54***





Notes:

1. *Scope 3 emissions (business air travel) are calculated using ICAO Carbon Emissions Calculator as on 15 March 2022.*
2. *Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.*

[1] *These fuel consumption, volume of waste generated, scheduled waste generation intensity and net energy generated data have been assured by a third party for Sustainability Report 2020.*

[2] *Net energy generation.*

* *These fuel consumption, Scope 1 (grid emissions – main, northern and stand-alone), Scope 2 (buildings and offices), Scope 3 (business air travel), volume of waste generated, scheduled waste generation intensity and net energy generated data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

201-1

EMBRACING LOW CARBON ECONOMY

103-1, 103-2, 103-3, 201-1

EMBRACING LOW CARBON ECONOMY

View of Kuching City with Sarawak State Legislative Assembly Building.

Operating Expenses Ratio

34%

Renewable Energy Generated

23,172 GWh*

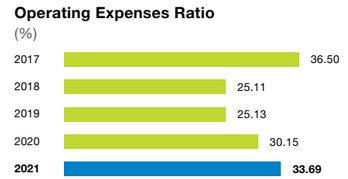
Economic Value Distributed

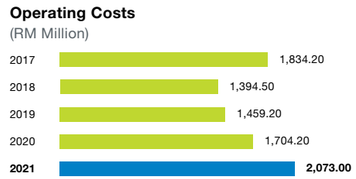
RM3,712 million

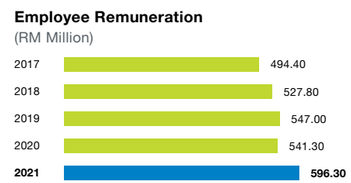
Note:

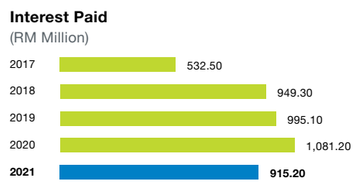
** This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

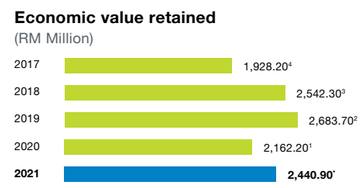
CREATING SUSTAINABLE VALUE FOR SARAWAK











Notes:
1. *This economic value retained data has been assured by a third party for Sustainability Report 2020.*
2. *This economic value retained data has been assured by a third party for Sustainability Report 2019.*
3. *This economic value retained data has been assured by a third party for Sustainability Report 2018.*
4. *This economic value retained data has been assured by a third party for Sustainability Report 2017.*
* *This economic value retained data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Sarawak Energy aims to contribute to a low carbon future for all in Sarawak and in the region by engaging in greener business activities and leveraging renewable sources to produce cleaner and reliable energy.

Sarawak Energy's ability to generate sustainable economic activities across its supply chain continues to create positive impacts that benefit the state of Sarawak and its people.

During the year, RM3.71 billion was distributed through operating costs, employee remuneration, interest paid and taxes. This resulted in RM2.44* billion in economic value retained compared to RM2.16[1] billion in 2020.

	2017	2018	2019	2020	2021
Economic Value Distributed (RM Million)					
Operating costs	1,834.20	1,394.50	1,459.20	1,704.20	**2,073.00**
Employee remuneration	494.40	527.80	547.00	541.30	**596.30**
Payment to capital providers					
Dividends paid	-	-	-	-	**-**
Interest paid	532.50	949.30	995.10	1,081.20	**915.20**
Payments to government					
Income taxes paid (net of refunds)	236.10	140.70	121.80	162.80	**127.20**
Economic value retained	1,928.20[4]	2,542.30[3]	2,683.70[2]	2,162.20[1]	**2,440.90***

Notes:
1. *This economic value retained data has been assured by a third party for Sustainability Report 2020.*
2. *This economic value retained data has been assured by a third party for Sustainability Report 2019.*
3. *This economic value retained data has been assured by a third party for Sustainability Report 2018.*
4. *This economic value retained data has been assured by a third party for Sustainability Report 2017.*
* *This economic value retained data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Electricity Sales (GWh)

▲ 9.08%
from 2020

Net Profit Margin Ratio

▲ 7.93%
from 2020

Operating Expenses Ratio (%)

▲ 11.74%
from 2020

Operating Costs (RM)

▲ 21.64%
from 2020

Electricity Sales (RM) Per Sarawak GDP

4%

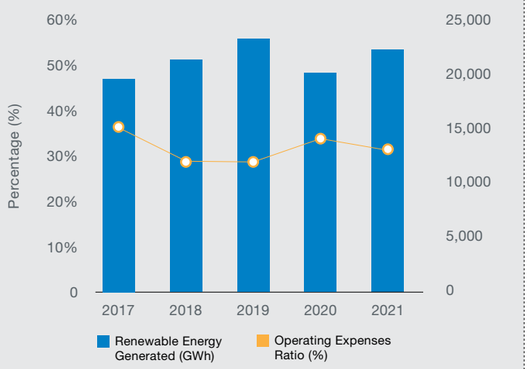
Electricity Consumption Per Capita

▲ 257.47%
from 2011

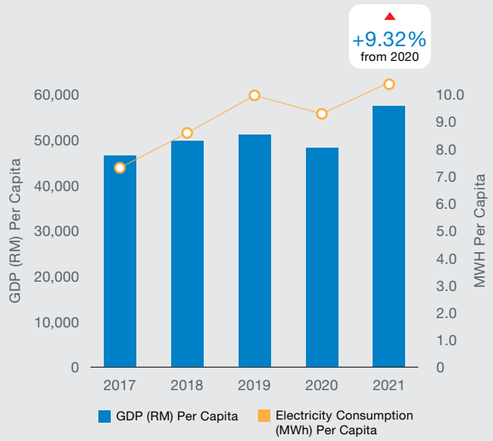
Total Electricity Sales

28,590 GWh

Renewable Energy Generated vs Operating Expenses Ratio 2017 - 2021



Electricity Intensity - Electricity Consumption Per Sarawak GDP 2017 - 2021



Sarawak's GDP grew by 18.84%[1] in 2021 compared to a 8.67% drop in 2020. This improvement is due to the government's move to transition the country to endemicity. The relaxing of COVID-19 countermeasures has led to a higher electricity consumption as businesses enter a recovery phase.

Renewable energy and hydropower continued to be the primary driver of Sarawak's economic growth and accounted for 76.82% of the power generated by the Company in 2021.

Note:

[1] Source: Department of Statistics Malaysia (DOSM).

SUPPORTING LOCAL BUSINESSES

As the primary energy provider in Sarawak, we are aware that we have a role in helping Sarawak achieve sustainable growth and boost local businesses. Supporting local suppliers and companies can potentially attract additional investment into the local economy and improve our relationship with the local communities.

In 2021, Sarawakian and Malaysian (non-Sarawakian) companies won the bulk of the Company's total projects, valued at RM1,818 million

Sarawakian firms garnered 59% of the projects, amounting to RM1,397.04 million*.

Our overall total value of projects appreciated in 2021 as we are looking to return to pre-COVID-19 profit levels and plan to expand and grow as the country transition to endemicity.

2020 vs 2021

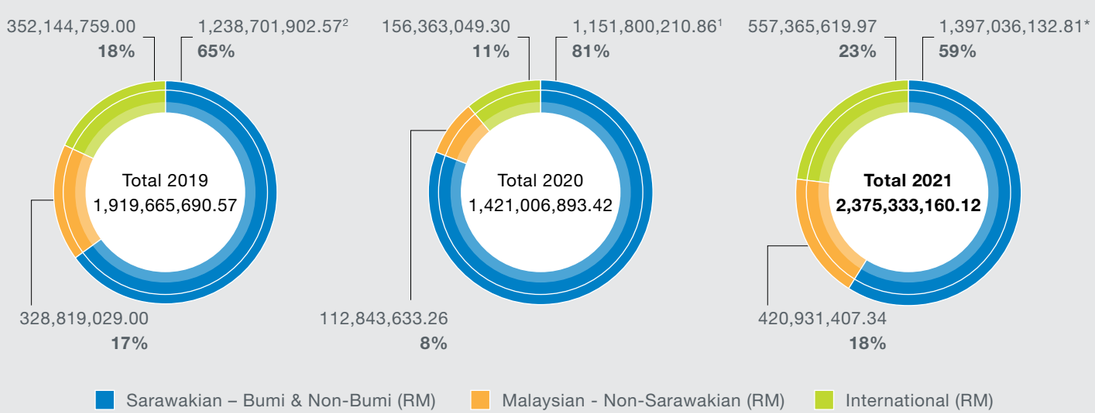
Status	2020	2021
Sarawakian	1,151,800,210.86[1]	**1,397,036,132.81***
Malaysian (Non-Sarawakian)	112,843,633.26	**420,931,407.34**
International	156,363,049.30	**557,365,619.97**
Overall Total	1,421,006,893.42	2,375,333,160.12

Notes:

[1] This total value of tenders awarded to local Sarawakian companies' data has been assured by a third party for Sustainability Report 2020.

** This total value of tenders awarded to local Sarawakian companies' data has been assured by a third party. Read the Independent Assurance Report 178-182.*

Total Tenders Awarded by Category



Notes:

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103-1

EMBRACING LOW CARBON ECONOMY

EMBRACING LOW CARBON ECONOMY

Ensuring access to affordable, reliable, sustainable and modern energy for all.

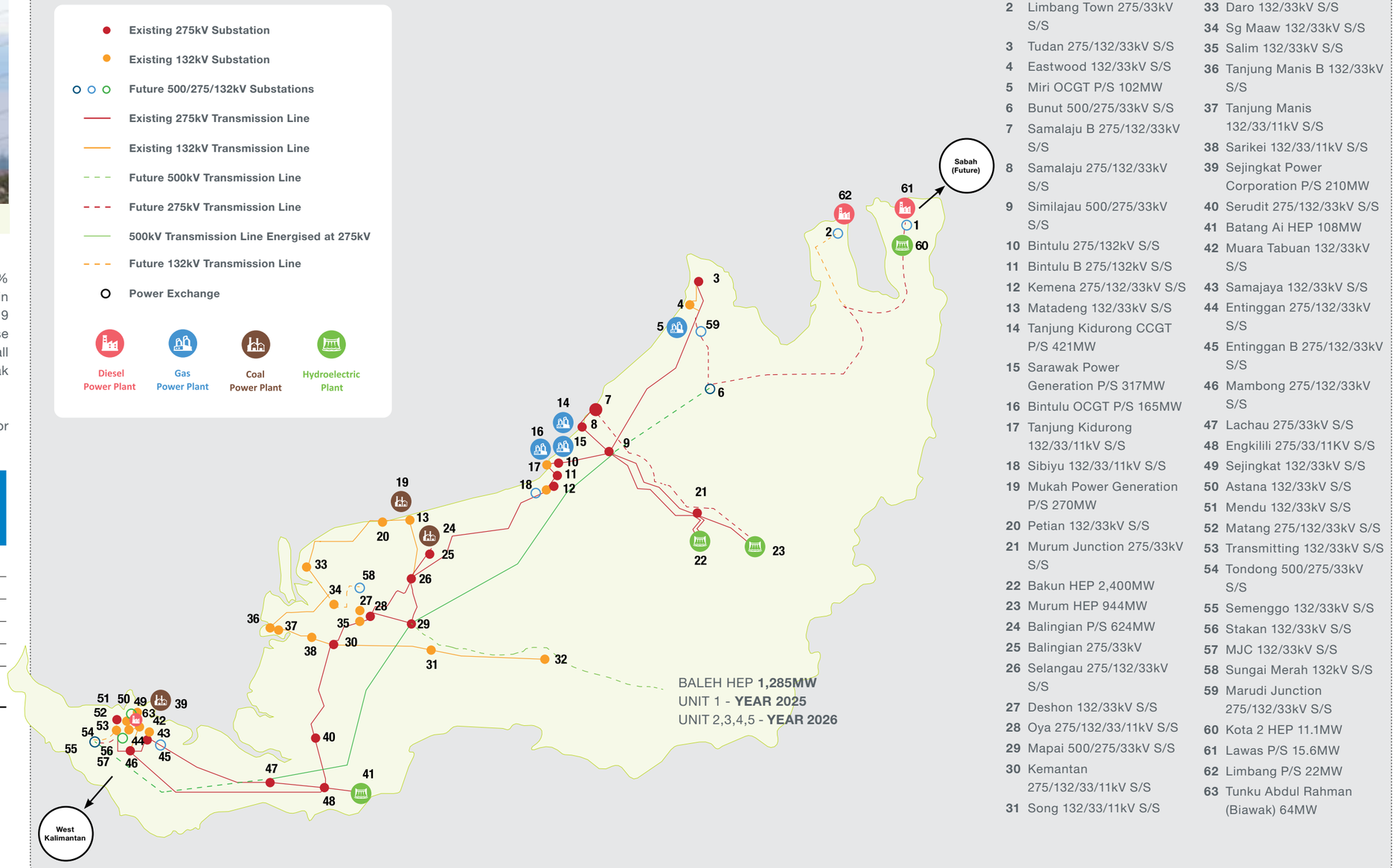
MEETING SARAWAK'S ENERGY NEEDS

In 2021, energy demand from Sarawak Energy increased by 9% in comparison to 2020. This was attributable to the increase in power off-take from industrial customers recovery post COVID-19 and additional bulk power requirements. In addition, the increase in organic growth also attributed to the higher demand overall demand in the year. Given the current economic climate, Sarawak Energy expects demand to increase to ~5,100 MW by 2025.

The Company's total electricity sales by customer category for 2021 is as follows:

Electricity Sales (GWh) - by customer type	2017	2018	2019	2020	2021
Domestic	2,149	2,368	2,401	2,620	2.867
Commercial	2,575	2,857	2,767	2,584	2,620
Industrial	2,027	2,367	2,297	2,329	2,298
Public Lighting	88	110	104	109	109
Bulk Customers	16,836	18,123	19,620	18,569	20,696
Total Electricity Sales	**23,675**	**25,825**	**27,189**	**26,211**	**28,590**

Transmission Network 2021



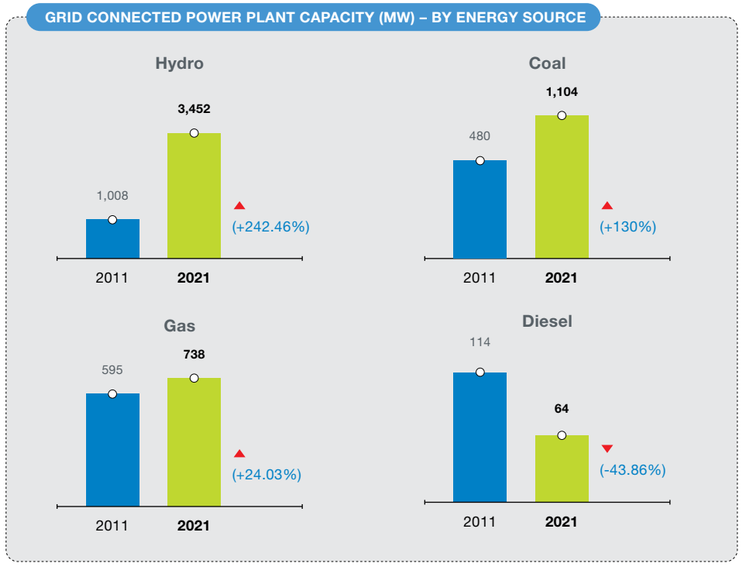
1 Lawas 275/33kV S/S
2 Limbang Town 275/33kV S/S
3 Tudan 275/132/33kV S/S
4 Eastwood 132/33kV S/S
5 Miri OCGT P/S 102MW
6 Bunut 500/275/33kV S/S
7 Samalaju B 275/132/33kV S/S
8 Samalaju 275/132/33kV S/S
9 Similajau 500/275/33kV S/S
10 Bintulu 275/132kV S/S
11 Bintulu B 275/132kV S/S
12 Kemena 275/132/33kV S/S
13 Matadeng 132/33kV S/S
14 Tanjung Kidurong CCGT P/S 421MW
15 Sarawak Power Generation P/S 317MW
16 Bintulu OCGT P/S 165MW
17 Tanjung Kidurong 132/33/11kV S/S
18 Sibiyu 132/33/11kV S/S
19 Mukah Power Generation P/S 270MW
20 Petian 132/33kV S/S
21 Murum Junction 275/33kV S/S
22 Bakun HEP 2,400MW
23 Murum HEP 944MW
24 Balingian P/S 624MW
25 Balingian 275/33kV
26 Selangau 275/132/33kV S/S
27 Deshon 132/33kV S/S
28 Oya 275/132/33/11kV S/S
29 Mapai 500/275/33kV S/S
30 Kemantan 275/132/33/11kV S/S
31 Song 132/33/11kV S/S
32 Kapit 132/33/11kV S/S
33 Daro 132/33kV S/S
34 Sg Maaw 132/33kV S/S
35 Salim 132/33kV S/S
36 Tanjung Manis B 132/33kV S/S
37 Tanjung Manis 132/33/11kV S/S
38 Sarikei 132/33/11kV S/S
39 Sejingkat Power Corporation P/S 210MW
40 Serudit 275/132/33kV S/S
41 Batang Ai HEP 108MW
42 Muara Tabuan 132/33kV S/S
43 Samajaya 132/33kV S/S
44 Entinggan 275/132/33kV S/S
45 Entinggan B 275/132/33kV S/S
46 Mambong 275/132/33kV S/S
47 Lachau 275/33kV S/S
48 Engkilili 275/33/11KV S/S
49 Sejingkat 132/33kV S/S
50 Astana 132/33kV S/S
51 Mendu 132/33kV S/S
52 Matang 275/132/33kV S/S
53 Transmitting 132/33kV S/S
54 Tondong 500/275/33kV S/S
55 Semenggo 132/33kV S/S
56 Stakan 132/33kV S/S
57 MJC 132/33kV S/S
58 Sungai Merah 132kV S/S
59 Marudi Junction 275/132/33kV S/S
60 Kota 2 HEP 11.1MW
61 Lawas P/S 15.6MW
62 Limbang P/S 22MW
63 Tunku Abdul Rahman (Biawak) 64MW

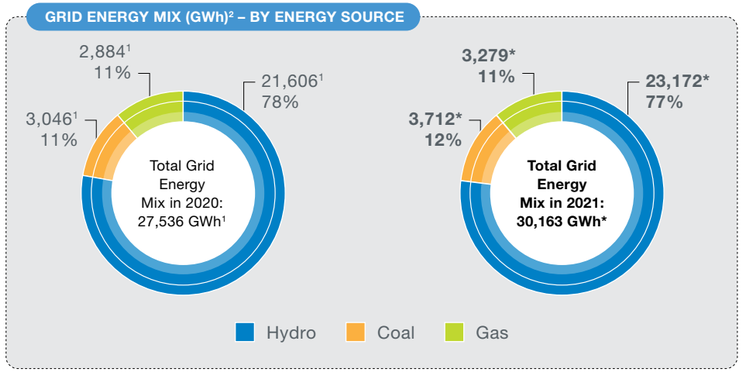
103-3, EU1, EU2, EU10, EU30

EMBRACING LOW CARBON ECONOMY

GRID CONNECTED POWER PLANT CAPACITY (MW) – BY ENERGY SOURCE

The Company's grid connected power plant capacity increased with total installed capacity at 5,358 MW in 2021. Firm capacity saw an increase to 4,300 MW compared to 4,227 MW in 2020.





Notes:

¹ This net energy generated data has been assured by a third party for Sustainability Report 2020.

² Net energy generation.

** This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

IMPROVING RELIABILITY AND RESILIENCE

Sarawak Energy prides itself on being a dependable supplier of energy, and has a proven record of steady, uninterrupted and strong power supply at the plant, transmission and distribution stages.

We continue to provide excellent service to our customers and have seen reliably improving metrics that have validated the efficacy of our initiatives over the past few years.

Hydropower Plant Average Availability Factor
95.09%

Coal-fired Power Plant Equivalent Availability Factor
84.61%

Gas-fired Power Plant Equivalent Availability Factor
81.59%

Diesel-fired Power Plant Equivalent Availability Factor¹
86.08%

Notes:

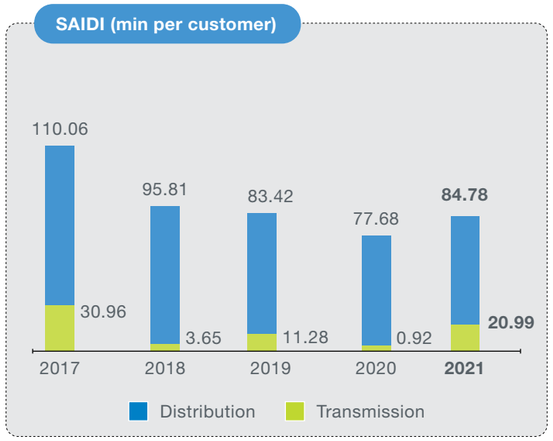
1. Equivalent Availability Factor (EAF) and Availability Factor (AF) using simple average.

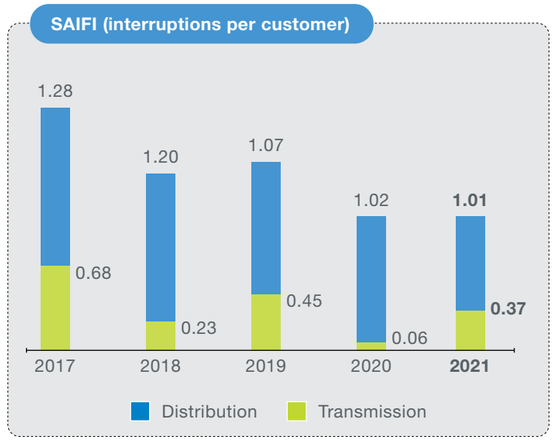
¹ Consists of Sg. Biawak, Limbang & Lawas Diesel-Fired Power Plants.

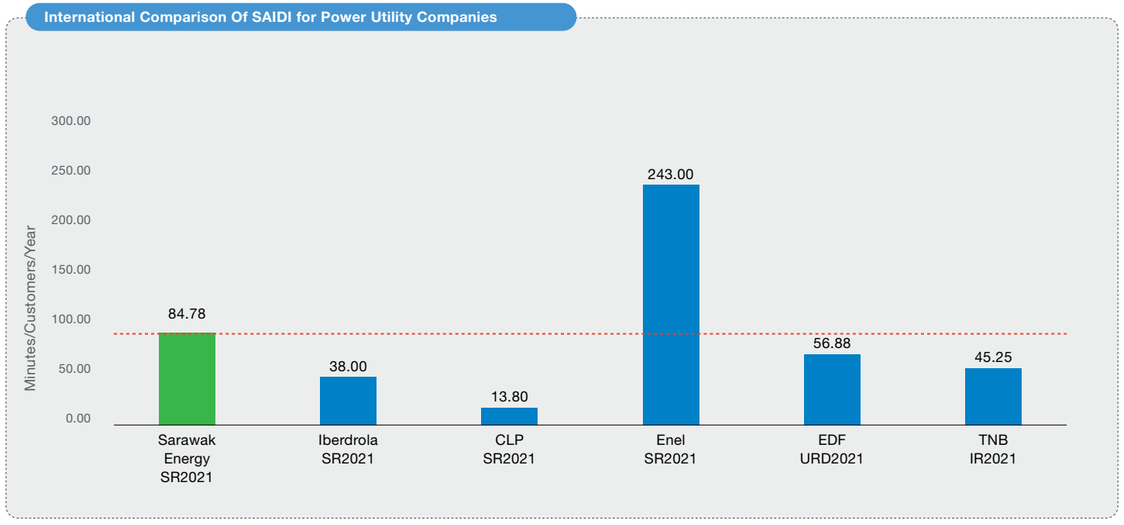
103-3, EU28, EU29

EMBRACING LOW CARBON ECONOMY

In December 2021, we commissioned 40 motorised Ring Main Units (RMU) to automate our distribution equipment during power outage. We identified 21 critical feeders for the motorised RMU project in Kuching.



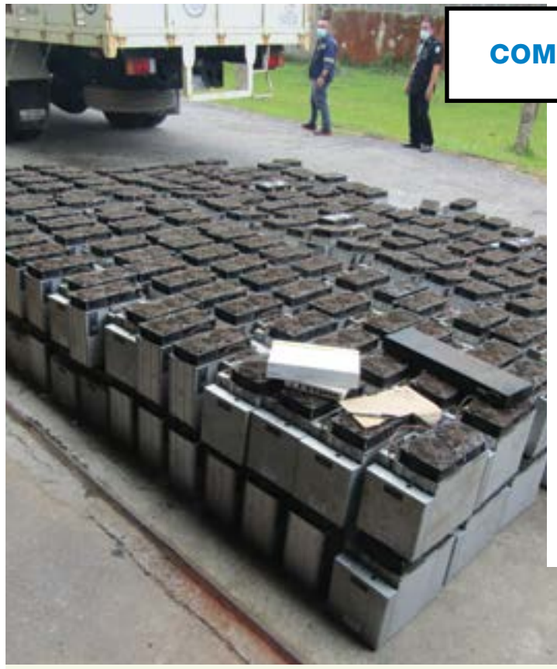




TRANSMISSION AND DISTRIBUTION LOSSES

Transmission and Distribution losses continued to be generally stable in the year under review due to our system efficiency improvement initiatives and enforcement activities to deter power theft. Our initiatives included upgrading and replacing transmission lines and transformers, introducing new injection points, installing energy-efficient amorphous transformers and reinstating capacitor banks.

Electricity theft related to cryptocurrency mining operation had mushroomed, mainly due to the increase in the value of cryptocurrency and the reduction in meter inspections following the MCO. This led to an increase in power theft, whereby non-technical losses rose to 4.14% in 2021 from 4.05% in 2020. Estimated monthly losses due to electricity theft amounted to RM1.1 million in 2021.



Cryptocurrency mining machine seized.

COMBATTING POWER THEFT IN 2021

31 enforcement operations were conducted

54 cryptocurrency mining operations were found to have tampered with the meter and wirings, or directly connected to the service line without meters

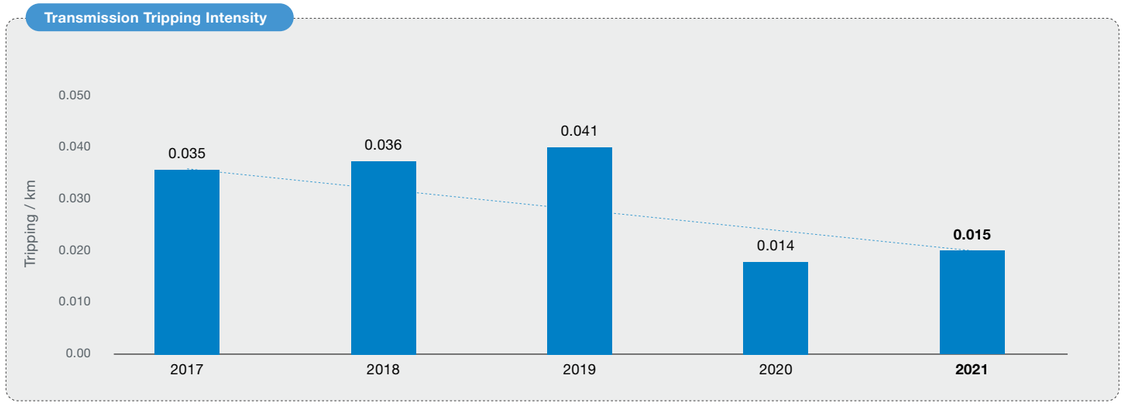
2,760 cryptocurrency mining rigs were seized by police in 39 raids

5 offenders were prosecuted in Miri and 1 in Kuching

1,404 mining rigs were seized in 15 raids

We will continue to work closely with the local enforcement agencies, increase the knowledge of meter inspection teams across the region and collaborate with China Light Power (Hong Kong) on the research and development of a fraud analytics model to better identify and detect potential power theft.

	Year	2017	2018	2019	2020	2021
Number of Transmission Tripping	Substation	21	22	29	15	**12**
	Txm	56	58	69	53	**64**
	Total	77	80	98	68	**76**
Transmission Tripping Intensity (Tripping/km)		0.035	0.036	0.041	0.014	**0.015**



Transmission & Distribution Losses

Description	2017	2018	2019	2020	2021
Transmission Losses (%)	1.99	1.99	2.17	2.32	**2.51**
Distribution Losses (Technical) (%)	6.33	6.33	6.43	6.59	**6.47**
Distribution Losses (Non-Technical) (%)	3.80	4.47	4.41	4.05	**4.12**

The number of accounts disconnected in Kuching, Sibu, Sarikei, Bintulu, Miri, Limbang and Lawas continued to decline from 11,312 in 2020 to 8,808 in 2021. Following the receipt of RM12.68 million, a total of 7,267 accounts were reconnected and 8,695 accounts' electricity were restored within 24 hours after payments were made.

Year	< 24 Hours	24 Hours – 1 Week	> 1 Week
2017	15,721	2,679	1,170
2018	19,304	348	32
2019	14,841	397	24
2020	9,047	891	89
2021	**8,695**	**326**	**90**

Year	Total Account Disconnected	Total Amount Disconnected (RM)	Total Account Reconnected	Total Amount Reconnected (RM)
2017	28,586	75,414,881.61	19,576	60,091,606.54
2018	24,014	87,270,165.20	19,875	93,989,694.04
2019	19,253	90,094,268.16	15,309	55,427,122.74
2020	11,312	35,567,618.04	9,135	18,939,263.65
2021	**8,808**	**19,341,684.07**	**7,267**	**12,675,900.54**

103-2

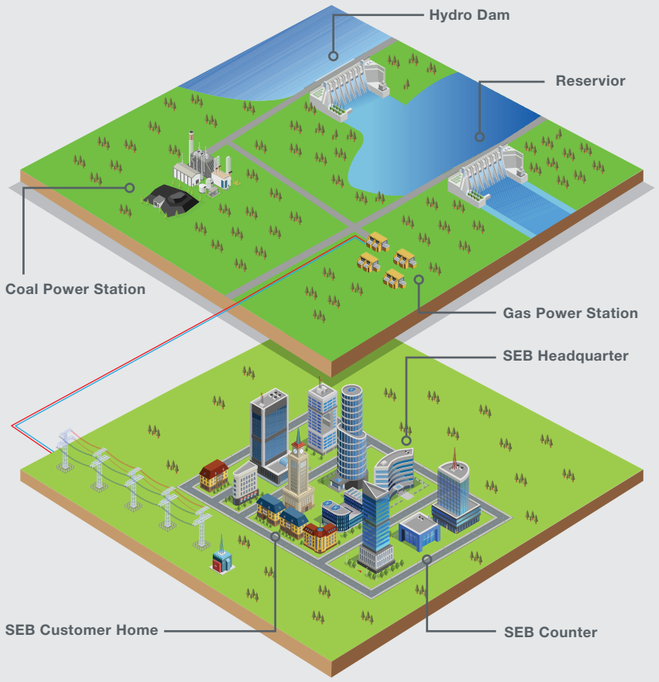
EMBRACING LOW CARBON ECONOMY

BUSINESS CONTINUITY MANAGEMENT

Sarawak Energy is guided by a Business Continuity Management (BCM) Framework, in line with local and international BCM standards. Developed in 2016, the framework will shore up our organisational agility by seeking effective solutions to safeguard stakeholder interest, the Company's reputation and value creation activities, apart from working closely with the authorities during crises or disasters. The framework is aligned with ISO 22301:2012, ISO22313:2012 and relevant Malaysian and international BCM standards and guidelines.

Sarawak Energy's BCM Policy Statement

Through our BCM Programme, Sarawak Energy is committed to maintaining and ensuring the continuity of our services in order to minimise the impact to its stakeholders in the event of any service disruptions



WHY BCM?

Customer and Stakeholders

- Readiness to respond in a timely manner to major emergencies and crises
- Safeguard the interest of key stakeholders
- Increase customers and stakeholders' confidence and trust
- Minimise threats to life, health & safety

Environment

- Reduce potential impact of environment risks
- Achieve sustainable development
- Safe working environment

Company's Reputation and Brand

- Safeguard Company's reputation and brand
- Manage and mitigate critical operation risks
- Improve business continuity and resiliency
- Aligned with international BCM standards and best practices

Financial

- Prevent losses to Company (revenue and asset)
- Reduce insurance premium and duration of any disruption
- Comply with legal requirements and statutory obligations

OUR MILESTONES IN 2021

We continued to remain vigilant and ensure smooth business operations amid various disruptions by the pandemic. Each business function's BCM documents were reviewed and customised to navigate challenges from the pandemic. We continued to comply with COVID-19 Standard Operating Procedures and hold virtual sessions for all activities including Crisis Simulation Exercises, documentation review workshops and awareness and refresher training programmes.

BCM activities in 2021

- 29 April — Virtual Crisis Simulation Exercise for Sejingkat Power Corp
- 7 July — Virtual Crisis Simulation Exercise for Bakun HEP
- 28 October — Virtual Crisis Simulation Exercise for Balingian Power Generation
- 4 & 23 February — BCM Awareness Training for Human Resource Department
- 29 July — Virtual Dam Safety Evacuation Plan (DSEP) Exercise Murum Bakun Hydro Cascade
- 18 & 19 November — Batang Ai HEP Dam Safety Emergency Plan Workshop/Drill Exercise & BCM Virtual Desktop Walkthrough Exercise

DAM SAFETY AND EMERGENCY DRILLS

In 2021 Sarawak Energy hosted its usual Dam Safety Emergency drills to ensure that all of its personnel are up-to-date and well versed in all aspects of the safety drill and follow the proper protocols to avoid incidents and LTIs. The drills included safety and emergency exercises and stakeholder engagement sessions as below:

- Physical in-person training and Dam Safety Emergency Drill Exercises at the Batang Ai facility in November 2021
- A Virtual Dam Safety Emergency Drill Exercises at the Murum-Bakun facility in July 2021
- Stakeholder engagement sessions with the Kapit and Belaga Disaster Management Committees in September and October 2021
- Meetings with the Sarawak Utilities Ministry in December 2021

103-1, 103-2, 103-3

EMBRACING LOW CARBON ECONOMY

CUSTOMER SERVICE EXCELLENCE

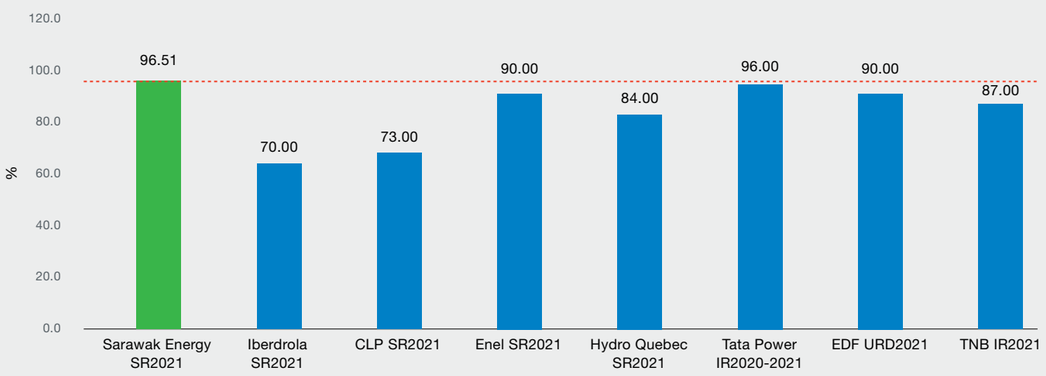
The COVID-19 pandemic and the country's current transition to the endemic phase created an opportunity for our customer service teams to find innovative solutions to provide better customer experience. We continued to encourage customers to use the Sarawak Energy Cares web and mobile platforms for billing and meter reading, payments, enquiries and reporting of technical issues. The advantage of the online systems is that it supports the states digital transformation initiatives and has improved sustainability features by reducing paper submissions.

In 2021, we took the opportunity to pivot to online systems and boost our efforts to improve our Customer Satisfaction Index (CSI) rating in 2021. We continued to leverage digital platforms to enhance customer experience apart from reaching out to our customers via social and mass media advertisements to raise awareness about our mobile app and online facilities.

Our Customer Care Centre (CCC), which serves as our frontline, remained open throughout the pandemic and will continue to serve our customers today. As a result, our Customer Satisfaction Index increased from 95.20% in 2020 to 96.51% in 2021.

Year	2017	2018	2019	2020	2021
Customer Satisfaction Index	80.57%	94.72%	95.08%	95.20%	**96.51%**

International Comparison of Customer Satisfaction Index for Power Utility Companies



103-1, 103-2

EMBRACING LOW CARBON ECONOMY

Striving for customer service excellence.

E-CUSTOMER EXPERIENCE (E-CX)

Our e-Customer Experience (e-CX) system for online submission of power supply applications provides seamless user experience and supports digital transformation in Sarawak by reducing paper submission. The system improves contactless experience and assists customers via its chatbot, Carina, on Sarawak Energy's corporate website and SEB Cares platform.

The e-CX, which was launched in 2020, aims to help jumpstart online applications for electricity supply. The e-CX targets to provide an online venue for more counter services such as Change of Name, Supply Upgrading/Downgrading and Requests for Meter Testing.

The eCX currently serves electrical consultants and internal wiring contractors, who submit bulk electricity supply applications. While customers are still adapting to the e-CX system, we have been monitoring users' feedback closely to improve and enhance the eCX system. We target for the full system, which will also benefit retail customers, to completed by the end of 2022. Moving forward, eCX will become an avenue for more counter services.

Benefits of e-CX

- Registration of consultants and contractors no longer require hardcopies of documents during profile registration and yearly renewal. The improved paperless system allows for faster reviews and approvals
- The submission of bulk applications as all parties are able to track the application progress, which has been largely automated and hassle-free

103-2, 103-3

EMBRACING LOW CARBON ECONOMY

PAYMENT KIOSKS

As part of our ongoing digitisation process, we have purchased 12 additional payment kiosks for rural stations in Bau, Lundu, Dalat and Kanowit, which will be installed and fully operational in 2022.

By the end of 2022, we will have 27 payment kiosks in various locations across the region. These kiosks are expected to:

- Reduce queueing times, improve service time at counters. There will be no need to queue to pay bills at the counter
- Make it easy for customers to make payments at any time even after office hours since the kiosks are accessible until 11pm every day
- Allow customers in rural areas to pay bills easily, they don't have to travel into town or have Internet access

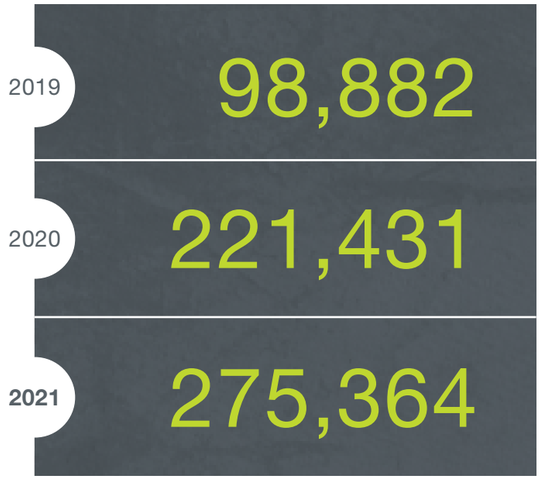
In addition, we rolled out the Sarawak Energy Appointment System rolled out in Kuching in Oct 2021 to allow customers to book an appointment online prior to visiting our branches. This cuts down on walk-ins and helps us comply with all COVID-19 countermeasures.

SARAWAK ENERGY MOBILE APP 'SEB CARES'

The SEB Cares mobile app has helped us to improve customers' payment performance and enhance user experience. We have also used the app to provide updates, notification of events and organise programmes. In 2021, the SEB Cares app was enhanced with features including:

- Express Payments which allow payments from the app for any contract account number, without the need to register the account under the user's profile and subscribe to e-Billing services.
- Payments made via SEB cares will be updated immediately into our SAP Billing system, immediately in real-time.

As a result of the pandemic, innovative updates have enhanced customer experience, allowing a surge of SEB Cares user registration in 2020 and 2021.



The app and online services have allowed Sarawak Energy to introduce a "Go Paperless Campaign in 2021", where customers who subscribe to the e-Bill service received a monthly rebate of RM2 for 12 months.

Part 10 SUSTAINABILITY PERFORMANCE

103-2

EMBRACING LOW CARBON ECONOMY

Mobile Field Force Automation (MFFA)

The MFFA tracks and monitors the response time of technical field crews and covers our operational teams in Kuching, Sibu, Bintulu and Miri. Implemented in 2016, the MFFA now includes auditing and performance monitoring and improvement.

The Company's plan for the system in 2022 includes:

- Introducing an offline mode to enable users to use the system in locations without internet connectivity
- Adding an electronic Permit to Work (PTW) system that controls hazardous work associated with high-risk activities, which allows users to issue and receive PTW electronically

Geographical Information System (GIS)

In 2021, we leveraged new internet-based digital tools to develop a GIS that helps us with mapping activities and network management.

- An Enterprise GIS was successfully deployed in November 2021 to host geospatial data from various departments across the organisation. To optimise the cost of implementation, we adopted a hybrid approach by consolidating commercial software and open-source software
- We have progressively moved from customer tracing to asset and feeder tracing in site data collection to navigate disruptions from the pandemic and keep our workers safe. With the deployment of the enterprise, regional GIS users are now connected to the centralised spatial data repository to ensure the upkeep of distribution network dataset, enabling our headquarters to receive the updated dataset near real time

Enterprise Management System

In 2021, we continued to enhance the Enterprise Asset Management (EAM) work order management and mobility system for end users. The EAM, which was fully extended to Rural Operations by December 2021, was improved in terms of:

- improving pole top inspection reports
- enabling a trigger function that acts as a notification when there is a significant increase in loads at the substation between reads, allowing us to detect illegal bitcoin mining operations and other instances of power theft
- dealing with the creation of Purchase Order once contract utilisation exceeds 80%
- allowing users to narrow down email recipients by station via EAM notification
- fixing the workflow bug to allow non-planners to approve work orders

Going forward, we will automate the computation of the Distribution System Reliability Indices to replace the current manual computation which is prone to human error.

SUSTAINABILITY PERFORMANCE

301-1, 303-2, 303-3, 305-7

PRESERVING THE ENVIRONMENT

WATER MANAGEMENT

As a power producer, water plays an integral role to all our operations. Water is used both as a source of power for our hydroelectric plants and a key component for cooling our thermal power plants. We are committed to the sustainable use of water and invest in new technology to minimise our impact on natural water resources.

Hydropower

Water for Power Generation
53,075.13 million m^3*

Total Annual Water Volume Intensity for Energy Generation
2,274.27 m^3/MWh

Thermal

Water withdrawn (Cooling process)
1,021 million m^3*

Seawater or Other Natural Water Source Withdrawal Intensity
33.10 m^3/MWh

SO_x and NO_x Emissions Intensity (Main Grid)
SO_x : 2.85×10^{-5}
NO_x : 7.47×10^{-5}

Note:
* *These total water withdrawn by source and annual water volume for electricity generation data have been assured by a third party. Read the Independent Assurance Report on 178-182.*

Enseluai Waterfall at Ulu Ai, Batang Ai.

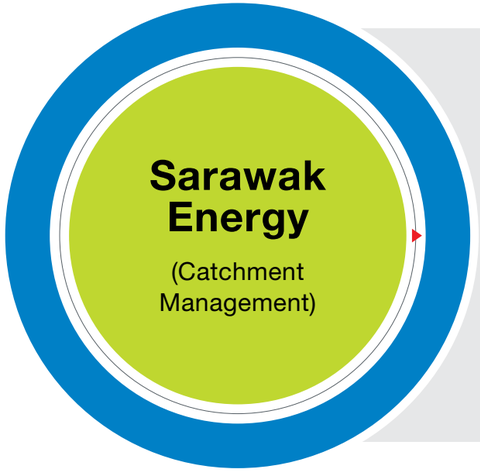
sarawak energy

103-1, 103-2, 303-1, 304-1, 304-2

PRESERVING THE ENVIRONMENT

SARAWAK ENERGY INTEGRATED CATCHMENT MANAGEMENT STRATEGY – SAFEGUARD UPSTREAM WATER RESOURCE

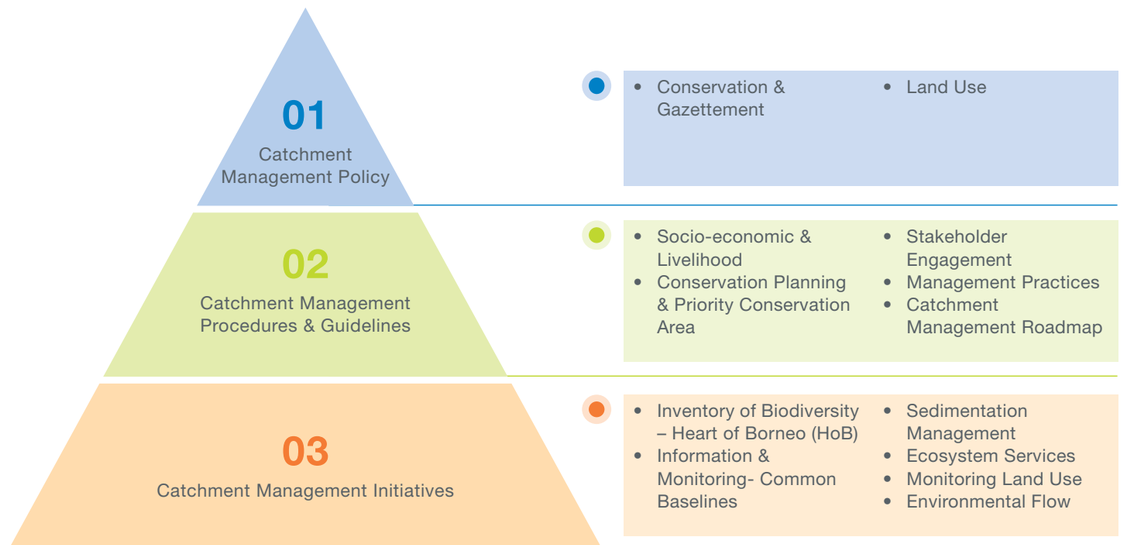
CATCHMENT MANAGEMENT POLICY, PROCEDURES AND GUIDELINES FOR HYDROPOWER



Management	Technical
Good Practices in Catchment Management	Water Resource, Hydrology & Sedimentation
Hydropower Sustainability Assessment Protocol (HSAP)	Reservoir Storage & Lifespan
Addressing Sustainability Issues – Long-Term Risks	Maintenance
Realignment – International, National & State Levels	Biodiversity
Advocating and Communicating Good Catchment Management Practices	Social & Environment

The scope of work for the Catchment Management Study consists of three main components:

OVERVIEW OF THE OVERALL CATCHMENT MANAGEMENT STUDY



ANNUAL WATER VOLUME INTENSITY FOR ENERGY GENERATION

Hydro Plant	Data	Unit	2017	2018	2019	2020	2021
Batang Ai	Annual Inflow	million m^3	3,658.00	3,576.00	2,852.00	4,255.00	**3,651.00**
	Annual Water Volume for Energy Generation	million m^3	3,396.73[4]	3,646.50[3]	2,844.00[2]	3,974.38[1]	**3,617.61***
	Annual Energy Generated	GWh	442.32	481.00	391.00	518.00	**476.00**
Murum	Annual Inflow	million m^3	10,933.00	7,737.00	8,183.00	9,993.00	**9,660.00**
	Annual Water Volume for Energy Generation	million m^3	7,503.32	7,932.00	7,482.00	8,321.00	**8,321.00**
		million m^3 (including EPS)	7,567.19[4]	8,022.00[3]	7,532.00[2]	8,548.94[1]	**8,583.01***
	Annual Energy Generated	GWh	5,717.39	6,094.00	5,714.00	6,415.00	**6,484.00**
Bakun	Annual Inflow	million m^3	49,794.00	40,481.00	40,373.00	55,730.00	**49,894.00**
	Annual Water Volume for Energy Generation	million m^3	32,961.65[4]	36,148.11[3]	38,827.00[2]	36,965.72[1]	**40,874.51***
	Annual Energy Generated	GWh	13,078.27	14,482.00	15,544.00	14,803.00	**16,376.00**
Total Annual Water Volume for Energy Generation		million m^3	43,925.57[4]	47,816.61[3]	49,203.00[2]	49,489.05[1]	**53,075.13***
Total Annual Water Volume Intensity for Energy Generation (Hydro Main Grid Gross Energy)		m^3/MWh	2,266.64	2,273.42	2,271.48	2,275.56	**2,274.27**

Notes:

1 *This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2020.*
2 *This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2019.*
3 *This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2018.*
4 *This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2017.*
* *This annual water volume for electricity generation data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

In 2021, we established the following stations to improve our water management at Bakun HEP:

Installation of Bakun **Water Level Station** at Bakun Intake

The establishment of this new water level station enables us to collect more data within the basin and to make inflow forecasts and the simulation model for water level forecasting more reliable and accurate.

Installation of Bakun **Weather Station** at Bakun Intake

The weather station provides real-time data for monitoring purposes. Data measured includes atmospheric pressure, humidity, wind speed, wind direction and precipitation.

Bakun HEP.

103-2, 103-3, 303-1, 303-3

PRESERVING THE ENVIRONMENT

WATER WITHDRAWAL

In 2021, water withdrawal increased due to two power plants coming into full operation – the Balingian Coal Power Plant and the Tanjung Kidurong Combined Cycle Power Plant. The majority of water withdrawn continues to be from the sea and rivers as it is used for the cooling processes in our thermal power plants.

Plant Type	Source	Unit	2017	2018	2019	2020	2021
Coal	Municipal	m^3	2,457,930.00[4]	2,186,120.00[3]	2,204,029.00[2]	2,007,712.00[1]	**1,965,834.00***
	Seawater or other natural water sources	m^3	820,813,896.00[4]	739,325,453.18[3]	724,178,991.74[2]	569,688,758.40[1]	**528,585,158.70***
Combined & Open Cycle - Natural Gas	Municipal	m^3	157,777.00[4]	229,836.00[3]	353,319.00[2]	279,765.00[1]	**435,583.00***
	Seawater or other natural water sources	m^3	212,876,380.80[4]	227,489,565.60[3]	241,935,030.72[2]	104,047,121.52[1]	**491,928,176.88***
Diesel	Municipal	m^3	21,192.00[4]	13,952.50[3]	6,896.13[2]	1,731.51[1]	**4,417.00***
	Seawater or other natural water sources	m^3	1,171,360.00[4]	69,650.00[3]	-	-	**-**

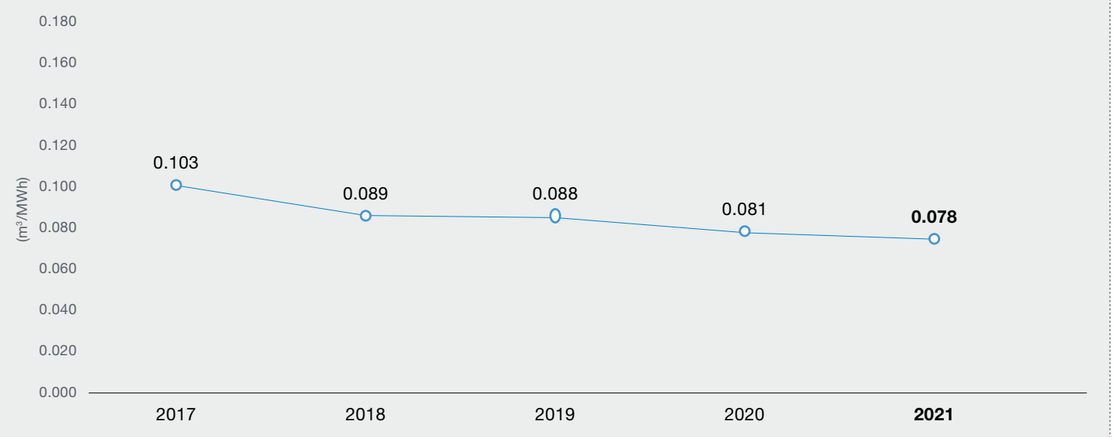
Notes:

1 *This total water withdrawn by source data has been assured by a third party for Sustainability Report 2020.*
2 *This total water withdrawn by source data has been assured by a third party for Sustainability Report 2019.*
3 *This total water withdrawn by source data has been assured by a third party for Sustainability Report 2018.*
4 *This total water withdrawn by source data has been assured by a third party for Sustainability Report 2017.*
* *This total water withdrawn by source data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

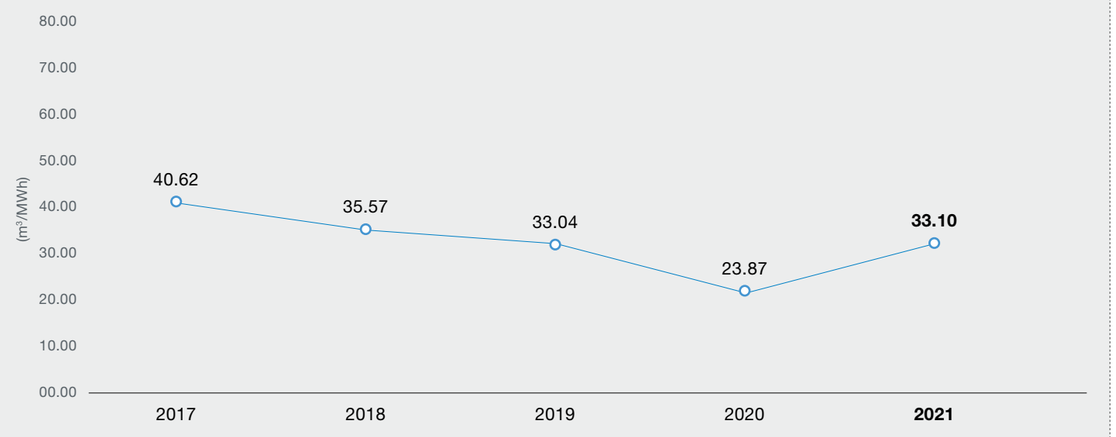
WATER WITHDRAWAL INTENSITY BY SOURCE (THERMAL PLANTS)

Water Withdrawal Intensity by Source	Unit	2017	2018	2019	2020	2021
Municipal Water Withdrawal Intensity	m^3/MWh	0.103	0.089	0.088	0.081	**0.078**
Sea Water or Other Natural Water Source Withdrawal Intensity	m^3/MWh	40.62	35.57	33.04	23.87	**33.10**

Municipal Water Withdrawal Intensity (m^3/MWh)



Seawater/Natural Water Source Withdrawal Intensity (m^3/MWh)



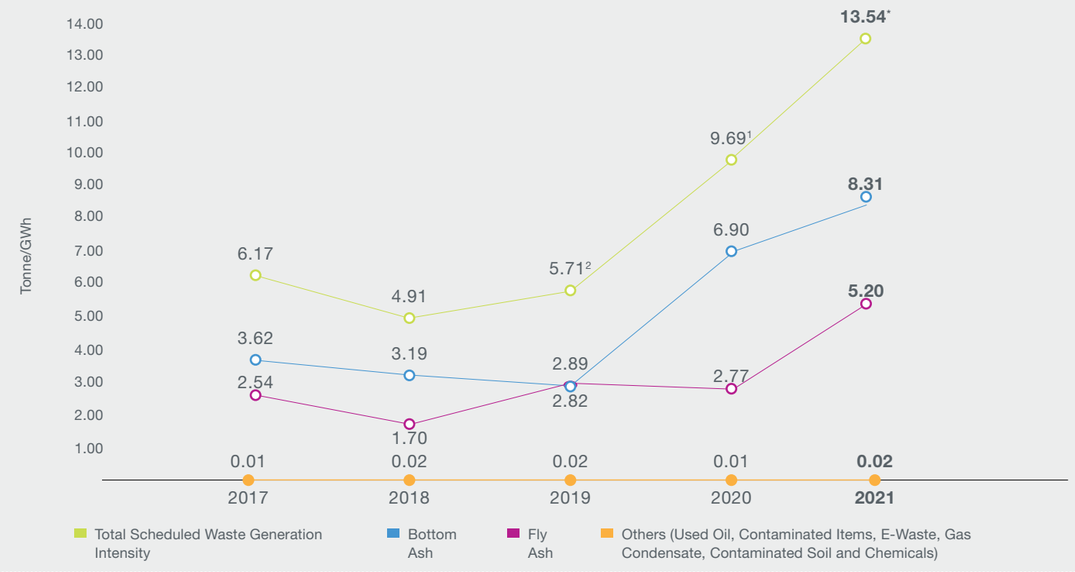
103-1, 103-2, 103-3, 305-7, 306-1, 306-2, 306-3, 307-1

PRESERVING THE ENVIRONMENT

SCHEDULED WASTE MANAGEMENT

We comply with the Environmental Quality (Scheduled Wastes) Regulation 2005 and ensure that our scheduled waste is responsibly disposed of. Monthly inventory reporting is implemented across our operations, and we have engaged external contractors to collect and responsibly dispose of our scheduled waste. Unfortunately, despite our best efforts, the Company was fined RM 2,000 in Long Lama Power Station and RM 4,000 in the Central Region Office for violating the Environmental Quality (Scheduled Wastes) Regulation 2005. Among the incidents were due to used battery stored exceedingly more than 180 days, no dedicated waste storage in place, exceeding the permitted storage limit, as well as absent of proper labelling. We have conducted the assessment, and all have been rectified accordingly.

Scheduled Waste Generation Intensity



Notes:

1 *This scheduled waste generation intensity data has been assured by a third party for Sustainability Report 2020.*

2 *This scheduled waste generation intensity data has been assured by a third party for Sustainability Report 2019.*

* *This scheduled waste generation intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Parameter / Year	Unit	2017	2018	2019	2020	2021
Total SO_X and NO_X Emissions						
SO_X	Tonne	3,720.17	1,656.62	454.33	3.589.52	**858.73**
NO_X	Tonne	1,893.59	1,046.51	2,307.27	5,433.16	**2,251.75**
SO_X and NO_X Emissions Intensity						
SO_X	kg/kWh	0.00014894	0.00006212	0.00001673	0.00013139	**0.00002848**
NO_X	kg/kWh	0.00007581	0.00003924	0.00008504	0.00019884	**0.00007466**

103-2, 103-3, 307-1

PRESERVING THE ENVIRONMENT

ENVIRONMENTAL COMPLIANCE

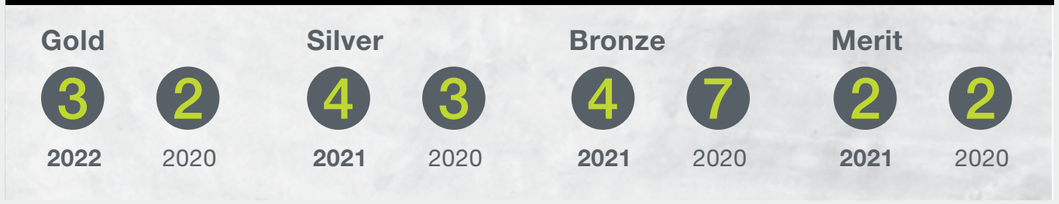
Sarawak Energy is committed to ensuring full compliance with all laws and regulations. Our Internal Environmental Compliance Audit (IECA) is a core part of our commitment to ensuring that we are operating in compliance with EIA conditions and other environmental regulations. It is a self-regulatory process undertaken internally to detect incidences of non-compliance and ensure corrective action and/or preventive measures are put in place prior to any inspections by a third-party of regulatory authority. The IECA is applied to all our 11 major projects that require EIA/EMP approval and is conducted quarterly for the substation, transmission line, coal mining, Balingian operator village and Tanjung Kidurong Combined Cycle Power Plant projects and yearly for Baleh HEP.

In 2021, all 11 Sarawak Energy projects (construction stage) recorded zero penalties/fines from Federal or State environmental authorities.

Contractor EIA Compliance Award (CECA) 2020

Since 2017, Sarawak Energy has been encouraging environmental excellence among our contractors through the CECA. The awards have helped increase motivation and commitment towards environmental compliance, resulting in improved environmental performance. A total of 14 contractors undertaking thermal, hydro, transmission lines and substations projects were assessed, with 13 making the cut.

No. of Companies



ENVIRONMENTAL TRAINING

Our operations require specific skills and knowledge on environmental management and regulations. To ensure environmental excellence across our operations, we provide regular training on various environmental management topics relevant to our operations.

- Industrial Effluent Treatment System (IETS) & Sewage Treatment System (STS): Design and Operation Requirements (virtual)
- Air Pollution Control System (APCS) and Fuel Burning Equipment (FBE): Design and Operation Requirements (virtual)
- Erosion and Sediment Control (ESC) Reviewer's Training (virtual)
- Refresher Environmental Training 2021
- Erosion and Sediment Control Plan (ESCP) Reviewer's Training (virtual)
- Corporate HSSE Week: Emerging Water Pollutants Talk
- Corporate HSSE Week: Wildlife Protection Talk

102-12, 103-2

PRESERVING THE ENVIRONMENT

BIODIVERSITY CONSERVATION

Sarawak Energy continues to invest in the conservation of important flora and fauna in Sarawak. A key step taken in 2021 was the establishment of a Biodiversity Conservation Committee (BCC), which aims to streamline biodiversity conservation efforts across Sarawak Energy and build capability to undertake research and conservation measures in line with Sarawak Energy's objectives, international best practices i.e. HSAP[1], HESG[2], ESMS[3] and the UN Sustainable Development Goals (SDG) Indicators. BCC also advocates and recommends policies to relevant government stakeholders and promotes environmental and social innovation aligned with International Best Practice and Sarawak's aspiration. The BCC is chaired by various heads of departments and reports directly to the Group Executive Committee and meets on a quarterly basis.

Notes:

1 *Hydropower Sustainability Assessment Protocol*
2 *Hydropower Sustainability ESG Gap Analysis Tool*
3 *Environmental and Social Management System*

Group Executive Committee

▲

Biodiversity Conservation Committee

Chairman : SVP HSSE

Secretariat : EIA & Environment

Head of HSE

Head of Research & Development

Head of Sustainability

Asset Owner : Head or nominees of SEB Power, SESCO,SER

Head of Project Delivery or nominees

The BCC's objectives are:

To streamline biodiversity conservation efforts across the organisation towards environmental excellence

To maximise positive impacts and minimise negative impacts of our projects and business on biodiversity through conservation measures

To build internal capability and explore new and relevant biodiversity research areas as a foundation of biodiversity conservation measures

To advocate, develop, implement, and monitor biodiversity conservation measures in line with the regulatory requirements and international best practices with benchmarked international organisations such as IUCN, etc.

The BCC's key priorities are:

1 **Biodiversity Conservation Policy & Governance**

2 **Biodiversity Knowledge Creation & Management**

3 **Protection & Conservation of Biodiversity**

4 **Conservation Education & Public Awareness (CEPA)**

5 **Partnership & Collaboration in Biodiversity Conservation**

103-2, 103-3, 304-1, 304-2

PRESERVING THE ENVIRONMENT

Murum Plant Conservation Garden Island

- Established a partnership with Sarawak Forestry Corporation in 2015 to maintain a conservation garden for various important plant species
- **210** additional plants in 2021
- Plant survival rate is about **81.4%** since the establishment of Murum Conservation Garden in 2015
- **1,288** plants recorded in 2021

Types of plants	No. of plants as of Dec 2020	Target no. to plant in 2021	Actual no. planted in 2021	Current total
Trees				
Gaharu (*Aquilaria spp.*)	286	30	30	313
Ensurai (*Dipterocarpus oblongifolius*)	125	50	90	210
Tongkat Ali (*Eurycoma longifolia*)	83	20	35	108
Orchids (*Orchidae*)	260	10	10	270
Non-trees				
Ethno-botanical plants	134	20	20	154
Bamboo	213	20	25	233
TOTAL	**1,101**	**150**	**210**	**1,288**

Figure 1: *Total No. of Plant Planted at Murum Conservation Garden.*

Giant Orchid (Orchidae).

Tongkat Ali (Eurycoma longifolia).

103-2, 103-3, 304-1, 304-2

PRESERVING THE ENVIRONMENT

Sungai Lekasi Tagang System at Tegulang Murum

- Local community undertake regular fish stock assessments and manage the tagang (controlled fishing) system
- Sarawak Energy has been working together with Department of Agriculture towards in empowering local community with relevant skills and knowledge in ensuring the success of the project. Regular fish stock assessment exercise, Ensurai tree planting and skill training with the community has been conducted throughout the years
- In light of this, the community has developed the sense of ownership and able to self-operate/manage the tagang system. Fish stock assessment for 2021 conducted on internally together with tagang committee members. The data for 2021 is shown below

Fish Stock Assessment 2021					
Species	Average Length (cm)		Average Weight (gm)		Growth Rate (%) Based on 2020 Weight
	2020	2021	2020	2021	
Semah	35.60	**45.6**	440.00	**765.00**	**73.86%**
Kulong	28.30	**41.3**	162.30	**418.30**	**157.70%**
Adong	20.60	**29.6**	99.60	**220.30**	**145.80%**
Boeng	18.30	**22.6**	53.60	**210.00**	**137.10%**

Fish measurement by committee for stock assessment.

Feeding fish by Sg. Lekasi Tagang System Committee.

102-12, 103-2, 103-3, 304-1, 304-2

PRESERVING THE ENVIRONMENT

Fish Conservation Project at Sungai Murum

- Project aims to enhance native fish species such as Empurau, Semah, Tengadak and Baung
- In 2021, the 2nd phase of the project included enhancing the security of the conservation area by installing an entrance gate, signages and lightings along the access road to the riverbank and at the floating cage as well as improving the netting structure, fish food, transportation, and maintenance of the conservation project

Amphibian and Reptile Pod

- In 2021, our Conservation Ecology unit established the Amphibian and Reptile Pod. The Amphibian and Reptile Pod is an Ex-situ conservation facility for amphibians and reptiles and is part of our Species Survival Programme, stemming from the Sarawak Energy Hydro Environmental Sciences Research Blueprint
- The Amphibian and Reptile Pod aims to:
  - Implement international good practices in mitigating impacted species as recommended in the Hydropower Sustainability Assessment Protocol (HSAP)
  - Establish an ex-situ conservation husbandry facility for amphibians and reptiles of Baleh HEP area
  - Rescue and establish sustainable assurance colonies of the impacted amphibian and reptile species of Baleh HEP area

The Amphibian and Reptile Pod located at Sarawak Energy Research and Development Laboratory, with mural wall painting featuring an exclusive species named after our organisation, Tropidophorus sebi, the Baleh Water Skink.

SUSTAINABILITY PERFORMANCE

PRESERVING THE ENVIRONMENT

ENVIRONMENTAL AWARENESS

Sarawak Energy Ecolution Challenge 2021

Held from
30 April to 31 October 2021

214
employees participated

A series of five challenges involving **repurposing, recycling, photography, plogging and chilli-planting**

Winners were from **SEB Power Department, Transmission Department and HSSE Department** respectively

Sarawak Energy Digitalised Waste Management 3R programme

Launching of Sarawak Energy Digitalised Waste Management 3R Programme.

Rolled out on **1 November** in collaboration with **iCycle Services Sdn. Bhd.**

Aims to **improve waste management** and **recycling practices** and **enables tracking** and **monitoring of recycling activities**.

Recycling facilities set up in **Menara Sarawak Energy, Wisma SESCO, Sarawak Energy Recreation Centre, Sarawak Energy Learning Centre, Western Region Office, SESCO Central Store, Sejingkat Power Plant, Saradise Customer Service Counter** and **Kota Samarahan Retail Office.**

Sarawak Energy Go Green Music Vibes Video Competition 2021

Held between **6 August** and **15 September 2021** in conjunction with **Sarawak Energy HSSE Excellence Week 2021.**

Secondary school students had the opportunity to record a video of themselves performing a song using 'green' instruments made from recycled or used materials.

The champion for 2021 was **Tingketong Breeze** from **SMK Bandar Samariang,** followed by two groups from **SMK Tun Ahmad Zaidi - Friends of Environment (FOE)** and **Leleng Band.**

102-8, 103-2, 103-3, 203-1, 203-2, 403-9, EU26

CREATING VALUE FOR STAKEHOLDERS

Total Training Hours
166,574

Total Electrification Coverage in 2021 (%)
98.6*

Lost Time Injury Frequency Rate (Corporate)
0.279*

Total Number of Employees
5,442

CSR Spending (RM Million)
7.50

Note:
* *These lost time injury frequency rate and Sarawak electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Our people are our greatest asset.

DEVELOPING THE EMPLOYEES OF SARAWAK ENERGY

In fulfilling our role as a responsible corporate organisation that supplies energy to people in Sarawak, we are committed to investing in our workforce. In 2021, Sarawak Energy continued to show its care and commitment for the health, wellbeing, and safety of its valued employees, especially during the COVID-19 pandemic.

Providing Opportunities for All

Despite the difficulties we faced during the pandemic, Sarawak Energy continued to grow from strength to strength. We increased the numbers of our diverse workforce from 5,381 in 2020 to 5,442 in 2021.

sarawak energy

102-8, 103-1, 401-1

CREATING VALUE FOR STAKEHOLDERS

The following are statistics of our employees in the year under review:

Employee Breakdown by Gender for Year 2021

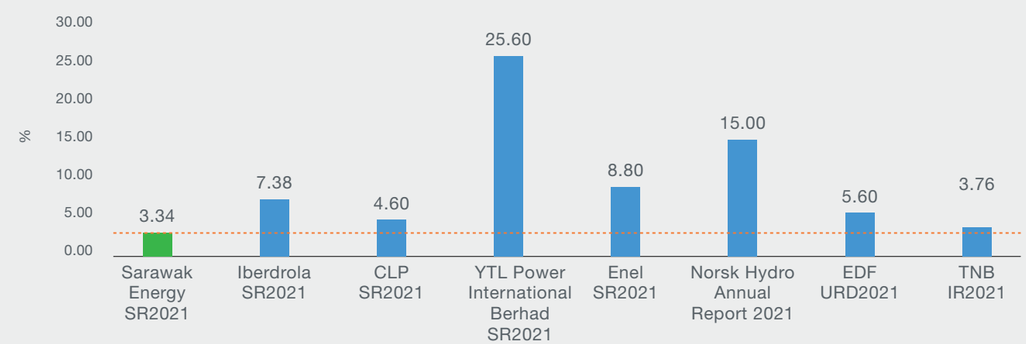
Men	By Position	Women
6	Board of Directors	0
13	GEC	2
24	HoD/Top Management	10
190	Senior Management	84
775	Middle Management	529
3,205	Non-executive	610

In the year under review, we employed 163 new employees, of whom 42 were women and 121 were men. A detailed breakdown of new hires and staff turnover by gender and age can be found on pages 183 to 232 of the GRI Content Index.

New hires
163
(mostly below 30 years old)

Turnover
182

International Comparison of Turnover Rate for Power Utility Companies



103-1, 103-3, 404-1

CREATING VALUE FOR STAKEHOLDERS

TRAINING & EDUCATION

The total hours of training during the year increased by about 218%. In 2021, we recorded 166,574 training hours compared to 52,308 hours in 2020. Despite disruptions from the pandemic, SEB has continuously nurtured its employees through learning development. This is in addition to our employees' proactive approach of enrolling themselves in related online programmes to enhance their skills in their daily tasks. For instance, 51,555 hours (66% of total learning hours) in 2020 and 156,783.61 hours (91% of total learning hours) in 2021 were from our employees' own initiative. The total and average hours of training by employee category and gender are shown in the following table:

Year	2020	2021
Total Number of Employees by Category		
Management	54	**49**
Executive	1,468	**1,578**
Non-executive	3,864	**3,815**
Total Hours of Training by Category		
Management	1,505.80	**1,971.82**
Executive	40,945.16	**87,115.35**
Non-executive	35,652.10	**77,486.69**
Average Hours of Training by Category		
Management	27.89	**40.24**
Executive	27.89	**55.21**
Non-executive	9.23	**20.31**

AVERAGE HOURS OF TRAINING BY CATEGORY AND BY GENDER

Year	2020		2021	
	Male	Female	Male	Female
Total Number of Employees by Category				
Management	42	12	**37**	**12**
Executive	907	561	**965**	**613**
Non-executive	3,237	627	**3,205**	**610**
Total Hours of Training by Category				
Management	1,019.80	486.00	**1,335.60**	**636.22**
Executive	24,021.30	16,923.86	**52,708.67**	**34,406.68**
Non-executive	30,697.05	4,955.05	**61,341.71**	**16,144.98**
Average Hours of Training by Category				
Management	24.28	40.50	**36.10**	**53.02**
Executive	26.48	30.17	**54.62**	**56.13**
Non-executive	9.48	7.90	**19.14**	**26.47**

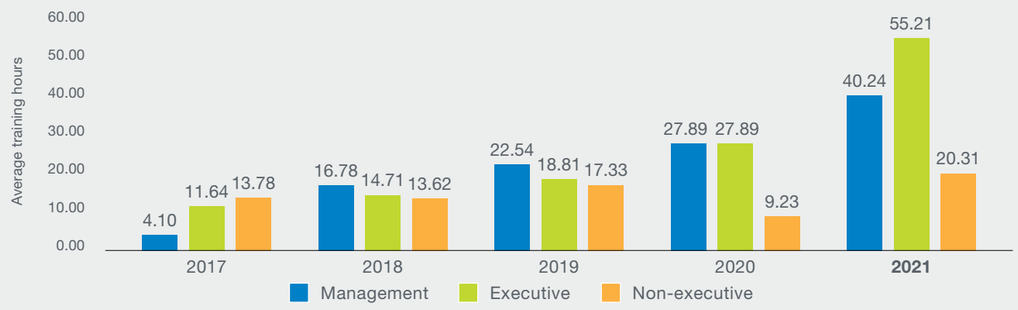
Notes:

1. *Year 2020 data was revised to reflect additional learning hours recaptured during internal L&D learning data cleansing exercise in Year 2021.*
2. *Year 2021 data includes formal learning programmes, knowledge sharing and learning activities.*

103-3, 404-1

CREATING VALUE FOR STAKEHOLDERS

Average Hours Overall Training Course by Category



International Comparison of Average Training Hours for Power Utility Companies

103-1, 103-2, 403-1, 403-4, 403-7, 403-10

CREATING VALUE FOR STAKEHOLDERS

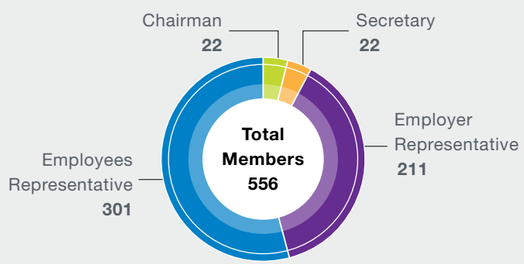
OCCUPATIONAL HEALTH & SAFETY

The health and safety of our people at Sarawak Energy remains our priority, as we continue to protect our people, contractors and other external stakeholders from harm. We strive to provide a safe and conducive working environment by ensuring protective measures and safe practices to prevent risks and reduce work-related accidents, injuries and illnesses.

Health & Safety Governance

- The Health, Safety, Security and Environment (HSSE) of Sarawak Energy is regulated by the Group Executive Committee (GEC) HSSE Council, directed by our GCEO
- The GEC HSSE Council holds the highest authority in decision-making on HSE matters
- The health and safety of each workplace is governed by an Environment, Occupational Safety & Health Committee (EOSH) in each division, which is overseen by a chairman, a secretary and includes employer and employee representatives
- The structure follows the Occupational Safety and Health (Safety and Health Committee) Regulations 1996, Part II, regulation 5
- All our 10 regional offices and nine power stations including Kuching Central Store Centre, Sarawak Energy Resources, the Project Delivery Department, and the new business unit SE(RES), the Sarawak Energy (Rural Electrification Scheme) Project – have an EOSH Committee to supervise and manage daily HSE matters across our operations

The number of members in our Environment, Occupational Safety & Health Committees remained at 556 as in the previous year:



The functions and roles of Committee members are according to the Occupational Safety and Health (Safety & Health Committee) Regulations 1996, Part III (Functions of Safety and Health Committee) under regulation 11, which specifies that the safety and health committee shall:

(a) Provide support in the development of safety and health rules and procedures at work
(b) Review the effectiveness of safety and health programmes
(c) Conduct studies on the tendencies of any accident, dangerous occurrence, occupational poisoning or occupational disease which occurs at the place of work. The findings should be immediately reported to the employer to address any unsafe or unhealthy conditions or practices at workplace, with recommendations for remedial action
(d) Review the safety and health policies at the place of work regularly and make recommendations to the employer on the revision of any policies

Other functions include:

- Inspection of place of work (regulation 12)
- Investigation into any accident (regulation 13)

The EOSH Committees meet as and when necessary but not less than once every three months.

The management level comprises the Corporate Environment & Occupational Safety and Health (CEOSH) Committee, who meets twice a year. The Committee:

- Is chaired by the GCEO and co-chaired by the HSSE Vice-President
- Consists of key personnel representing the various business units to discuss HSSE issues relating to the Company and employees
- Discusses yearly HSSE programmes and KPIs with all EOSH Committee chairmen and secretaries to achieve HSSE Excellent target

sarawak energy

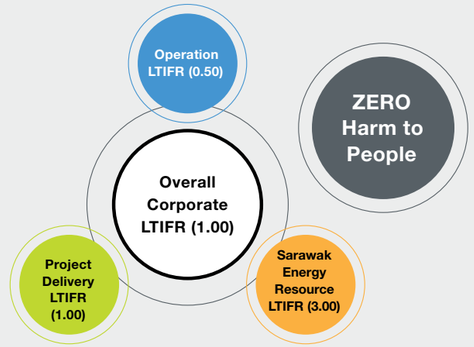
SUSTAINABILITY PERFORMANCE

103-2, 103-3, 403-7, 403-9

CREATING VALUE FOR STAKEHOLDERS

Our Commitment Towards Zero Injuries & Fatalities

Corporate KPI Safety Performance 2021 (Fatality & LTIFR - Lost Time Injury Frequency Rate)



Lost Time Injury Frequency Rate (LTIFR) is the number of lost time injuries per million hours worked and is the standard safety measure for most industries. Our LTIFR is measured in three categories, which represent the overall cooperate LTIFR result for the Group:

- Operation – includes the Company's overall operations from Corporate Functions (HR, HSSE, Finance, etc.) to core business operations and projects from Generation (thermal & hydropower), Distribution, Transmission, Retail and SE(RES)
- Sarawak Energy Resources – covers coal mining operations
- Project Delivery – refers to any ongoing project

- In 2021, we continued to make advances on our LTIFR due to our commitment to upholding occupational safety and health
- We achieved an overall corporate LTIFR result of 0.279* (excluding fatalities), which surpasses our set target of 1.0
- Total man-hours increased to 28,642,709* hours in 2021 from 27,640,459 hours[1] in 2020 due to more workers have been vaccinated and more work activities can be done
- The most significant decline was in Project Delivery with man-hours dropping from 7,595,258 hours[1] in 2020 to 6,950,773* hours in 2021

We continue to maintain our target of Goal Zero in 2021 and beyond. However, we regret to report that there was one fatality involving our sub-contractor's worker in the year under review. Moving forward, we will continue to enforce compliance with the highest levels of safety standards to prevent further loss of life.

Notes:

[1] This total man-hours data has been assured by a third party for Sustainability Report 2020.

** These lost time injury frequency rate and total man-hours data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Corporate KPI Safety Result 2021 (Fatality & LTIFR - Lost Time Injury Frequency Rate)

Category	Operation	SER	Project Delivery Department	Corporate
Total man hours (Employees only)	11,692,435*	89,708*	752,110*	12,534,254*
Total man hours (Contractors only)	8,339,759*	1,570,033*	6,198,663*	16,108,455*
Total man hours (Employees & Contractors)	20,032,195*	1,659,741*	6,950,773*	28,642,709*
Total LTI (without fatality)	7*	0*	1*	8*
LTIFR (without fatality)	0.349*	0.000*	0.144*	0.279*
No. of Fatalities	1	0	0	1

Note:

** These lost time injury frequency rate, total lost time injury cases and total man-hours data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

103-2, 103-3, 403-4, 403-6, 403-9

CREATING VALUE FOR STAKEHOLDERS

Rate of fatalities as a result of work-related injury

Category	Employees only	Contractors only
Number of fatalities	0	1
Number of hours worked	12,534,254*	16,108,455*
Hours worked rate	1,000,000	1,000,000
Rate of fatalities	0.00	0.062

Rate of high-consequence work-related injuries (excluding fatalities)

Category	Employees only	Contractors only
Number of LTI (excluding fatalities)	7*	1*
Number of hours worked	12,534,254*	16,108,455*
Hours worked rate	1,000,000	1,000,000
Rate of high-consequence work-related injuries (excluding fatalities)	0.558	0.062

Note:

* *These total lost time injury cases and total man-hours data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

Ensuring Occupational Health & Safety

Health and safety awareness campaigns and activities are organised regularly to educate employees and contractors and to embed the Company's HSE values in the slogan 'Saving Lives, Raising Standards, and Nurturing Culture'.

Despite disruptions from the pandemic, we implemented several initiatives in 2021 to promote HSE awareness among our employees, contractors and the surrounding communities. We also achieved meaningful milestones and won awards for our efforts to uphold the health and safety of our stakeholders while conserving the environment.

Occupational Health & Safety Activities in 2021

Virtual Sarawak Energy HSSE Excellence Week 2021 - Opening & Closing Ceremony

- On 25 October 2021, the GCEO Datuk Haji Sharbini Suhaili officiated the opening ceremony of our HSSE Excellence Week 2021 themed 'Saving Lives, Raising Standards, Nurturing Culture'
- The event also included educational talks and exciting activities such as HSSE quizzes and games
- This was followed by an HSSE transformation journey video in which Datu Haji Sharbini; Marconi Madai, SVP for HSSE; Ir. Robin Tigai, GM for HSE and Shirin Jai Abdul Rashid, GM for Corporate Security highlighted milestones in our HSSE journey
- Sarawak Energy HSSE Excellence Week 2021 concluded to encourage all staff to be HSSE ambassadors and commit themselves to zero harm, zero intrusion and healthy living targets
- The programme ended with a series of videos by in-house HSSE talents that advocated for HSSE excellence

KFA-HSSE Excellence Contractor Transformation (CTP) Award 2020

The CTP Award 2020 was held on 30 June 2021 to recognise contractors' contributions in cultivating HSSE excellence in our projects. The event involved the enrolment of 36 contractors (two from SER and eight from DPE) and is in line with the Department of Occupational Safety & Health Master Plan 2016-2020 to establish HSE self-regulatory culture among contractors.

HSSE Week 2021 – Power Plants & Regional Offices

- Celebrated annually in all Sarawak Energy power plants and regional offices to promote the importance of Health, Safety, Security & Environment at work, while raising awareness among staff and contractors on the theme 'Saving Lives, Raising Standards & Nurturing Culture'
- Activities included in the programme were: HSE talks, training for first aiders, firefighting training, blood donation, HSE quiz and an exhibition to highlight HSE procedures and practices

103-2, 103-3, 403-3, 403-4, 403-6, 403-7

CREATING VALUE FOR STAKEHOLDERS

Learning from TNB's Tenaga Safety Culture Experience

- On 19 February 2021, the HSSE team partnered with TNB to organise a sharing session on TNB's Tenaga Safety Culture
- Discussions included the challenges of TNB and methodologies applied in implementing Tenaga Safety Culture, allowing participants to gain knowledge on more strategies to cultivate a generative HSE culture in Sarawak Energy

HSSE Management Walkabout to Rural Offices

- HSSE management had a walkabout session accompanied by regional managers to interact as well as gain feedback on HSE implementations
- Several issues such as HSE Culture, safety practices, safe work procedures, contractors' management and challenges with Rural Electrification (RE) in their project were brought up, and findings were reported to the HSSE management group to address areas that need improvements

Routine Audit & Inspection

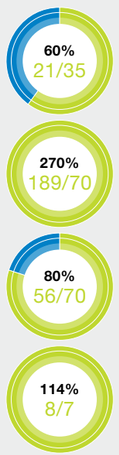
To ensure all levels of the Company's operations comply with the highest HSE standards, regular HSE audits and inspections are carried out at our Regions, Power Stations, Rural Stations and Mining sites. Apart from that, we also carried out:

- Contractor OSH audit and inspection
- Plant Shutdown Switching Request (PSSR) Inspection
- ISO 45001 Audit
- MSOSH Audit
- Best Station Award Audit

Keeping Our Communities Safe

Year 2021 was a challenging year for us due to the COVID-19 pandemic, which greatly affected our safety awareness engagements with the public especially for those residing in the longhouses and to the government authorities.

However, we managed to achieve the set annual target and conducted briefings with the Government authorities, oil palm estates, public contractors and Pan Borneo Contractors.



Electricity Safety Awareness Talk to Telekom Malaysia Staff & Contractors

- To educate TM staff and contractors on our OHL systems, installation, technical support, etc.
- Conducted 5 session: two in Kuching on 21 to 23 July 2021 and 1 session each for Sibu, Bintulu and Miri on 15, 21 & 26 July 2021

Safety Awareness Talk to Villagers/Longhouses

- To ensure electricity safety awareness embedded among villages and strict adherence to SOP and guidelines for COVID-19

Safety Briefing to our Annual Contractors & Sub-Contractors, Public Contractors, Palm Oil Estates, Pan Borneo Contractors

- To ensure annual and public contractors comply with our HSE requirements and to prevent any injuries, risks and fatalities

Engagement Programme with Government Agencies

- A collaboration with DOSH and BOMBA offices for our equipment's Certificate of Fitness (CF) and premise for Fire Certificate renewal application to ensure we are complying to legal requirements
- A meeting was conducted with related government agencies to discuss and seek advice on operational issues
- A few government agencies such as DOSH conducted compliance visits to our premises where we briefed them on our operational practices on health and safety

Electrical Safety Awareness for Lorry Associations

- The Ministry of Transport Sarawak and Sarawak Energy organised an Electrical Safety Awareness for Lorry Associations on 26 November 2021
- This engagement was to ensure that all lorry drivers are aware of safety precautions when working near overhead lines

SUSTAINABILITY PERFORMANCE

CREATING VALUE FOR STAKEHOLDERS

103-1, 103-2, 103-3, 403-4, 403-6, 403-7

CREATING VALUE FOR STAKEHOLDERS

Project Delivery

In Project Delivery, we prioritise clear HSSE ownership and accountability for all stakeholders involved in projects to instil a generative HSSE culture.

In 2021, with PD projects at various phases, the PD HSSE strengthened its risk management by:

- Identifying all risks and hazards, assessing them thoroughly, developing comprehensive, preventive and mitigative measures and implementing them effectively to reduce the risks to all levels
- Ensuring adequate resources were made available, including competent personnel, equipment, machinery and materials to ensure the safe and smooth execution of projects
- Continuing to build HSE capability internally to support the project
- Continuing to learn from the findings of inspection, audit and incident, as well as shared lessons learnt for continuous improvement

To further enhance HSSE compliance and sustainability in Project Delivery, a series of programmes and campaigns were conducted throughout 2021, including HSSE training, HSSE Campaign, HSSE milestone celebration, and participation in HSSE Award.

Awareness Training on Safe Use of safety body harness at Limbang Town 275/33/11kV substation project.

SER HSE Activities in 2021

Development Guidelines on Occupational Safety & Health in Coal Mining Malaysia

- Sarawak Energy Resources (SER), subsidiaries and contractors participated in the development of Guidelines on Occupational Safety and Health in Coal Mining Malaysia throughout the year
- The OSH Guidelines were provided by the Department of Occupational Safety and Health (DOSH) Sarawak, with the first meeting held on 31 March 2021, where programme committee members were appointed, which included technical and non-technical representatives from the coal mining industry in Sarawak

ISO 45001:2018: Occupational Health and Safety & ISO 14001:2015 – Environmental Management Systems for Balingian Energy Materials (BEM) & Global Energy Materials (GEM)

Sarawak Energy Resources certification programme for ISO 45001:2018 – Occupational Health & Safety and ISO 14001:2015 – Environmental Management Systems in Bailingian Energy Minerals (BEM) and Global Energy Minerals (GEM) was executed in four stages:

- Stage 1 – Planning (completed in 2020)
- Stage 2 – Readiness & Documentation (completed in 2020)
- Stage 3 – Implementation – Internal Audit Stage 1 & 2 and Management Review Meeting (started in early 2021)
- Stage 4 – Certification (in 2022)

In the year under review, stage one and two has been successfully completed for ISO certification 2021 and we will continue to see the completion of the rest of the stages

Development of Sarawak Energy Resources Golden Mining Rules (GMR)

In October 2021, Sarawak Energy Resources Golding Mining Rules (GMR) was released to emphasise safety rules for all employees, subsidiaries, affiliates, contractors and sub-contractors engaged by the Company

GMR works hand in hand together with Sarawak Energy Life Saving Rules (SELSR), focusing on coal mining operations. Some of the rules included are:

- To save lives, prevent injuries and fatalities in coal mining operations through a working culture of compliance towards GMR
- Driving a Generative HSE Culture among employees and contractors to ensure their own safety and the safety of those around them
- For all employees and contractors to embed the three Sarawak Energy HSE Culture's core behaviours: Assess, Comply & Empower (ACE) in their hearts and minds

Awards

- Sarawak Energy was awarded for maintaining its efforts in health and safety during the 39th Occupational Safety & Health Virtual Awards organised by the Malaysian Society for Occupational Safety & Health (MSOSH) on 25 November 2021
- We received a total of 12 awards, demonstrating our commitment towards implementing high standards in health and safety, on par with other developed and large corporations
- In 2022, we hope to see our team participate yet again to achieve this external recognition to achieve our targets for zero fatality and LTI

1 Gold Merit Award
Department: Murum

7 Gold Class 1
Departments: Bakun, Batang Ai, MPG, BPG, Miri, Limbang, Sri Aman

2 Gold Class 2
Departments: Sibu & Miri

2 Silver Awards
Departments: Bintulu & Kuching

103-1, 103-2, 103-3, 203-1, EU26

LIGHTING UP SARAWAK

We strive to ensure that the whole state is electrified and continue to make good progress in increasing rural electrification coverage.

As at end-2021, we provided electricity to 98.6%* of Sarawak with rural electrification coverage increasing from 95.3%[1] in 2020 to 96.5%*.

Year	2017	2018	2019	2020	2021
Sarawak Electricity Coverage (%)	95.5	96.0	97.0[1]	98.01[1]	**98.6***
Urban (%)	100	100	100	100	**100**
Rural (%)	89.8	91.0	93.0[1]	95.3[1]	**96.5***

Notes:

[1] These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party for Sustainability Report 2020.

** These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178-182.*

In the year under review, we continued to advance the rural electrification agenda under the State Government's RM2.37 billion Projek Rakyat initiative and our own Rural Electrification Scheme (RES), Hybrid programme and Sarawak Alternative Rural Electrification Scheme (SARES). Following the 6,610 rural households electrified in 2020, Sarawak Energy was able to bring 6,037 more rural households in 2021 into the fold. Of the 6,037 households, 4,010 were connected to the grid while the remainder were connected through off-grid solutions.

Sarawak Energy also expanded its solar hybrid system with total capacity of 8,650kW in 2021 compared to 8,618kW in 2020 following the completion of the Nanga Bebangan and Nanga Meluan hybrid stations in 2021.

Rh Kana, Ulu Tekalit, Song District in Kapit Division.

103-3, 203-1

LIGHTING UP SARAWAK

Grid/ Non-Grid	Year	2017	2018	2019	2020	2021
Grid	Rural Electrification Scheme (RES)	5,409	3,990	5,239	3,186	**4,010**
Non-Grid	Hybrid	966	270	483	70	**115**
	SARES	1,124	1,448	3,122	3,354	**1,912**
	TOTAL	**7,499**	**5,748**	**8,844**	**6,610**	**6,037**

SARES Solar Project

Solar panel cleaning and basic maintenance training for the local communities.

Year	2016 - 2017 Phase 1	2017 - 2018 Phase 2	2018 - 2019 Phase 3	2019 - 2020 Phase 4	2020 - 2021 Phase 5
Installed Capacity (kW)	1,434.87	1,619.69	1,990.65	3,128.82	4,022.00
Villages	58	59	75	85	131
Door	1,369	1,601	1,968	3,027	4,065

103-1, 103-2, 103-3, 203-1, 203-2, 413-1

DEVELOPING A SUSTAINABLE COMMUNITY

Building a thriving community is part of our sustainability journey as we seek to make Sarawak prosper and leave no one behind. In 2021, we contributed RM7.5 million in corporate social responsibility through programmes and strategic partnerships that were aimed at enriching and empowering the vulnerable.

Our community programmes are anchored on four pillars:

- Education and Young People
- Environmental Management and Conservation
- Culture and Heritage
- Community Development and Entrepreneurship

Education and Young People

SUPPORT FOR THE STUDENTS OF SARAWAK

Sarawak Energy remains committed to supporting students all across Sarawak whether through the provision of financial aid or other types of assistance. We are also focused on assisting project-affected communities, where our hydroelectric power plants are located to ensure the continued growth and development of the communities.

Since 2015, Sarawak Energy has set up four collaborative partnerships with Bakun Charitable Trust for the following Education Funds:

i. Education Fund for the Penan Communities in Belaga District including Murum Resettlement
ii. Education Fund for Batang Ai Communities
iii. Education Fund for Bakun Resettlement Scheme
iv. Education Fund for Baleh

This Fund is dedicated to supporting the educational needs of project-affected communities to pursue tertiary education to improve their social and economic status through better employability. Additionally, it provides educational incentives to encourage academic excellence for primary and secondary students from the area and financial aid for further studies at higher learning institutions. The fund is also utilised for educational development programmes and the improvement of learning facilities. Sarawak Energy committed a total of RM800,000 to an annual revolving fund for all four education funds.

In the year under review, we organised the programmes below:

Initiative	Beneficiary School(s) & Programmes' Objective(s)
Sarawak Energy supported an educational programme for secondary schools in Selangau and Mukah together with the Selangau & Mukah District Education Office. The programme was conducted virtually from Oct 16 to 30 2021	• 678 students from SMK Ulu Balingian, SMK Mukah, SMK Three Rivers and SMK St. Patrick • Provided guidance and examination preparatory techniques for students sitting for their SPM examination in 2022

103-2, 103-3, 203-1, 203-2, 413-1

DEVELOPING A SUSTAINABLE COMMUNITY

Initiative	Beneficiary School(s) & Programmes' Objective(s)
School aid support, transportation and other support	• More than 400 primary school students from SK Tegulang and SK Metalun, Murum • School aid support in the form of school uniforms, bags, stationery, exercise books and shoes. Sarawak Energy also provided transport to the longhouses at Tegulang and Metalun for teachers for them to hand out homework and teaching materials to students during the pandemic

Initiative	Beneficiary School(s) & Programmes' Objective(s)
SMK Bakun Adopt-A-School Programme	• SMK Bakun • Initiated in 2016 to enhance the academic and extracurricular performance of students at the Bakun Resettlement Scheme. In addition, Sarawak Energy provided financial support to improve school facilities and hostels

Initiative	Beneficiary School(s) & Programmes' Objective(s)
School Beautification Programme for SK Lusong Laku, Murum	• Benefitted 25 Penan preschool children at SK Lusong Laku, Murum, teachers and parents from the upstream Murum community • Refurbished the preschool classroom by painting, cleaning, and clearing works in the school compound. New study tables and chairs were contributed to the school to provide a conducive and safe learning environment for the school children

STRATEGIC PARTNERSHIPS

In addition to our own efforts, we forge strategic partnerships with organisations who are like-minded and committed to seeing the children of Sarawak succeed in education.

No Child Left Behind initiative in collaboration with Engineers Without Borders Sarawak (EWBS)

The No Child Left Behind initiative provided children in five orphanage homes in Sarawak with 30 affordable and reliable computers for online learning. The orphanage homes that benefited were Laman Kaseh, Rumah Kanak-Kanak Toh Puan Hajah Norkiah, Majlis Kebajikan Kanak-Kanak Sarawak, PERYATIM and The Salvation Army Children's Home.

Collaboration with AIESEC in Curtin University on Project Speak Up Borneo 9.0

Note:
AIESEC - Association internationale des étudiants en sciences économiques et commerciales
(English: International Association of Students in Economics and Business

Sarawak Energy collaborated with AIESEC in Curtin University for Project Speak Up Borneo 9.0 which aims to empower students by developing their English proficiency and enhancing personal development. The programme was conducted for 52 students from 4 schools.

SUSTAINABILITY PERFORMANCE

DEVELOPING A SUSTAINABLE COMMUNITY

Environmental Management and Conservation

RIVER CLEAN-UP ACTIVITY

Around 50 volunteers comprising Sarawak Rivers Board (SRB) officers, Sarawak Energy and Bakun's lakeside community of Uma Balui Long Kebuho Naha Jaley participated in a gotong-royong exercise to clear floating debris at Long Kebuho, about 80km upstream from Bakun Hydroelectric Plant (HEP). The clearing of floating debris would make it easier for villagers who live and commute via boats upstream on the lake and through upriver tributaries.

FISH CONSERVATION PROJECT

Sarawak Energy continued to support the Fish Conservation Project at Sungai Murum. The project was launched in 2020 and aims to conserve and replenish native fish populations such as Empurau, Semah, Tengadak and Baung. It also monitors downstream water quality using the fish as a bio-indicator and provides biological assessment of fish growth and survival along Sungai Murum. In 2021, Sarawak Energy implemented the second phase of the project which includes:

- Enhancing the security of the conservation area by installing an entrance gate, signages and lighting along the access road to the riverbank and at the floating cage
- Improvement of netting structure, fish food, transportation, and maintenance of the conservation project

Culture and Heritage

HANDICRAFT TRAINING

A total of 15 artisans from the Bakun and Murum Resettlement were given training on sewing techniques for rattan handicraft products in December 2021 to widen their skillsets to enable them to produce value-added indigenous handicraft products and also improve their sources of income. Sarawak Energy organised the programme with the training conducted by a professional trainer from the Malaysian Handicraft Development Corporation (MHDC).

Artisans from Bakun and Murum resettled community at the handicraft skills development training.

ANNUAL MURUM BATU TUNGUN BLESSING CEREMONY

The Murum Batu Tungun Blessing Ceremony took place on November 30, 2021 according to Bungan rites. This continues an annual tradition that Sarawak Energy has organised together with the Murum Penan Development Committee since 2008. Community leaders from seven longhouses from Murum Resettlement Scheme and the host community attended the ceremony.

CONSERVING CULTURAL HERITAGE

Sarawak Energy consistently upholds local culture and heritage, going the extra mile to ensure that elements of Sarawak's unique cultural identify are preserved and conserved for future generations.

Indigenous Iban artisans, specialising in pua kumbu, from Rumah Gare in Nanga Kain, Baleh.

PUA KUMBU VIDEO DOCUMENTARY

In the year under review, we produced a video documentary together with the artisans of Rh Garie in Kapit to highlight the 'pua kumbu' sacred cloth weaving rituals. The long-form documentary showcased the techniques, traditions and indigenous beliefs practiced by the community of weavers.

Sarawak Energy plans to incorporate the documentary as a foundation for 'pua kumbu' training as part of its Baleh Handicraft Development Project, where artisans from 54 Baleh Hydroelectric Project affected communities will be engaged to participate in this project. The training aims to transfer the knowledge and skills of traditional 'pua kumbu' weaving to the younger generation.

Rh Garie, located on the right bank of Sungai Kain, a tributary of the Baleh River in Kapit, is home to Borneo's most celebrated dream weavers. Bangie Embol of Rh Garie, a UNESCO-recognised master weaver, is the central narrator of the documentary.

CULTURAL HERITAGE CONSERVATION AT FORT SYLVIA IN KAPIT

In collaboration with The Tun Jugah Foundation, Sarawak Energy organised community workshops on textile weaving, traditional beadwork and documentation of Iban oral traditions by cultural experts and practitioners within the Iban community in Kapit. Apart from encouraging knowledge transfer by the older generation and assisting capacity building within the community, these initiatives address the threat of extinction that many indigenous cultures face today, as stated by the United Nations Department of Economic and Social Affairs of Indigenous Peoples.

Community Development and Entrepreneurship

Initiative	Outcome
Contribution of RT-PCR Machine to the Kapit Community to enhance COVID-19 testing capacity	• The contribution enhanced the capacity of daily PCR swab testing from 200 to more than 400 samples and part of Sarawak Energy's CSR contribution to increase the early detection of positive cases capacity, which will help flatten the COVID-19 curve in the Kapit division
Psychological Screening and Intervention Programme for employees of Sarawak General Hospital	• The programme established proactive measures to evaluate mental well-being of medical staff during the pandemic. Proper intervention measures, counselling and support will be given to those who require help and ensures the healthcare community stays mentally healthy and fit to continue their much-needed service at the front lines
Fire Safety Awareness & Prevention Programme for Murum & Bakun Community	• Residents of the Tegulang, Metalun and Bakun longhouses attended the programme where Sarawak Energy also contributed almost 400 units of new fire extinguishers to the residents

ANNUAL MURUM BATU TUNGUN BLESSING CEREMONY

The Murum Batu Tungun Blessing Ceremony took place on November 30, 2021 according to Bungan rites. This continues an annual tradition that Sarawak Energy has organised together with the Murum Penan Development Committee since 2008. Community leaders from seven longhouses from Murum Resettlement Scheme and the host community attended the ceremony.

CONSERVING CULTURAL HERITAGE

Sarawak Energy consistently upholds local culture and heritage, going the extra mile to ensure that elements of Sarawak's unique cultural identify are preserved and conserved for future generations.

CREATING EMPLOYMENT OPPORTUNITIES

In demonstrating our commitment to uplifting project-affected communities, we are pleased to report that ten youths from the Baleh project-affected community (PAC) who completed Sarawak Energy's Baleh Skills Training Programme are now part of China Gezhouba Group Company's (CGGC) workforce. The ten completed their one-year Welding Technology Course (3G Plus and 6G Advance) at the Centre of Technical Excellence Sarawak in June 2020. In addition, out of the cohort of youths from Baleh studying at the Fajar International College in Miri, three graduates were employed by CGGC as Safety Officers and Document Controllers. Four more Baleh youth are still undergoing the 28-month diploma programme at Fajar and are expected to complete their studies in November 2022.

The Baleh Youth Skills Training Programme was established in 2016 to increase local participation in the workforce. To date, 704 youths from Baleh and Kapit have completed the Programme in various fields such as welding technology, occupational safety and health, entrepreneurship, human resource management, heavy vehicle drivers, painting, metal blasting, and ringing and slinging fields.

RELIEF ASSISTANCE

Throughout the year, Sarawak Energy was quick to respond to the needs of our communities who were affected by the pandemic, floods or fire. We provided help to the communities of:

Rh. Simon, Bui Panjai

Delivered aid to Rh. Simon anak Kiai which is one of our Batang Ai Host Community Longhouses

Uma Lesong Sg. Batu Keling, Ulu Balui

Delivery of food and essential supplies to 32 households affected by fire at Uma Lesong at Sg. Batu Keling, Ulu Balui.

Uma Seping Kajang, Long Koyang, Sg Belaga

Delivered food and essentially supplies to 13 households affected by fire

Nanga Antawau, Baleh

Delivered food and clean drinking water to 192 households, five schools and a clinic, all affected by floods

Contributed cash assistance to 257 employees affected by the floods that inundated Sarawak in January 2021

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INDEPENDENT THIRD PARTY ASSURANCE STATEMENT

LRQA Independent Assurance Statement

Relating to Sarawak Energy Berhad's Mandatory Key Performance Indicators for Sustainability Reporting in 2021

This Assurance Statement has been prepared for Sarawak Energy Berhad (SEB) in accordance with our contract.

Terms of Engagement

LRQA was commissioned by Sarawak Energy Berhad (SEB) to provide independent assurance of its chosen key performance indicators from SEB Sustainability Report 2021 ("the Report") in accordance with our contract with them against the assurance criteria below to a limited level of assurance and materiality of the professional judgement of the verifier that considers 5% threshold using ISO 14064 - Part 3 for greenhouse gas emissions and LRQA's verification procedure for non GHG data. LRQA's verification procedure is based on current best practise and is in accordance with ISAE 3000 and ISAE 3410.

Our assurance engagement covered SEB's operations and activities in calendar year 2021 related to Power Generation in Sarawak region of Malaysia. SEB generates power in Main Grid through a mix of coal, gas and hydro and in Northern Grid using diesel. Our engagement specifically covered the following requirements:

- Verifying conformance with:
  - SEB's reporting methodologies for the selected datasets.
- Reviewing whether the Report has taken account of The Global Sustainability Standards Board (GSSB) Global Reporting Initiative (GRI) Standards and particularly Sections:
  - 101: Foundation (2016)
  - 305-4: GHG Emissions Intensity (2016)
  - 306-3: Waste Generated (2020)
  - 303-3a: Total Water Withdrawal (2018)
  - 301-1: Materials Used by Weight or Volume (2016)
  - 201-1: Direct Economic Value Generated and Distributed (2016)
  - 204-1a: Procurement Practices – Proportion of Spending on Local Suppliers (2016)
  - 403-9a. ii., v.; 403-9b. ii., v.: Occupational Health and Safety – Work-related Injuries (2018)
  - G4 Sector Disclosures – Electric Utilities EU26
  - 305-2a., c., e., g.: Energy Indirect (Scope 2) GHG Emissions (2016)
  - 305-3a., b., g.: Other Indirect (Scope 3) GHG Emissions (2016)
- Evaluating the accuracy and reliability of data and information for only the selected indicators and sub-indicators listed below:
  - a. Main Grid Emission Intensity (tCO_2eq/MWh)
    - Fuel Consumption (Tonne, Litre, MMBtu)
    - Main Grid Net Energy Generated (MWh)
    - Net Calorific Value (kJ/kg, Ml/Litre, Ml/Nm^3)
  - b. Northern Grid Emission Intensity (tCO_2eq/MWh)
    - Fuel Consumption (Litre)
    - Northern Grid Net Energy Generated (MWh)
    - Net Calorific Value (Ml/Litre)
  - c. Scheduled Waste Generation Intensity (Mt/GWh)
    - Volume of Waste Generated (Mt)
    - Gross Electricity Generated (GWh)
  - d. Total Water Withdrawal by Source from Main Grid Connected Power Plants (m^3)
    - Municipal Water (m^3)
    - Natural Water (m^3)
    - Operating Hours
  - e. Annual Water Volume for Electricity Generation from Main Grid Connected Hydropower Plants (million m^3)
    - Operating Hours for Annual Water Volume for Electricity Generation
  - f. Economic Value Retained (Million RM)
  - g. Total Value of Tenders Awarded to Local Sarawakian Companies (RM)
    - Operations (RM)
    - Capital Works (RM)
  - h. Lost Time Injury Frequency Rate (LTIFR) (Lost Time Injuries per Million Man Hours)
    - Total Lost Time Injury Cases
    - Total Man Hours
  - i. Sarawak Electrification Coverage (%)
    - Rural Electrification Coverage (%)
  - j. Scope 2 Emissions from Buildings and Office (tCO_2eq)
  - k. Scope 3 Emissions from Business Air Travel (tCO_2)

Aside from the Scope 3 emissions mentioned above, our assurance engagement excluded the data and information of SEB's suppliers, contractors and any third-parties mentioned in the report. Our assurance engagement also excluded materiality assessment.

LRQA's responsibility is only to SEB. LRQA disclaims any liability or responsibility to others as explained in the end footnote. SEB's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of SEB.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that SEB has not, in all material respects:

- Met the requirements of the criteria listed above; and
- Disclosed accurate and reliable performance data and information as summarized in Table 1 below.

The opinion expressed is formed on the basis of a limited level of assurance[1] and at the materiality of the professional judgement of the verifier.

LRQA's Approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- performing a risk assessment and developing a Verification Plan and Sampling Plan;
- reviewing 2021 data and records at an aggregated level;
- interviewing relevant employees of the organization responsible for managing data and records including those related to GHG emissions;

[1] The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

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INDEPENDENT THIRD PARTY ASSURANCE STATEMENT

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INDEPENDENT THIRD PARTY ASSURANCE STATEMENT

- assessing SEB's data management systems to confirm they are designed to prevent significant errors, omissions or misstatements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal quality control; and
- reviewing a small sample of original data for KPIs identified as highest risk during the risk assessment.

Observations

Further observations and findings, made during the assurance engagement, are:

- Ensure calibration records of the energy meters that record electricity dispatch and auxiliary consumption from the Main Grid and Northern Grid are maintained; and
- For LTIFR, initiate measure of actual work hours rather than current planned hours that does not account for public holidays and vacation/ sick time.

LRQA's Standards, Competence and Independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021 Conformity assessment – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

The verification is the only work undertaken by LRQA for SEB and as such does not compromise our independence or impartiality.

Signed Dated: 08 July 2022

Ketan Deshmukh
Lead Verifier
On behalf of LRQA Limited
LRQA reference: KLR00000592/ 4744534

Derek Markolf
Technical Reviewer

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INDEPENDENT THIRD PARTY ASSURANCE STATEMENT

Table 1. Summary of SEB Key Data for Calendar Year 2021:

Key Performance Indicators and Sub-Indicators	Value	Units
a. Main Grid Emission Intensity	0.198	tCO_2eq/MWh
• Fuel Consumption		
• Coal	2,940,286.82	Tonne
• Diesel	26,313,382.07	Litre
• Natural Gas	32,806,349.50	MMBtu
• Net Energy Generated	30,162,881.89	MWh
• Net Calorific Value		
• Coal	16,528.30	kJ/kg
• Diesel	35.95	MJ/ Litre
• Natural Gas	38.91	MJ/ Nm^3
b. Northern Grid Emission Intensity	0.600	tCO_2eq/MWh
• Fuel consumption - Diesel	39,435,748	Litre
• Net Energy Generated	167,770.63	MWh
• Net Calorific value of Diesel	35.10	MJ/Litre
a. Scheduled Waste Generation Intensity	13.54	Tonne/GWh
• Volume of Waste Generated	397,133.10	Tonne
• Gross Electricity Generated	29,333.67	GWh
b. Total Water Withdrawal by Source from Main Grid Connected Power Plants		
• Municipal Water (3rd Party Water)	2,405,834	m^3
• Seawater	1,016,326,648	m^3
• Surface Water (River Water)	4,186,688	m^3
• Operating Hours	55,700	Hours (for all units)
c. Annual Water Volume for Electricity Generation from Main Grid Connected Hydropower Plants	53,075.13	million m^3
• Operating Hours	127,396.35	Hours (for all units)
d. Economic Value Retained	2,440.90	Million RM
e. Total Value of Tenders Awarded to Local Sarawakian Companies	1,397,036,132.81	RM
• Operations	1,061,052,945.37	RM
• Capital Works	335,983,187.44	RM
f. Loss Time Injury Frequency Rate (LTIFR) (excluding fatalities)	0.279	LTIs/million man hrs
• Employees Only	0.558	LTIs/million man hrs

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INDEPENDENT THIRD PARTY ASSURANCE STATEMENT

• Contractors Only	0.062	LTIs/million man hrs
• Total Loss Time Injury Cases (excluding fatalities)	8	Number of injuries
• Employees Only	7	Number of injuries
• Contractors Only	1	Number of injuries
• Total Man Hours	28,642,709	Man hours
• Employees Only	12,534,254	Man hours
• Contractors Only	16,108,455	Man hours
g. Sarawak Electrification Coverage (%)	98.62	%
• Rural Electrification Coverage (%)	96.54	%
h. Scope 2 – Buildings & Offices	11,991.48	tCO_2eq
i. Scope 3 – Business Air Travel	252.42	tCO_2

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 101: Foundation 2016					
General Disclosures					
GRI 102: General Disclosures 2016					
Organisational Profile					
102-1	Name of the organisation	Sarawak Energy Berhad (Sarawak Energy or the Company)			
102-2	Activities, brands, products, and services	About Sarawak Energy, p. 3 – 6; Chairman's Statement, p. 18 – 21; Group Chief Executive Officer's Statement, p. 24 – 29; Our Corporate Structure, p. 38; Global Trends Towards Net Zero, p. 102			
102-3	Location of headquarters	Menara Sarawak Energy, No. 1, The Isthmus, 93050 Kuching, Sarawak.			
102-4	Location of operations	Sarawak, Malaysia			
102-5	Ownership and legal form	The principal activity of the Company is that of an investment holding company and information on the Company's structure can be found on p. 38			
102-6	Markets served	In general, the Company serves two types of customers: a) Organic – domestic, commercial, industrial and public lighting; b) Bulk – SCORE customers and interconnection About Sarawak Energy, p. 3 - 5; Renewable Energy for Sarawak & Beyond, p. 8; Energy for Sarawak, p. 10; Chairman's Statement, p. 18; Group Chief Executive Officer's Statement, p. 24			
102-7	Scale of the organisation	About Sarawak Energy, p. 3 - 5; Group Chief Executive Officer's Statement, p. 24; Our Corporate Structure, p. 38			
102-8	Information on employees and other workers	**Year: 2020 / 2021** **Gender: Male / Female / Male / Female** Permanent: 3,961 / 1,156 / 3,958 / 1,182 Contract: 220 / 44 / 249 / 53 About Sarawak Energy, p. 3; Group Chief Executive Officer's Statement, p. 24; Our People, p. 66; Internalising the Global Sustainability Agenda, p. 98; Creating Long-Term Value, p. 100; Creating Value for Stakeholders, p. 160 - 161		No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all	
102-9	Supply chain	About Sarawak Energy, p. 3; Renewable Energy for Sarawak & Beyond, p. 8; Energy for Sarawak, p. 10			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
102-10	Significant changes to the organisation and its supply chain	About Sarawak Energy, p. 4 - 6; Chairman's Statement, p. 22; Group Chief Executive Officer's Statement, p. 24; Our Corporate Structure, p. 38			
102-11	Precautionary Principle or approach	Energy for Sarawak, p. 11; Chairman's Statement, p. 18 - 22; Group Chief Executive Officer's Statement, p. 27 - 29			
102-12	External initiatives	The following is a list of externally developed economic, environmental and social charters, principles or other initiatives to which the Company subscribes to or endorses: • Hydropower Sustainability Assessment Protocol (HSAP) • United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) • Global Reporting Initiative (GRI) • Equator Principles • International Finance Corporation (IFC) • UN Global Compact (UNGC) • World Commission on Dams • ISO14001 • OSHA About This Report, p. 2 – 3; About Sarawak Energy, p. 5; Renewable Energy for Sarawak & Beyond, p. 8 - 9; Energy for Sarawak, p. 11; Chairman's Statement, p. 19 & 21; Delivering Sustainable Growth, p. 78 – 79; Global Trends Towards Net Zero, p. 102 – 103; Sarawak Energy's Sustainability Strategy & Roadmap, p. 105; Climate Action Stewardship Through Sustainable Solutions, p. 115 – 116; Preserving the Environment, p. 154 & 157; Developing a Sustainable Community, p. 175			
102-13	Membership of associations	As part of the Company's commitment towards sustainability, Sarawak Energy signed a "Sustainability Partnership" with the International Hydropower Association (IHA) in early 2011, which requires the company to use the Hydropower Sustainability Assessment Protocol as a tool to assess its performance against criteria concerning the project management of social, economic and environmental issues, as well as putting into place adequate and appropriate mitigation measures. Sarawak Energy is a GRI Community Member and also on the Board of Advisory for the The Global Compact Network Malaysia & Brunei Trust. About This Report, p. 3			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Strategy					
102-14	Statement from the most senior decision-maker	Chairman's Statement, p. 18 - 23			
102-15	Key impacts, risks, and opportunities	Energy for Sarawak, p. 11; Chairman's Statement, p. 19 - 20; Group Chief Executive Officer's Statement, p. 25 – 26 & 29; Management Discussion & Analysis, p. 31; Chief Financial Officer's Statement, p. 34; Statement on Risk Management and Internal Control, p. 55 – 56 & p. 58 - 59; Our Strategic Roadmap, p. 60 - 61; Delivering Sustainable Growth, p. 80; Global Trends Towards Net Zero, p. 102 – 105; Climate Action Stewardship Through Sustainable Solutions, p. 109 – 110 & p. 115 - 116; Our Response to Climate Change, p. 121 & p. 123 – 129			
Ethics And Integrity					
102-16	Values, principles, standards, and norms of behavior	About Sarawak Energy, p. 7; Chairman's Statement, p. 18; Statement of Corporate Governance, p. 48 & 54; Our People, p. 66 & p. 72 – 73; Delivering Sustainable Growth, p. 78 – 79		No 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
Governance					
102-18	Governance structure	Group Organisation Structure, p. 39; Our Response to Climate Change, p. 122			
Stakeholder Engagement					
102-40	List of stakeholder groups	About This Report, p. 2			
102-41	Collective bargaining agreements	Terms as agreed in Collective Agreement are extended to all nonexecutive staff under Sarawak Energy Group (except for Bakun HEP – parented staff).		No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all	
102-42	Identifying and selecting stakeholders	About This Report, p. 2; Materiality Issues, p. 95			
102-43	Approach to stakeholder engagement	2021 Year in Review, p. 15; Report Card 2021, p. 63 – 64; Our People, p. 72 – 73; Delivering Sustainable Growth, p. 78; Materiality Issues, p. 95			
102-44	Key topics and concerns raised	Materiality Issues, p. 95			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Reporting Practice					
102-45	Entities included in the consolidated financial statements	Our Corporate Structure, p. 38			
102-46	Defining report content and topic Boundaries	About This Report, p. 2			
102-47	List of material topics	Materiality Issues, p. 95			
102-48	Restatements of information	No restatements have been made.			
102-49	Changes in reporting	Materiality Issues, p. 95			
102-50	Reporting period	From 1 January 2021 until 31 December 2021. About This Report, p. 2			
102-51	Date of most recent report	The Company's 2020 Sustainability Report published on 8 March 2022.			
102-52	Reporting cycle	The Company plans to publish its Sustainability Report on an annual basis.			
102-53	Contact point for questions regarding the report	General questions regarding this report can be addressed to Corporate Communication Department and Sustainability Division at: Menara Sarawak Energy, Level 8, No. 1, The Isthmus, 93050 Kuching, Sarawak. Tel: 082-388 388 (ext. 8164/ 8165) About This Report, p. 2			
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option About This Report, p. 2			
102-55	GRI content index	See p. 183 - 232			
102-56	External assurance	Disclosures within this year's edition of the Sarawak Energy Sustainability Report that are subjected to external assurance are: (p. 178 – 182) • Main Grid CO_2 Emission Intensity • Northern Grid CO_2 Emission Intensity • Scheduled Waste Generation Intensity • Annual Water Volume for Electricity Generation • Total Water Withdrawal by Source • Economic Value Retained • Total Value of Tenders Awarded to Local Sarawakian Companies • Loss Time Injury Frequency Rate (LTIFR) • Sarawak Electrification Coverage • Scope 2 - Buildings & offices • Scope 3 - Business air travel	Yes		

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Material Topics					
Economic Performance					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Embracing Low Carbon Economy, p. 131			
103-2	The management approach and its components	Embracing Low Carbon Economy, p. 131			
103-3	Evaluation of the management approach	Embracing Low Carbon Economy, p. 131			
GRI 201: Economic Performance 2016					
201-1	Direct economic value generated and distributed	Embracing Low Carbon Economy, p. 130 – 131	Yes	No 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture	
Indirect Economic Impacts					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Renewable Energy for Sarawak & Beyond, p. 8; Powering Our Community, p. 86 - 87			
103-2	The management approach and its components	Energy for Sarawak, p. 13 - 14; 2021 Year in Review, p. 15 - 17; Chairman's Statement, p. 18 - 22; Group Chief Executive Officer's Statement, p. 26; Management Discussion & Analysis, p. 30 – 31; Delivering Sustainable Growth, p. 78 – 79 & p. 81 - 83; Powering Our Community, p. 86 - 87 & 90; Global Trends Towards Net Zero, p. 102 – 103; Climate Action Stewardship Through Sustainable Solutions, p. 110 – 112 & p. 114 – 115; Embracing Low Carbon Economy, p. 140 - 141; Creating Value for Stakeholders, p. 160, 170, p. 172 – 174 & p. 176 - 177			
103-3	Evaluation of the management approach	Creating Value for Stakeholders, p. 160, 170 – 174 & 176			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 203: Indirect Economic Impacts 2016					
203-1	Infrastructure investments and services supported	Average Tariff (cent/kWh) (Year 2017 – 2021) by Customer Type		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all No 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation No 11 - Make cities and human settlements inclusive, safe, resilient and sustainable	
203-2	Significant indirect economic impacts	2021 Year in Review, p. 15; Chairman's Statement, p. 22; Powering Our Community, p. 86 & 90; Embracing Low Carbon Economy, p. 132; Creating Value for Stakeholders, p. 160, p. 172 – 174 & p. 176 - 177		No 1 – End poverty in all its forms everywhere No 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all No 10 – Reduce inequality within and among countries No 17 – Strengthen the means of implementation and revitalize the global partnership for sustainable development	

	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021
Average Organic	28.04	27.96	28.22	28.22	28.30
Domestic	28.21	28.27	28.47	28.81	28.96
Commercial	30.54	30.50	30.65	30.70	30.59
Public Lighting	47.18	47.17	47.20	47.27	47.28
Industrial	23.86	23.69	24.16	23.89	23.96

Renewable Energy for Sarawak & Beyond, p. 8;
Energy for Sarawak, p. 10, p. 12 – 13;
2021 Year in Review, p. 14 - 15;
Chairman's Statement, p. 21 – 22;
Group Chief Executive Officer's Statement, p. 26;
Management Discussion & Analysis, p. 30 – 31;
Delivering Sustainable Growth, p. 78 – 79 & p. 81 – 83;
Global Trends Towards Net Zero, p. 102 – 103;
Climate Action Stewardship Through Sustainable Solutions, p. 110 – 112 & p. 114 – 115;
Creating Value for Stakeholders, p. 160 & 170 - 174

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Procurement Practices					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Embracing Low Carbon Economy, p. 133			
103-2	The management approach and its components	2021 Year in Review, p. 15; Embracing Low Carbon Economy, p. 133			
103-3	Evaluation of the management approach	2021 Year in Review, p. 15; Creating Long-Term Value, p. 101; Embracing Low Carbon Economy, p. 133			
GRI 204: Procurement Practices 2016					
204-1	Proportion of spending on local suppliers			No 12 - Ensure sustainable consumption and production patterns	

Tenders Awarded	Year	Status		
		Sarawakian	Malaysia (Non-Sarawakian)	International
Capital Works	2021	335,983,187.44*	226,103,506.14	528,705,566.15
	2020	114,555,097.49[1]	44,542,098.60	117,782,423.00
	2019	416,366,166.99[2]	274,575,584.00	299,412,243.00
	2018	625,917,773.91[3]	266,245,214.38	1,095,210,392,28
	2017	1,620,376,421.35[4]	501,190,506.73	2,884,065,817.05
Operations and Maintenance	2021	1,061,052,945.37*	194,827,901.20	28,660,053.82
	2020	1,037,245,113.37[1]	68,301,534.66	38,580,626.30
	2019	822,335,735.58[2]	54,243,444.92	52,732,516.13
	2018	564,066,169.62[3]	26,039,763.67	30,992,905.85
	2017	424,381,685.99[4]	60,255,353.33	67,673,539.04

Notes:

[1] *This total value of tenders awarded to local Sarawakian companies data has been assured by a third party for Sustainability Report 2020.*

[2] *This total value of tenders awarded to local Sarawakian companies data has been assured by a third party for Sustainability Report 2019.*

[3] *This total value of tenders awarded to local Sarawakian companies data has been assured by a third party for Sustainability Report 2018.*

[4] *This total value of tenders awarded to local Sarawakian companies data has been assured by a third party for Sustainability Report 2017.*

* *This total value of tenders awarded to local Sarawakian companies data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

2021 Year in Review, p. 15;
Sustainability Key Highlights, p. 94;
Internalising the Global Sustainability Agenda, p. 98;
Creating Long-Term Value, p. 101;
Embracing Low Carbon Economy, p. 133

Materials					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Creating Long-Term Value, p. 100			
103-2	The management approach and its components	Creating Long-Term Value, p. 100; Our Response to Climate Change, p. 128 – 129			
103-3	Evaluation of the management approach	Our Response to Climate Change, p. 128 – 129			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 301: Materials 2016					
301-1	Materials used by weight or volume	Internalising the Global Sustainability Agenda, p. 99; Creating Long-Term Value, p. 100; Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 146 & 148	Yes	No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all No 12 - Ensure sustainable consumption and production patterns	TCFD

Category: Non-Renewable Materials Used (2017 - 2021)

Plant Type	Volume (Year 2017)	Volume (Year 2018)	Volume (Year 2019)	Volume (Year 2020)	Volume (Year 2021)	Unit
Coal	2,228,768.01[4]	2,038,842.21[3]	3,064,825.62[2]	2,684,065.69[1]	2,940,286.82*	Tonne
Diesel[a]	15,675,168.40[4]	20,393,035.80[3]	12,584,999.55[2]	24,301,619.57[1]	26,313,382.07*	Litre
Natural Gas	34,262,495.10[4]	35,891,301.46[3]	36,756,369.74[2]	33,066,287.95[1]	32,806,349.50*	mmbtu

Note:
[a] *Diesel – excluding Limbang & Lawas*

Category: Renewable Materials

Major Plant	Year	Annual Inflow (million m³) (annual inflow from catchment)	Annual water volume for energy generation (million m³)	Annual energy generated (GWh)	Annual water consumption (million m³) (Spillway discharge)
Batang Ai	2021	3,651	3,618*	476	-
	2020	4,255	3,974[1]	518	-
	2019	2,852	2,844[2]	391	-
	2018	3,576	3,647[3]	481	-
	2017	3,658	3,397[4]	442	-
Murum	2021	9,660	8,583*	6,484	1,159
	2020	9,993	8,549[1]	6,415	1,446
	2019	8,183	7,532[2]	5,714	-
	2018	7,737	8,022[3]	6,094	432
	2017	10,933	7,567[4]	5,717	3,588
Bakun	2021	49,894	40,875*	16,376	10,436
	2020	55,730	36,966[1]	14,803	15,589
	2019	40,373	38,827[2]	15,544	-
	2018	40,481	36,148[3]	14,482	4,761
	2017	49,794	32,962[4]	13,078	16,948

Notes:
[1] *This annual water volume for electricity generation data and fuel consumption have been assured by a third party for Sustainability Report 2020.*
[2] *This annual water volume for electricity generation data and fuel consumption have been assured by a third party for Sustainability Report 2019.*
[3] *This annual water volume for electricity generation data and fuel consumption have been assured by a third party for Sustainability Report 2018.*
[4] *This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2017.*
* *This annual water volume for electricity generation data and fuel consumption have been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

Water and Effluents					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Creating Long-Term Value, p. 100; Preserving the Environment, p. 147			
103-2	The management approach and its components	Creating Long-Term Value, p. 100; Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 147 & p. 149 - 150			
103-3	Evaluation of the management approach	Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 150 - 151			

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 303: Water and Effluents 2018					
303-1	Interactions with water as a shared resource	Preserving the Environment, p. 147 & 150		No 6 - Ensure availability and sustainable management of water and sanitation for all	
303-2	Management of water discharge related impacts	Preserving the Environment, p. 146		No 6 - Ensure availability and sustainable management of water and sanitation for all	
303-3	Water withdrawal	Creating Long-Term Value, p. 100; Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 146 & 150	Yes	No 6 - Ensure availability and sustainable management of water and sanitation for all	

Major Plant	Source	2017	2018	2019	2020	2021
		meter cubic (m³)				
Plant Type: Coal						
Sejingkat Power Corp + PPLS	Municipal	1,603,264.00[4]	1,386,373.00[3]	1,140,932.00[2]	1,265,838.00[1]	1,133,445.00*
	Sea water or other natural water source	366,695,496.00[4]	353,454,413.18[3]	331,568,280.00[2]	348,383,088.00[1]	305,121,492.00*
Mukah Power Generation	Municipal	854,666.00[4]	803,362.00[3]	1,063,097.00[2]	741,874.00[1]	814,465.00*
	Sea water or other natural water source	454,118,400.00[4]	410,793,379.20[3]	392,610,711.74[2]	219,655,670.40[1]	219,276,979.20*
Balingian Power Generation	Municipal	-	-	-	N/A[1]	17,924.00*
	Sea water or other natural water source	-	-	-	1,650,000.00[1]	4,186,687.50*
Plant Type: Combined Cycle - Natural Gas						
SPG + Bintulu SESCO	Municipal	145,623.00[4]	220,611.00[3]	329,516.00[2]	250,223.00[1]	275,082.00*
	Sea water or other natural water source	212,876,380.80[4]	227,489,565.60[3]	241,935,030.72[2]	104,047,121.52[1]	87,860,036.88*
KPG	Municipal	-	-	-	-	112,863.00*
	Sea water or other natural water source	-	-	-	-	- 404,068,140.00*
Plant Type: Open Cycle - Natural Gas						
Miri SESCO	Municipal	12,154.00[4]	9,225.00[3]	23,803.00[2]	29,542.00[1]	47,638.00*
	Sea water or other natural water source	N/A[4]	N/A[3]	N/A[2]	N/A[1]	N/A*
Plant Type: Diesel						
Sg Biawak SESCO	Municipal	21,192.00[4]	13,952.50[3]	6,896.13[2]	1,731.51[1]	4,417.00*
	Sea water or other natural water source	1,171,360.00[4]	69,650.00[3]	-[2]	-[1]	-*
Non Grid - Limbang	Municipal	19.44	22,992.00	40,859.00	41,251.00	43,936.00
Non Grid - Lawas	Municipal	299.00	656.00	2,837.00	3,700.00	4,220.00

Notes:
[1] *This total water withdrawal by source data has been assured by a third party for Sustainability Report 2020.*
[2] *This total water withdrawal by source data has been assured by a third party for Sustainability Report 2019.*
[3] *This total water withdrawal by source data has been assured by a third party for Sustainability Report 2018.*
[4] *This total water withdrawal by source data has been assured by a third party for Sustainability Report 2017.*
* *This total water withdrawal by source data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Biodiversity					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Preserving the Environment, p. 147			
103-2	The management approach and its components	Climate Action Stewardship Through Sustainable Solutions, p. 117; Preserving the Environment, p. 147 & p. 154 – 157			
103-3	Evaluation of the management approach	Preserving the Environment, p. 155 - 157			
GRI 304: Biodiversity 2016					
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Internalising the Global Sustainability Agenda, p. 99; Preserving the Environment, p. 147 & p. 155 - 157		No 6 - Ensure availability and sustainable management of water and sanitation for all No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
304-2	Significant impacts of activities, products, and services on biodiversity	Internalising the Global Sustainability Agenda, p. 99; Climate Action Stewardship Through Sustainable Solutions, p. 117; Preserving the Environment, p. 147 & p. 155 - 157		No 6 - Ensure availability and sustainable management of water and sanitation for all No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
Emissions					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Climate Action Stewardship Through Sustainable Solutions, p. 106 & 120			
103-2	The management approach and its components	Renewable Energy for Sarawak & Beyond, p. 9; Global Trends Towards Net Zero, p. 102; Climate Action Stewardship Through Sustainable Solutions, p. 107, 109 & 120; Our Response to Climate Change, p. 121 & 126 - 129; Preserving the Environment, p. 152			
103-3	Evaluation of the management approach	Creating Long-Term Value, p. 101; Climate Action Stewardship Through Sustainable Solutions, p. 107 - 108 & p. 118 - 119; Our Response to Climate Change, p. 121 & 126 - 129; Preserving the Environment, p. 152			

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 305: Emissions 2016					
305-1	Direct (Scope 1) GHG emissions	Renewable Energy for Sarawak & Beyond, p. 9; Climate Action Stewardship Through Sustainable Solutions, p. 106 & 108; Our Response to Climate Change, p. 121 & 126 - 129	Yes	No 3 – Ensure healthy lives and promote wellbeing for all at all ages No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

Gross direct (Scope 1) GHG emissions in metric tonne of CO_2 equivalent

Grid	Total Emissions (tCO_2) (2017)	Total Emissions (tCO_2) (2018)	Total Emissions (tCO_2eq) (2019)	Total Emissions (tCO_2eq) (2020)	Total Emissions (tCO_2eq) (2021)
Main	5,325,836.68	5,151,395.75	6,348,254.39[2]	5,600,892.97[1]	5,976,874.06*
Northern	98,042.77	102,837.43	104,477.64[2]	97,829.99[1]	100,595.84*
Stand-Alone	11,033.58	13,812.44	14,453.34[2]	9,176.85[1]	8,818.18*
Company-owned Vehicles	4,947.31	5,189.96	5,353.45	4,167.74	3,766.89
Total tCO_2eq Emissions	**5,439,860.34**	**5,273,235.58**	**6,472,538.82**	**5,712,067.55**	**6,090,054.97**

Total CO_2 Emissions (Main Grid)

POWER STATION (MAIN GRID)	2017 (tCO_2)	2018 (tCO_2)	2019 (tCO_2eq)	2020 (tCO_2eq)	2021 (tCO_2eq)
Sejingkat Power Corp.	916,769.06	854,293.99	679,890.56	671,849.96	462,019.95
PPLS Power Generation	848,625.75	707,251.87	697,347.40	650,276.32	605,853.28
Mukah Power Sdn. Bhd.	1,658,355.86	1,609,253.91	1,585,818.75	871,167.29	895,037.02
Balingian Power Generation	-	-	1,423,412.27	1,605,680.74	2,234,823.71
Sarawak Power Generation	825,960.98	950,543.09	950,462.21	749,873.97	600,125.08
Kidurong Power Generation	-	-	-	103,455.03	668,870.02
Bintulu PS	526,667.34	545,729.43	520,329.19	520,956.75	167,782.04
Miri PS	533,748.96	483,172.32	488,542.53	427,168.65	341,586.19
Sg Biawak PS	15,708.73	1,151.14	2,451.47	464.25	776.76
Total tCO_2eq Emissions (Main Grid)	**5,325,836.68**	**5,151,395.75**	**6,348,254.39[1]**	**5,600.892.97[1]**	**5,976,874.06***

Total CO_2 Emissions (Northern Grid)

POWER STATION (NORTHERN GRID)	2017 (tCO_2)	2018 (tCO_2)	2019 (tCO_2eq)	2020 (tCO_2eq)	2021 (tCO_2eq)
Limbang PS	61,989.99	64,433.37	63,744.59	64,646.28	67,682.00
Lawas PS	36,052.77	38,404.06	40,733.05	33,183.71	32,913.84
Total tCO_2eq Emissions (Northern Grid)	**98,042.76**	**102,837.43**	**104,477.64[1]**	**97,829.99[1]**	**100,595.84***

Notes:
1. *Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.*
[1] *This Scope 1 (grid emissions - main, northern and stand-alone) data has been assured by a third party for Sustainability Report 2020.*
* *This Scope 1 (grid emissions - main, northern and stand-alone) data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
		Total Overall Stand-alone Grid CO_2 Emissions (Whole Sarawak)	Yes		TCFD

POWER STATION (STAND-ALONE GRID)	2017 (tCO_2)	2018 (tCO_2)	2019 (tCO_2eq)	2020 (tCO_2eq)	2021 (tCO_2eq)
Kapit PS	30.09	119.98	0.00	0.00	-
Belaga PS	3,505.23	3,632.72	3,700.81	3,859.01	3,603.22
Song PS	0.00	3,066.06	4,742.08	0.00	-
Ng Mujong PS	218.59	221.73	157.66	0.00	-
Ng Ngungun PS	1,118.42	748.49	0.00	0.00	-
Ng Jagau PS	226.73	233.08	236.12	253.84	298.84
Ng Entawau PS	295.67	303.40	280.15	289.32	292.80
Mulu PS	2,033.42	1,671.70	1,524.01	1,005.82	896.63
Long Lama PS	2,762.67	2,933.86	2,927.26	2,848.51	2,759.08
Banting PS	264.05	288.33	298.80	297.26	287.88
Paloh PS	578.71	593.11	586.46	623.1	679.72
Kg Bruit PS	0.00	0.00	0.00	0.00	-
Kg Saai PS	0.00	0.00	0.00	0.00	-
Bakun - Sg Asap PS	0.00	0.00	0.00	0.00	-
Total tCO_2eq Emissions (Stand-Alone Grid)	**11,033.58**	**13,812.44**	**14,453.35**	**9,176.86**	**8,818.18***

Notes:
1. *Emissions in CO_2eq include Direct Scope 1 emissions from CO_2, CH_4 and N_2O.*
[1] *This Scope 1 (grid emissions - main, northern and stand-alone) data has been assured by a third party for Sustainability Report 2020.*
* *This Scope 1 (grid emissions - main, northern and stand-alone) data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

Total Net Energy Generated for Main Grids

Plant Type	POWER STATION	2017	2018	2019	2020	2021
Coal	Sejingkat Power Corp.	684,111.00	593,489.90[3]	505,914.49[2]	494,902.10[1]	330,743.60*
Coal	PPLS Power Generation	673,687.00	614,127.50[3]	518,672.85[2]	516,329.80[1]	500,261.90*
Coal	Mukah Power Sdn. Bhd.	1,494,404.00	1,401,963.65[3]	1,343,966.90[2]	770,626.40[1]	776,398.80*
Coal	Balingian Power Generation	-	-	1,421,724.40[2]	1,263,976.37[1]	2,104,908.50*
BTU-Combined Cycle	Sarawak Power Generation	1,738,199.00	2,023,026.02[3]	2,106,253.75[2]	1,594,561.40[1]	1,073,279.19*
BTU-Combined Cycle	Kidurong Power Generation	-	-	-	212,114.57[1]	1,626,879.19*
BTU-Open Cycle	Bintulu PS	614,311.00	661,306.76[3]	615,465.59[2]	608,672.49[1]	204,363.70*
Miri-Open Cycle	Miri PS	516,563.00	487,506.50[3]	535,371.43[2]	468,368.98[1]	374,955.17*
Diesel-Standby	Sg Biawak PS	16,183.00	-567.91[3]	887.78[2]	-787.57[1]	-494.26*
Total MWh		**5,737,458.00**	**5,780,852.42[3]**	**7,048,257.18[2]**	**5,928,764.54[1]**	**6,991,295.79***

Total Net Energy Generated for Main Grids

Plant Type	Plant	2017	2018	2019	2020	2021
Hydropower	Batang Ai	442,324.00	480,586.75[3]	386,993.39[2]	517,434.53[1]	475,024.49*
Hydropower	Bakun	13,078,267.00	14,351,890.00[3]	15,424,402.00[2]	14,680,879.00[1]	16,239,095.00*
Hydropower	Murum	5,717,385.00	6,053,056.70[3]	5,688,832.30[2]	6,406,413.20[1]	6,456,371.70*
Hydropower	Lundu PS	2,618.21	2,852.54[3]	3,024.10[2]	1,637.74[1]	1,094.91*
Total MWh		**19,240,594.21**	**20,888,385.98[3]**	**21,503,251.79[2]**	**21,606,364.48[1]**	**23,171,586.10***

Notes:
[1] *This net energy generated data has been assured by a third party for Sustainability Report 2020.*
[2] *This net energy generated data has been assured by a third party for Sustainability Report 2019.*
[3] *This net energy generated data has been assured by a third party for Sustainability Report 2018.*
* *This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

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Total Net Energy Generated for Stand-Alone Grids — Yes — TCFD

Plant Type	Plant	2017	2018	2019	2020	2021
Diesel	Kapit PS	-	96.78	-	-	-
Diesel	Belaga PS	3,969.62	4,238.20	4,256.13	4,519.19[1]	4,914.29*
Diesel	Song PS	-	3,816.98	6,222.96	-	-
Diesel	Ng Mujong PS	244.37	250.40	177.63	-	-
Diesel	Ng Ngungun PS	1,292.73	858.68	-	-	-
Diesel	Ng Jagau PS	210.12	210.37	218.24	232.60[1]	256.19*
Diesel	Ng Entawau PS	319.70	343.93	328.64	340.59[1]	342.67*
Diesel	Mulu PS	2,110.91	1,877.34	1,641.00	1,056.89[1]	948.10*
Diesel	Long Lama PS	3,283.94	3,519.90	3,628.99	3,778.73[1]	3,768.35*
Diesel	Banting PS	293.73	319.15	342.47	335.12[1]	340.40*
Diesel	Paloh PS	633.83	662.52	699.00	735.61[1]	796.90*
Diesel	Kg Bruit PS	-	-	-	-	-
Diesel	Kg Saai PS	-	-	-	-	-
Diesel	Bakun - Sg Asap PS	-	-	-	-	-
Total MWh		**12,358.95**	**16,194.25**	**17,515.05**	**10,998.73[1]**	**11,366.90***

Total Net Energy Generated (Northern Grids)

Plant Type	Plant	2017	2018	2019	2020	2021
Diesel	Limbang PS	84,837.18	87,494.23[3]	90,569.93[2]	91,660.87[1]	93,756.55*
Diesel	Lawas PS	48,472.29	52,043.58[3]	57,466.64[2]	46,662.14[1]	44,838.54*
Total MWh		**133,309.47**	**139,537.81[3]**	**148,036.58[2]**	**138,323.01[1]**	**138,595.09***

Plant Type	Plant	2017	2018	2019	2020	2021
Mini Hydro	Lawas M/H (Kalamuku)	2,378.72	2,549.86[3]	2,012.81[2]	1,603.95[1]	786.20*
Mini Hydro	Lawas M/H (Sg.Kota)	8,916.80	8,508.60[3]	5,843.57[2]	21,118.39[1]	28,389.34*
Mini Hydro	Sg. Kejin	-	-	-	-	-
Total MWh		**11,295.52**	**11,058.46[3]**	**7,856.38[2]**	**22,722.34[1]**	**29,175.54***

Note:

[1] *This net energy generated data has been assured by a third party for Sustainability Report 2020.*

[2] *This net energy generated data has been assured by a third party for Sustainability Report 2019.*

[3] *This net energy generated data has been assured by a third party for Sustainability Report 2018.*

* *This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

Data assumptions:

1. *Fuel consumption, fuel Calorific Value & fuel Specific Density (for CO_2 emissions calculations) data obtained from OpX*
2. *Net Energy Generated for main grid connected power plants (using OpX data) – Request for both grid Thermal & Hydro (Batang Ai, Bakun & Murum)*
3. *Net Energy Generated for non-grid connected power plants (using Rural Operation data) – Request for both non grid Thermal & Mini hydro (Sg. Kejin)*

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305-2	Energy indirect (Scope 2) GHG emissions	Our Response to Climate Change, p. 121 & 126 - 129	Yes	No 3 – Ensure healthy lives and promote wellbeing for all at all ages No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-3	Other indirect (Scope 3) GHG emissions	Our Response to Climate Change, p. 121 & 126 - 129	Yes	No 3 – Ensure healthy lives and promote wellbeing for all at all ages No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-4	GHG emissions intensity	Renewable Energy for Sarawak & Beyond, p. 9; Sustainability Key Highlights, p. 94; Internalising the Global Sustainability Agenda, p. 97; Creating Long-Term Value, p. 101; Global Trends Towards Net Zero, p. 102; Climate Action Stewardship Through Sustainable Solutions, p. 106 - 109; Our Response to Climate Change, p. 129	Yes	No 3 – Ensure healthy lives and promote wellbeing for all at all ages No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

Scope 1 Emissions Intensity	Unit	2017	2018	2019	2020	2021
Normalized by Gross Energy	tCO_2eq/MWh	0.212	0.193	0.220	0.201	0.196
Normalized by Net Energy	tCO_2eq/MWh	0.216	0.196	0.225	0.206	0.201

Note:
1. Scope 1 emissions intensity normalised by gross and net energy include main, northern and stand-alone grid and company-owned vehicles.

Scope 2 Emissions Intensity	Unit	2019	2020	2021
Normalized by Gross Energy	tCO_2eq/MWh	0.000466	0.000474	0.000387
Normalized by Net Energy	tCO_2eq/MWh	0.000477	0.000485	0.000395

Note:
Scope 2 emissions intensity normalised by gross and net energy include buildings and offices.

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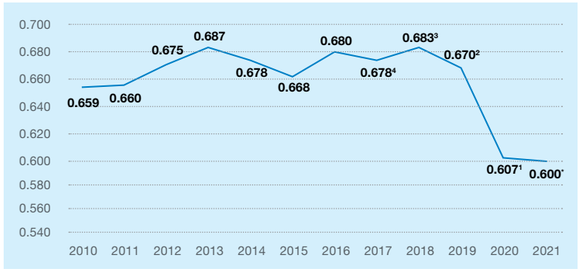
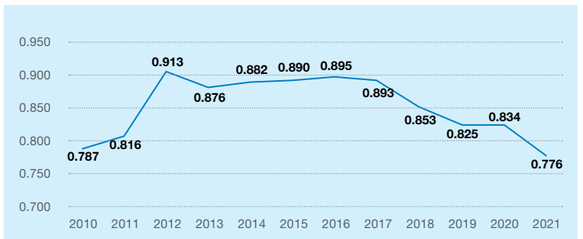
Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-4	GHG emissions intensity	**Sarawak Energy Northern Grid CO_2 Emissions Intensity 2010 - 2021 (tCO_2eq/MWh)**  *Notes:* [1] *This northern grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2020.* [2] *This northern grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2019.* [3] *This northern grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2018.* [4] *This northern grid CO_2 emissions intensity data has been assured by a third party for Sustainability Report 2017.* * *This northern grid CO_2 emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.* **Sarawak Energy CO_2 Intensity for Stand-alone Grids 2010 - 2021 (tCO_2eq/MWh)** 	Yes	No 3 – Ensure healthy lives and promote wellbeing for all at all ages No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
		Plants CO_2 Intensity (tCO_2eq/MWh) - Main Grid	Yes		TCFD

Year	Plant (Main Grid)	Total CO_2 Emissions (tCO_2eq)	Gross Energy Generated from Thermal (MWh)	CO_2 Intensity (tCO_2eq/ MWh)
2017	Sejingkat Power Corp	916,769.06	727,761.85	1.260
	PPLS	848,625.75	767,523.86	1.106
	MPG	1,658,355.86	1,666,942.34	0.995
	SPG	825,960.98	1,772,772.00	0.466
	Bintulu SESCO	526,667.34	621,355.60	0.848
	Miri SESCO	533,748.96	523,907.27	1.019
	Sg Biawak SESCO	15,708.73	18,255.47	0.860
2018	Sejingkat Power Corp	854,293.99	673,672.50	1.268
	PPLS	707,251.87	675,296.00	1.047
	MPG	1,609,253.91	1,573,521.05	1.023
	SPG	950,543.09	2,059,519.80	0.462
	Bintulu SESCO	545,729.43	670,339.06	0.814
	Miri SESCO	483,172.32	493,843.86	0.978
	Sg Biawak SESCO	1,151.14	1,044.31	1.102
2019	Sejingkat Power Corp	679,890.56	553,289.86	1.229
	PPLS	697,347.40	637,196.85	1.094
	MPG	1,585,818.75	1,515,106.28	1.047
	BPG	1,423,412.27	1,562,639.57	0.911
	SPG	950,462.21	2,145,919.00	0.443
	Bintulu SESCO	520,329.19	625,274.14	0.832
	Miri SESCO	488,542.53	541,988.30	0.901
	Sg Biawak SESCO	2,451.47	2,127.20	1.152
2020	Sejingkat Power Corp	671,849.96	505,307.39	1.330
	PPLS	650,276.32	634,529.00	1.025
	MPG	871,167.29	858,735.07	1.014
	BPG	1,605,680.74	1,532,546.58	1.048
	SPG	749,873.97	1,628,610.51	0.460
	KID1	103,455.03	222,919.67	0.464
	Bintulu SESCO	520,956.75	616,612.83	0.845
	Miri SESCO	427,168.65	474,195.11	0.901
	Sg Biawak SESCO	464.25	330.20	1.406
2021	Sejingkat Power Corp	462,019.95	372,898.69	1.239
	PPLS	605,853.28	560,269.00	1.081
	MPG	895,037.02	861,797.57	1.039
	BPG	2,234,823.71	2,326,198.96	0.961
	SPG	600,125.08	1,101,259.00	0.545
	KID1	668,870.02	1,682,655.19	0.398
	Bintulu SESCO	167,782.04	207,738.65	0.808
	Miri SESCO	341,586.19	380,266.89	0.898
	Sg Biawak SESCO	776.76	621.70	1.249

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-5	Reduction of GHG emissions	Internalising the Global Sustainability Agenda, p. 97; Climate Action Stewardship Through Sustainable Solutions, p. 106	Yes	No 13 – Take urgent action to combat climate change and its impacts No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Preserving the Environment, p. 146 & 152	Yes	No 3 - Ensure healthy lives and promote well-being for all at all ages No 12 - Ensure sustainable consumption and production patterns No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development No 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	TCFD

Year	Plant (Main Grid)	Gross Energy Generated from Thermal (kWh)	Total SOx Emissions (kg)	Total NOx Emissions (kg)	SOx Intensity ($kgSO_x$/kWh)	NOx Intensity ($kgNO_x$/kWh)
2017	Sejingkat Power Corp	727,761,852.00	1,267,457.84	250.19	1.74×10^{-3}	3.44×10^{-7}
	PPLS	767,523,858.00	763,044.42	225.21	9.94×10^{-4}	2.93×10^{-7}
	MPG	1,666,942,336.00	1,528,744.32	641.9	9.17×10^{-4}	3.85×10^{-7}
	SPG	1,772,772,000.00	3,299.93	1,841,892.01	1.86×10^{-6}	1.04×10^{-3}
	Bintulu SESCO	621,355,600.00	152,755.93	858.34	2.46×10^{-4}	1.38×10^{-6}
	Miri SESCO	523,907,270.00	4,446.65	49,716.17	8.49×10^{-6}	9.49×10^{-5}
	Sg Biawak SESCO	18,255,470.00	417.42	2.54	2.29×10^{-5}	1.39×10^{-7}
2018	Sejingkat Power Corp	673,672,500.00	614,470.31	259.67	9.12×10^{-4}	3.85×10^{-7}
	PPLS	675,296,000.00	479,441.87	234.42	7.10×10^{-4}	3.47×10^{-7}
	MPG	1,573,521,047.00	495,377.29	402.41	3.15×10^{-4}	2.56×10^{-7}
	SPG	2,059,519,800.00	35,473.30	1,036,442.01	1.72×10^{-5}	5.03×10^{-4}
	Bintulu SESCO	670,339,060.00	31,551.82	979.77	4.71×10^{-5}	1.46×10^{-6}
	Miri SESCO	493,843,860.00	306.44	8,190.26	6.21×10^{-7}	1.66×10^{-5}
	Sg Biawak SESCO	1,044,310.00	0.00	0.00	0.00	0.00
2019	Sejingkat Power Corp	553,289,860.00	89,848.99	16.42	1.62×10^{-4}	2.97×10^{-8}
	PPLS	637,196,850.00	91,591.63	440.51	1.44×10^{-4}	6.91×10^{-7}
	MPG	1,515,106,278.00	251,154.40	669.96	1.66×10^{-4}	4.42×10^{-7}
	SPG	2,145,919,000.00	8,765.45	2,305,925.09	4.08×10^{-6}	1.07×10^{-3}
	Bintulu SESCO	625,274,140.00	12,003.51	130.25	1.92×10^{-5}	2.08×10^{-7}
	Miri SESCO	541,988,300.00	965.92	83.38	1.78×10^{-6}	1.54×10^{-7}
	Sg Biawak SESCO	2,127,200.00	0.00	0.00	0.00	0.00
2020	Sejingkat Power Corp	505,307,390.00	378,491.95	359,136.25	7.49×10^{-4}	7.11×10^{-4}
	PPLS	634,529,000.00	735,016.78	904,654.39	1.16×10^{-3}	1.43×10^{-3}
	MPG	858,735,070.00	1,021,298.63	1,134,177.51	1.19×10^{-3}	1.32×10^{-3}
	BPG	1,532,546,582.00	416,981.70	363,580.35	2.72×10^{-4}	2.37×10^{-4}
	SPG	1,628,610,510.00	14,055.59	1,178,960.42	8.63×10^{-6}	7.24×10^{-4}
	Bintulu SESCO	616,612,830.00	1,023,678.72	1,384,977.34	1.66×10^{-3}	2.25×10^{-3}
	Miri SESCO	474,195,110.00	0.00	107,678.46	0.00	2.27×10^{-4}
	Sg Biawak SESCO	330,200.00	0.00	0.00	0.00	0.00
2021	Sejingkat Power Corp	372,898,690.00	81,348.10	69,304.95	2.18×10^{-4}	1.86×10^{-4}
	PPLS	560,269,000.00	141,190.26	111,777.62	2.52×10^{-4}	2.00×10^{-4}
	MPG	861,797,571.00	215,766.98	343,351.40	2.50×10^{-4}	3.98×10^{-4}
	BPG	2,326,198,955.00	309,364.12	54,820.72	1.33×10^{-4}	2.36×10^{-5}
	SPG	1,101,259,000.00	21,690.53	1,238,778.14	1.97×10^{-5}	1.12×10^{-3}
	KID1	1,682,655,190.54	10,102.91	16,182.00	6.00×10^{-6}	9.62×10^{-6}
	Bintulu SESCO	207,738,650.00	77,778.18	137,827.00	3.74×10^{-4}	6.63×10^{-4}
	Miri SESCO	380,266,890.00	1,488.01	279,706.00	0.00	7.36×10^{-4}
	Sg Biawak SESCO	621,700.00	0.00	0.00	0.00	0.00

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Waste					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Preserving the Environment, p. 152			
103-2	The management approach and its components	Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 152			
103-3	Evaluation of the management approach	Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 152			
GRI 306: Waste 2020					
306-1	Waste generation and significant waste-related impacts	Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 152		No 12 - Ensure sustainable consumption and production patterns	
306-2	Management of significant waste related impacts	Preserving the Environment, p. 152		No 12 - Ensure sustainable consumption and production patterns	
306-3	Waste generated	Our Response to Climate Change, p. 128 – 129; Preserving the Environment, p. 152	Yes	No 12 - Ensure sustainable consumption and production patterns	

Waste Volume Generated from Hydro Power Plants by Waste Category (Tonne)

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Hydro	Bakun HEP	Used lubricating oil	SW 305	Turbine bearing and crane motor	8.20	1.40	19.80	0.20	0.00
		Used hyraulic oil	SW 306	Power intake and governor	0.00	37.60	28.40	12.60	16.30
		Spent mineral oil -water emulsion	SW 307	Dewatering pit - oil spill due to excursion from unit	3.80	6.00	11.80	1.38	2.25
				SUM	**12.00**	**45.00**	**60.00**	**14.18**	**18.55**
		Contaminated rags	SW 410	Maintenance activities	0.00	0.03	0.30	0.74	0.66
		Contaminated oil filter	SW 410	Maintenance activities	0.00	0.00	0.01	0.00	0.39
		Empty contaminated container	SW 409	Maintenance activities	0.00	0.00	0.02	0.36	0.07
				SUM	**0.00**	**0.03**	**0.33**	**1.10**	**1.12**
		Used florescent tube and bulbs	SW 109	Powerhouse and residential area	0.08	0.01	0.22	0.04	0.13
		Waste of batteries containing cadmium and nickel or mercury or lithium	SW 103	Battery room / UPS room	0.00	0.00	0.34	0.00	0.10
		Electrical and electronic waste	SW 110	Powerhouse and residential area	0.00	0.00	0.82	0.28	0.37
				SUM	**0.08**	**0.01**	**1.38**	**0.31**	**0.59**
		Contaminated soil disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Hydro Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Hydro	Murum HEP	Used lubricating oil	SW 305	Diesel genset	0.80	0.33	1.12	0.22	1.05
		Used hyraulic oil	SW 306	For hydraulic system, e.g., intake gate	1.00	2.30	31.69	25.00	169.45
		Oil water emulsion	SW 307	Lub oil contaminated with water through process (dewatering pit, lube oil contaminated with water during operation ie leak heat exchange tube)	0.20	0.37	3.58	9.20	70.61
		Dirty diesel	SW 311	Cleaning of bolts and nuts and parts of the turbine	0.70	0.00	0.03	0.00	0.00
		Used transformer oil	SW 327	-	0.00	0.00	0.00	0.00	0.00
				SUM	**2.70**	**3.00**	**36.42**	**34.42**	**241.10**
		Discarded Oxidant Media	SW 104	-	3.00	2.29	0.24	0.00	0.00
		Discarded media of air circulation unit (carb)	SW 104	-	0.00	0.56		0.00	0.00
		Discarded paint cans	SW 409	-	0.00	0.03	0.02	0.09	0.03
		Container contaminated with SW	SW 409	-	0.10	0.31	0.74	0.05	0.00
		Used oil filter	SW 410	-	0.08	0.08	0.11	0.05	0.12
		Empty spray can	SW 409	-	0.00	0.00	0.01	0.01	0.01
		Contaminated rags	SW 410	-	0.05	0.49	1.15	0.56	1.35
				SUM	**3.23**	**3.76**	**2.26**	**0.77**	**1.51**
		Discarded Light Bulb/ Tube	SW 109	Building maintenance	0.00	0.08	0.04	0.00	0.04
		Discarded Lead Acid Battery	SW 102	From Genset and DC Supply System	0.00	0.00	0.00	0.00	0.12
		E-Waste	SW 110	Electrical device	0.00	0.08	0.02	0.02	0.17
		Discarded of Battery	SW 103	From DC supply	0.00	0.05	0.04	0.00	0.14
				SUM	**0.00**	**0.21**	**0.09**	**0.02**	**0.47**
		Contaminated soil disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.67
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.67**

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Hydro Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Hydro	Murum HEP	Spent sodium hydroxide	SW 206	-	0.00	0.05	0.00	0.00	0.00
		Spent of hydrochloric acid	SW 206	-	0.00	0.04	0.00	0.00	0.00
		Mixture of SW and non-SW (Paints, plant maintainence)	SW 422	-	0.05	0.00	0.03	0.00	0.04
		Obsolete labolatory chemical	SW 430	-	0.00	0.03	0.00	0.00	0.00
				SUM	**0.05**	**0.13**	**0.03**	**0.00**	**0.04**
Hydro	Btg Ai HEP	Used lubricating oil	SW 305	Maintenance activities	1.08	7.74	8.60	5.23	6.65
		Used transformer oil	SW 327	Transformer oil maintenance	0.28	0.79	22.11	23.00	11.00
		Used transformer oil	SW 306	TRansformer oil maintenance	0.00	0.00	0.00	0.00	34.00
				SUM	**1.36**	**8.53**	**30.71**	**28.23**	**51.65**
		Disposed drums contaminated with chemicals	SW 409	-	0.00	0.40	0.00	0.24	0.25
		Disposed containers contaminated with chemicals	SW 409	-	0.00	0.32	2.13	0.12	0.11
		Contaminated rags	SW410	Maintenance activities	0.40	0.83	3.62	0.55	0.80
				SUM	**0.40**	**1.54**	**5.75**	**0.91**	**1.16**
		Discarded bulb	SW 109	-	0.00	0.17	0.30	0.56	0.50
				SUM	**0.00**	**0.17**	**0.30**	**0.56**	**0.50**
		Contaminated soil	SW 408	-	0.00	0.58	0.00	0.35	0.30
				SUM	**0.00**	**0.58**	**0.00**	**0.35**	**0.30**
		Chemicals disposed (if applicable)	SW 429	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Coal	SPC	Used lubricating oil	SW 305	Machinery maintenance	13.04	14.54	24.19	4.39	10.94
		Used hydraulic oil	SW 306	Machinery maintenance	20.84	34.31	9.65	6.28	5.57
				SUM	**33.88**	**48.85**	**33.83**	**10.67**	**16.52**
		Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes	SW 409	-	3.86	3.59	4.00	2.41	2.09
		Contaminated rags	SW 410	Items used for maintenance work	12.55	20.68	18.05	14.79	2.92
				SUM	**16.41**	**24.27**	**22.05**	**17.20**	**5.01**
		Waste of lead acid batteries in whole or crushed form	SW 102	Machinery maintenance	0.76	0.26	0.27	0.21	0.26
		Waste of batteries containing cadmium and nickel or mercury or lithium	SW 103	Machinery maintenance	0.11	0.01	0.02	0.01	0.01
		E-waste	SW 110	Electrical & electronic maintenance	0.41	0.58	0.51	0.13	0.04
		Disposed fluorescent bulb	SW 109	Electrical & electronic maintenance	0.00	0.00	0.00	0.00	0.04
				SUM	**1.29**	**0.85**	**0.80**	**0.35**	**0.35**
		Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes	SW 408	-	2.99	2.68	3.73	3.70	5.02
				SUM	**2.99**	**2.68**	**3.73**	**3.70**	**5.02**
		Chemicals that are discarded or off-specification	SW 429	-	0.00	0.25	1.74	1.72	0.47
				SUM	**0.00**	**0.25**	**1.74**	**1.72**	**0.47**
		Fly Ash (Dry/fly ash is last produced in July 2017. Thus, smaller amount than 2016 total generation)	SW 104	Plant operation	1,391.00	0.00	0.00	3,529.47	5,515.16
		Bottom Ash (Wet/bottom)	SW 104	Plant operation	86,340.52	0.00	0.00	63,652.00	48,827.28
		Wet Ash (Wet and dry ashes stored in ash pond)	SW 104	Plant operation	0.00	79,264.08	70,589.01	-	-
			Fly Ash	**SUM**	**1,391.00**	**0.00**	**0.00**	**3,529.47**	**5,515.16**
			Bottom Ash	**SUM**	**86,340.52**	**79,264.08**	**70,589.01**	**63,652.00**	**48,827.28**

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Coal	MPG	Used lubricating oil	SW 305	From machine/ equipment during shutdown	16.53	39.79	11.44	21.18	3.70
		Used hydraulic oil	SW 306	Hydraulic system (e.g., for the torch system)	0.00	0.52	0.52	0.35	0.17
				SUM	**16.53**	**40.31**	**11.95**	**21.53**	**3.87**
		Contaminated empty drum	SW 409	From machine/ equipment during shutdown & service	1.17	2.76	0.00	0.78	0.76
		Contaminated rags	SW 410	Service & cleaning oil spillage	1.98	0.48	0.14	0.43	0.06
				SUM	**3.15**	**3.24**	**0.14**	**1.21**	**0.82**
		Used batteries	SW 102	From equipment,electrical & electronic part, for genset, double AA, torchlight, for testing equipment, auxilary equipment	0.00	0.29	0.00	0.00	0.12
		E-waste	SW 110	From machine/ equipment, lap top part, part of electrical (panel)	0.09	0.03	0.51	0.15	0.00
				SUM	**0.09**	**0.33**	**0.51**	**0.15**	**0.12**
		Contaminated soil disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Discarded Chemical Waste	SW 429	Analysis and sampling, from lab	0.00	0.05	0.01	0.08	0.00
				SUM	**0.00**	**0.05**	**0.01**	**0.08**	**0.00**
		Fly Ash	SW 104	Plant operation	63,761.64	46,552.92	80,394.56	7,686.03	27,024.77
		Boiler Bottom Ash Hopper	SW 204	Plant operation	6,382.54	7,989.88	8,047.50	5,099.19	2,705.17
			Fly Ash	**SUM**	**63,761.64**	**46,552.92**	**80,394.56**	**7,686.03**	**27,024.77**
			Bottom Ash	**SUM**	**6,382.54**	**7,989.88**	**8,047.50**	**5,099.19**	**2,705.17**

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Coal	BPG	Used lubricating oil	SW305	Machinery maintenance	-	-	-	1.90	5.05
		Used hydraulic oil	SW306	Machinery maintenance	-	-	-	0.00	0.00
		Oily residue from automotive workshop, service station, oil or grease interceptor	SW312	Machinery maintenance & operation	-	-	-	0.07	0.25
				SUM	**-**	**-**	**-**	**1.97**	**5.30**
		Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes	SW409	-	-	-	-	2.70	1.64
		Contaminated rags	SW410	Items used for maintenance work	-	-	-	0.54	1.12
				SUM	**-**	**-**	**-**	**3.24**	**2.75**
		Waste of lead acid batteries in whole or crushed form	SW102	Machinery maintenance	-	-	-	0.00	0.11
		Waste of batteries containing cadmium and nickel or mercury or lithium	SW103	Machinery maintenance	-	-	-	0.00	0.01
		E-waste	SW110	Electrical & electronic maintenance	-	-	-	0.00	0.28
				SUM	**-**	**-**	**-**	**0.00**	**0.40**
		Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes	SW408	-	-	-	-	7.00	0.00
				SUM	**-**	**-**	**-**	**7.00**	**0.00**
		Chemicals that are discarded or off-specification	SW429	-	-	-	-	0.00	2.95
				SUM	**-**	**-**	**-**	**0.00**	**2.95**
		Fly Ash (Dry/fly ash is last produced in July 2017. Thus, smaller amount than 2016 total generation)	SW 104	Plant operation	-	-	-	66,967.71	120,065.35
		Bottom Ash (Wet/bottom)	SW 104	Plant operation	-	-	-	11,817.83	12,111.00
		Wet Ash (Wet and dry ashes stored in ash pond)	SW 104	Plant operation	-	-	-	113,845.11	180,231.40
			Fly Ash	**SUM**	**-**	**-**	**-**	**66,967.71**	**120,065.35**
			Bottom Ash	**SUM**	**-**	**-**	**-**	**125,662.94**	**192,342.40**

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Natural Gas	Bintulu PS	Used lubricating oil	SW 305	Maintenance	28.20	32.90	28.20	35.20	40.50
		Dirty Diesel	SW 421	Diesel engine, sometimes used for engine cleaning.	1.40	2.60	2.60	3.97	2.60
				SUM	**29.60**	**35.50**	**30.80**	**39.17**	**43.10**
		Used Paint Can	SW 409	Maintenance	0.00	0.20	0.80	0.46	0.01
		Used WD-40 Spray Cans	SW 409	Maintenance	0.00	0.00	0.00	0.00	0.05
		Used Chemical Bottle	SW 409	Maintenance	0.00	0.10	0.80	0.08	0.02
		Contaminated rags	SW 410	Maintenance	0.50	2.60	4.21	0.20	3.50
		Used oil filter	SW 410	Maintenance	0.80	3.60	5.40	3.28	2.20
		Spent Silica Gel	SW 429	Maintenance	0.00	1.70	2.10	1.43	0.61
		Spent Resin	SW 429	Maintenance	0.00	0.00	0.00	0.00	14.60
				SUM	**1.30**	**8.20**	**13.31**	**5.45**	**20.99**
		Used Cadmium Batteries	SW 103	From control system in MCR, gas turbine	8.50	5.09	0.00	0.00	0.00
		Chemical waste containing mercury	SW 109	Maintenance	0.00	0.00	0.00	0.00	0.00
		Used Bulbs	SW 110	Building Maintenance	0.00	0.00	0.11	0.21	0.03
		E-waste	SW 110	Building Maintenance	0.00	0.00	0.00	0.36	0.05
				SUM	**8.50**	**5.09**	**0.11**	**0.57**	**0.07**
		Contaminated soil disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	7.70
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**7.70**
		Mixed Chemicals	SW 429	Maintenance	0.00	0.00	0.20	0.06	0.00
		Sludge from Interceptor	SW 312	Maintenance	0.00	0.00	0.00	0.00	19.60
		Sludge containing metal	SW 204	Maintenance	0.00	0.00	3.00	0.00	57.20
		Sludge containing lead	SW 204	Maintenance	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**3.20**	**0.06**	**76.80**
		Gas condensate	SW 421	-	4.35	9.83	0.00	0.00	0.00
				SUM	**4.35**	**9.83**	**0.00**	**0.00**	**0.00**

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Natural Gas	Miri PS	Used lubricating oil	SW 305	-	2.80	10.60	2.20	2.20	11.60
		Used transformer oil	SW 306	-	26.00	8.80	0.40	2.60	0.80
		Oil-water emulsion (dirty diesel, cleaning of engine, operation of gen set)	SW 307	-	0.00	0.00	0.00	0.00	0.80
		Sludge from mineral oil storage tank (sludge from the diesel storage tank)	SW 310	-	0.00	0.00	0.00	0.00	0.00
		Mixture scheduled waste (cleaning of gen set, by products yang dikumpul)	SW 421	-	1.00	1.00	0.60	0.40	2.80
				SUM	**29.80**	**20.40**	**3.20**	**5.20**	**16.00**
		Contaminated drum	SW 409	-	0.36	0.20	0.04	0.03	0.06
		Contaminated rags	SW 410	-	1.60	1.30	0.70	0.80	1.50
		Used oil filter	SW 410	-	0.40	0.30	0.60	0.40	1.50
				SUM	**2.36**	**1.80**	**1.34**	**1.23**	**3.06**
		Used battery (gen set, acid battery)	SW 103	-	0.00	1.95	1.90	0.00	0.00
		Fluorescent tube lighting	SW 109	-	0.00	0.01	0.20	0.00	0.40
				SUM	**0.00**	**1.96**	**2.10**	**0.00**	**0.40**
		Contaminated soil disposed (if applicable)	SW 409	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Chemicals disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Gas condensate	SW 421	-	4.00	5.80	3.40	2.40	0.60
				SUM	**4.00**	**5.80**	**3.40**	**2.40**	**0.60**

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Diesel	Sg Biawak PS	Used lubricating oil	SW 305	From diesel engine (flushing of lube separators)	53.63	17.40	88.95	2.22	2.23
		Used hydraulic oil	SW 306	From transformer	0.00	0.00	17.81	0.00	0.00
				SUM	**53.63**	**17.40**	**106.75**	**2.22**	**2.23**
		Uncured Resin waste	SW 325	Termination insulation of transformer	0.00	0.10	0.00	0.00	0.00
		Contaminated empty drum	SW 409	-	1.54	1.00	0.18	0.00	0.00
		Discarded chemical bottles	SW 409	Laboratory	0.00	0.01	0.00	0.04	0.00
		Contaminated rags	SW 410	Cleaning of Diesel engine	0.30	0.05	0.01	0.03	0.00
		Used oil filter	SW 410	Diesel engine lube oil filter	0.02	0.00	0.00	0.00	0.00
				SUM	**1.86**	**1.16**	**0.19**	**0.07**	**0.00**
		Used battery acid plumbum	SW 102	From diesel fire pump (for starting)	0.14	0.08	0.00	0.00	0.02
		Waste containing mercury or its compound	SW 109	Flouresent tubes	0.00	0.05	0.04	0.00	0.00
				SUM	**0.14**	**0.13**	**0.04**	**0.00**	**0.02**
		Contaminated soil disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Non-Halogenated organic solvent	SW 322	Laboratory	0.00	0.08	0.02	0.02	0.00
				SUM	**0.00**	**0.08**	**0.02**	**0.02**	**0.00**
Diesel	Limbang PS	Used lubricating oil	SW 305	Machinery maintenance	30.60	54.60	42.60	56.80	66.00
		Dirty Diesel	SW 421	Machinery maintenance	24.20	32.60	22.80	30.40	14.20
				SUM	**54.80**	**87.20**	**65.40**	**87.20**	**80.20**
		Contaminated Used Drum	SW 409	Machinery maintainance	1.06	4.42	2.24	1.84	2.03
		Contaminated Used Paint Can	SW 409	Machinery maintainance	0.05	0.40	0.40	0.15	0.00
		Contaminated rags	SW 410	Machinery maintainance	0.90	1.50	1.30	1.80	1.90
		Used oil filter	SW 410	Machinery maintainance	0.60	0.20	0.10	0.07	0.63
				SUM	**2.61**	**6.52**	**4.04**	**3.86**	**4.56**
		Lead Acid Battery	SW 102	From machine/ equipment (Fork lift, dari fire hydrant pump)	0.00	0.50	0.00	0.00	0.00
		Unused Air Conditioner (e-waste)	SW 110	From machine/ equipment	0.02	0.20	0.00	0.00	0.00
				SUM	**0.02**	**0.70**	**0.00**	**0.00**	**0.00**
		Contaminated Soil	SW 408	Machinery maintainance	0.00	0.10	0.00	0.00	0.00
				SUM	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**
		Chemicals disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
306-3	Waste generated	**Waste Volume Generated from Coal, Gas and Diesel Fired Power Plants by Waste Category (Tonne)**	Yes	No 12 - Ensure sustainable consumption and production patterns	

Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	Waste Quantity by Year (Tonne) 2017	2018	2019[2]	2020[1]	2021*
Diesel	Lawas PS	Used lubricating oil	SW 305	-	6.40	11.00	11.57	20.20	30.00
		Dirty Diesel	SW 421	-	8.39	14.20	12.49	0.00	0.00
		Oily Residue from Station Interceptor	SW 312	-	0.00	0.00	0.00	0.00	3.00
				SUM	**14.78**	**25.20**	**24.06**	**20.20**	**33.00**
		Contaminated empty drum	SW 409	-	0.00	1.12	1.05	0.65	0.18
		Contaminated rags	SW 410	-	0.41	1.60	1.98	1.40	0.80
				SUM	**0.41**	**2.72**	**3.03**	**2.05**	**0.98**
		E-waste disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	1.86
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**1.86**
		Contaminated soil	SW 108	-	0.98	0.00	0.00	0.00	0.20
				SUM	**0.98**	**0.00**	**0.00**	**0.00**	**0.20**
		Chemicals disposed (if applicable)	-	-	0.00	0.00	0.00	0.00	0.00
				SUM	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Type of Plant	Type of Waste	Waste Quantity by Year (Tonne) 2017	2018	2019	2020	2021
Hydro	Used Oil	16.06	56.53	127.13	76.83	311.30
	Contaminated Items	3.63	5.33	8.34	2.77	3.79
	E-Waste	0.08	0.38	1.77	0.89	1.56
	Contaminated Soil	0.00	0.58	0.00	0.35	0.97
	Chemicals	0.05	0.14	0.73	0.91	0.04
	Total	**19.82**	**62.96**	**137.982**	**81.751**	**317.65***
Thermal	Used Oil	233.01	274.86	276.00	188.16	200.21
	Fly Ash	65,152.64	46,552.92	80,394.56	78,183.21	152,605.28
	Bottom Ash	92,723.06	87,253.96	78,636.51	194,414.13	243,874.85
	Others (Contaminated Items, E-Waste, Gas Condensate, Contaminated Soil and Chemicals)	50.45	75.75	59.74	50.36	135.10
	Total	**158,159.16**	**134,157.49**			
	Grand Total	**158,178.98**	**134,220.46**	**159,504.78[2]**	**272,917.61[1]**	**397,133.10***

Notes:

[1] *This scheduled waste generation intensity data has been assured by a third party for Sustainability Report 2020.*

[2] *This scheduled waste generation intensity data has been assured by a third party for Sustainability Report 2019.*

* *This scheduled waste generation intensity data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Environmental Compliance					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Preserving the Environment, p. 152			
103-2	The management approach and its components	2021 Year in Review, p. 14; Preserving the Environment, p. 152 - 153			
103-3	Evaluation of the management approach	Key Focus Areas' Targets, p. 65; Preserving the Environment, p. 152 - 153			
GRI 307: Environmental Compliance 2016					
307-1	Non-compliance with environmental laws and regulations	2021 Year in Review, p. 14; Key Focus Areas' Targets, p. 65; Preserving the Environment, p. 152 - 153 1. The company was fined RM 2,000 for violating Environmental Quality (Scheduled Wastes) Regulation 2005 in Long Lama Power Station 2. The company was fined RM 4,000 for 4 violations under Environmental Quality (Scheduled Wastes) Regulation 2005 in Central Region Office		No 16 – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
Employment					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Creating Value for Stakeholders, p. 161			
103-2	The management approach and its components	Our People, p. 66			
103-3	Evaluation of the management approach	Creating Long-Term Value, p. 101			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
401-1	New employee hires and employee turnover	Creating Long-Term Value, p. 101; Creating Value for Stakeholders; p. 161 **New Hires and Turnover by Gender and Age**		No 5 – Achieve gender equality and empower all women and girls No 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	

New Hires (by Gender)	2017			2018			2019			2020			2021		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	278	70	348	227	77	304	258	110	368	275	75	350	121	42	163
By age, in numbers															
Up to 30 years old	244	59	303	158	58	216	159	67	226	222	53	275	89	31	120
Between 31 and 50 years old	20	10	30	51	17	68	99	43	142	45	22	67	29	11	40
Over 50 years old	14	1	15	18	2	20				8	0	8	3	0	3

Staff Turnover (by Gender)	2017			2018			2019			2020			2021		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	95	42	137	128	32	160	147	26	173	146	30	176	155	27	182
By age, in numbers															
Up to 30 years old	28	21	49	18	19	37	76	23	99	18	10	28	13	6	19
Between 31 and 50 years old	19	8	27	21	7	28				22	6	28	28	11	39
Over 50 years old	48	13	61	89	6	95	71	3	74	106	14	120	114	10	124

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD

New Hires and Turnover by Gender and Age

New Hires (by Company)	2017			2018			2019			2020			2021		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	278	70	348	227	77	304	258	110	368	275	75	350	121	42	163
By company, in numbers															
Sarawak Energy Berhad	254	61		227	77	304	258	110	368	275	75	350	121	42	163
Sejingkat Power	-	-													
Mukah Power	-	-													
SESCO Headquarters	1	4													
SESCO Kuching	10	1													
SESCO Sri Aman	0	2													
SESCO Sarikei	2	1													
SESCO Sibu	2	2													
SESCO Bintulu	-	-													
SESCO Miri	3	2													
Balingian Power Generation	1	2													
SarawakHidro Sdn Bhd	0	0													

Staff Turnover (by Company)	2017			2018			2019			2020			2021		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	95	42	137	128	32	160	147	26	173	146	30	176	155	27	182
By company, in numbers															
Sarawak Energy Berhad	13	8		16	15		34	12	46	35	11	46	37	11	48
Sejingkat Power	2	0		3			11		11				4	0	4
Mukah Power	2	0		2			3		3				2	0	2
SESCO Headquarters	45	17		52	8		37	10	47	37	8	45	40	6	46
SESCO Kuching	11	9		18	2		14	1	15	36	4	40	34	6	40
SESCO Sri Aman	0	0		6			3		3						
SESCO Sarikei	2	0		2	1		11		11	4	1	5	7	0	7
SESCO Sibu	7	4		12	2		14		14	9	1	10	17	1	18
SESCO Bintulu	4	0		7	2		7	1	8	5	0	5	3	2	5
SESCO Miri	8	4		10	2		12	1	13	14	4	18	5	1	6
Balingian Power Generation	1	0		-	-			1	1				1	0	1
SarawakHidro Power Sdn. Bhd.	0	0		40	15		1		1	2	0	2	3	0	3
Bakun Hydro Power Generation										4	1	5	2	0	2

% Turnover rate 2017 = 2.77%
% Turnover rate 2018 = 3.19%
% Turnover rate 2019 = 3.32%
% Turnover rate 2020 = 3.27%
% Turnover rate 2021 = 3.34%

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees			No 8 – Promote inclusive and sustainable economic growth, employment and decent work for all	

Types of Leave	Description	Remarks
Annual	Service below 10 years = 20 days per annum Service 10 years and above = 25 days per annum	All employees received same entitlement irrespective of salary grade
Maternity	90 calendar days	Limited to 5 surviving children
Nursing	Maximum 60 calendar days	Unpaid
Paternity	7 continuous calendar days	Limited to 5 occasions
Hajj	40 calendar days	Granted only once; should serve for not less than 5 continuous years
Unrecorded	30 working days per annum - maximum	For the purpose of: • Armed Forces Training • Sporting & Cultural Activities • Koperasi SESCO • Examination • Deepavali – 1 day • Charity • Pilgrimage
Study	Subject to terms and conditions as determined by the Company	
Compassionate	Up to 4 working days	For purpose of attending the funeral of any one of the following relatives: • Spouse • Children who are natural, lawfully adopted or stepchildren • Parents • Parents in-law • Children's Spouse
Overtime	Maximum of 15 working days or 120 hours per year	For executive group E1-E4 only and valid per current year
Sick	Non-hospitalized = 22 days Hospitalized = 60 days	Aggregate 60 days paid leave per annum
Prolonged Illness	• On full salary for a maximum period of 6 consecutive months • On half salary for a further period of 6 consecutive months • Unpaid prolonged illness leave for a further period of 6 consecutive months	
Blood donors privilege	1 day	

Loan & Subsidy Benefits

Type of Loan & Subsidies	Entitlement (RM)	Remarks
Housing (Interest Subsidy)	400,000.00	Same entitlement irrespective of salary grade
Car (Interest Subsidy)	50,000.00 - 130,000.00	Entitlement based on Employee Grade
Motorcycle Loan	7,000.00	All Staff
House Moving Expenses Subsidy	1,500.00	Same entitlement irrespective of salary grade

Welfare

Funeral Financial Assistance

Deceased Person	Rate (RM)	Remarks
Serving Employee, Spouse & Children < 21 years old, Parents	3,000.00	
Retiree	3,000.00	Employees joined employment on or after 1st September 2019 are not entitled

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	**Other Benefits** Reimbursement – Subsidy Rate (RM) Dental & Optical – 750 per year and per family Healthy Living Allowance[1] – 500 per year and per family Mobile Phone Reimbursement Subsidy[2] – Ranging from RM1,800 to RM5,800 based on employee grade Mobile Phone Bill Subsidy[2] – RM60 per month *Notes:* *[1] Effective 1st August 2021, Healthy Living Reimbursement converted to one-off payment allowance.* *[2] New reimbursement benefit added on 1st October 2021.*		No 8 – Promote inclusive and sustainable economic growth, employment and decent work for all	
Occupational Health and Safety					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Creating Value for Stakeholders, p. 164 & 169			
103-2	The management approach and its components	2021 Year in Review, p. 14 – 15; Group Chief Executive Officer's Statement, p. 26; Management Discussion & Analysis, p. 32 - 33; Our People, p. 72; A Safe and Healthy Workplace, p. 73 - 77; Creating Value for Stakeholders, p. 160, p. 164 - 169			
103-3	Evaluation of the management approach	2021 Year in Review, p. 15; Key Focus Areas' Targets, p. 65; A Safe and Healthy Workplace, p. 76 - 77; Creating Value for Stakeholders, p. 160 & p. 165 - 169			
GRI 403: Occupational Health and Safety 2018					
403-1	Occupational health and safety management system	A Safe and Healthy Workplace, p. 74; Creating Value for Stakeholders, p. 164		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-2	Hazard identification, risk assessment, and incident investigation	A Safe and Healthy Workplace, p. 74; Creating Value for Stakeholders, p. 168		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-3	Occupational health services	Creating Value for Stakeholders, p. 167		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
403-4	Worker participation, consultation, and communication on occupational health and safety	2021 Year in Review, p. 14; A Safe and Healthy Workplace, p. 74 – 75; Creating Value for Stakeholders, p. 164 & p. 166 – 169 **Environment & Occupational Health & Safety (EOSH) Members in 2020 & 2021:** Members – Year 2020 – Year 2021 Chairman – 22 – 22 Secretary – 22 – 22 Employer Representative – 211 – 211 Employees Representative – 301 – 301		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-5	Worker training on occupational health and safety	2021 Year in Review, p. 14; Creating Value for Stakeholders, p. 168		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-6	Promotion of worker health	2021 Year in Review, p. 14 - 15; Group Chief Executive Officer's Statement, p. 26; Key Focus Areas' Targets, p. 65; Our People, p. 72; A Safe and Healthy Workplace, p. 73 & 75; Creating Value for Stakeholders, p. 166 - 169		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Creating Value for Stakeholders, p. 164 – 165, 167 & 169		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
403-9	Work-related injuries	Management Discussion & Analysis, p. 32; Key Focus Areas' Targets, p. 65; Creating Value for Stakeholders, p. 160 & p. 165 - 166		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
403-10	Work-related ill health	Creating Value for Stakeholders, p. 164		No 3 - Ensure healthy lives and promote well-being for all at all ages No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
Training and Education					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Creating Value for Stakeholders, p. 162			
103-2	The management approach and its components	2021 Year in Review, p. 15; Our People, p. 67 - 72			
103-3	Evaluation of the management approach	2021 Year in Review, p. 15; Key Focus Areas' Targets, p. 65; Our People, p. 70; Creating Value for Stakeholders, p. 162 - 163			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 404: Training and Education 2016					
404-1	Average hours of training per year per employee	Creating Value for Stakeholders, p. 162 - 163 **Total and Average of Hours of Training Recorded by Category and Gender for 2017 - 2021**		No 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all No 5 - Achieve gender equality and empower all women and girls No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
404-2	Programs for upgrading employee skills and transition assistance programs	2021 Year in Review, p. 15; Our People, p. 67 - 72		No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
404-3	Percentage of employees receiving regular performance and career development reviews	**100%** Key Focus Areas' Targets, p. 65		No 5 - Achieve gender equality and empower all women and girls No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
Indigenous Rights					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Climate Action Stewardship Through Sustainable Solutions, p. 115			
103-2	The management approach and its components	Powering Our Community, p. 86; Climate Action Stewardship Through Sustainable Solutions, p. 115 - 116			
103-3	Evaluation of the management approach	Climate Action Stewardship Through Sustainable Solutions, p. 115			

Year		2017	2018	2019	2020	2021
Total Number of Employees by Category	Management	216	476	145	54	49
	Executive	2550	2,140	1,538	1,468	1,578
	Non-executive	5144	5,427	3,338	3,864	3,815
Total Hours of Training by Category	Management	886.00	7,987.00	3,269.00	1,506	1,972
	Executive	29,672.00	31,479.00	28,932.00	40,945	87,115
	Non-executive	70,879.50	73,919.50	57,864.00	35,652	77,487
Average Hours of Training by Category	Management	4.10	16.78	22.54	27.89	40.24
	Executive	11.64	14.71	18.81	27.89	55.21
	Non-executive	13.78	13.62	17.33	9.23	20.31

Note:

[1] Year 2020 data was revised to reflect additional learning hours recaptured during internal L&D learning data cleansing exercise in Year 2021

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 411: Rights of Indigenous People 2016					
411-1	Incidents of violations involving rights of indigenous peoples	**There were no identified incidents of violations involving the rights of indigenous peoples during the reporting period.**		No 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture	
Local Communities					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Powering Our Community, p. 86 - 87; Developing a Sustainable Community, p. 172			
103-2	The management approach and its components	Powering Our Community, p. 86 - 90; Climate Action Stewardship Through Sustainable Solutions, p. 117; Developing a Sustainable Community, p. 172 - 177			
103-3	Evaluation of the management approach	Developing a Sustainable Community, p. 172 - 176			
GRI 413: Local Communities 2016					
413-1	Operations with local community engagement, impact assessments, and development programs	**100% of Sarawak Energy's operations involves and includes local community engagement, impact assessments and development programs, particularly projects categorised under "prescribed activities" by the Natural Resources and Environment Board, Sarawak and Department of Environment.** Powering Our Community, p. 86 - 90; Climate Action Stewardship Through Sustainable Solutions, p. 117; Developing a Sustainable Community, p. 172 – 177		No 16 - Promote peaceful and inclusive societies for sustainable provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
Customer Privacy					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Statement on Risk Management and Internal Control, p. 55; Embracing Low Carbon Economy, p. 142 - 143			
103-2	The management approach and its components	Statement on Risk Management and Internal Control, p. 55 – 59; Embracing Low Carbon Economy, p. 142 - 145			
103-3	Evaluation of the management approach	Statement on Risk Management and Internal Control, p. 55 – 56 & p. 58 – 59; Embracing Low Carbon Economy, p. 142 & 144			

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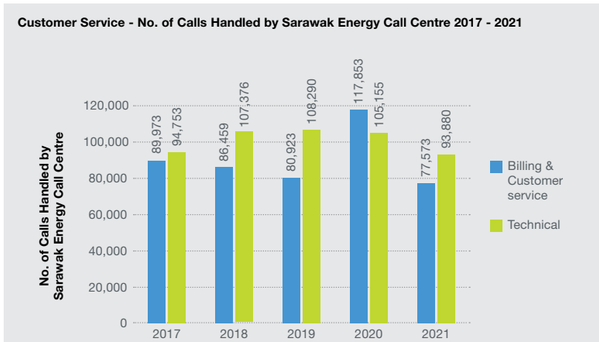
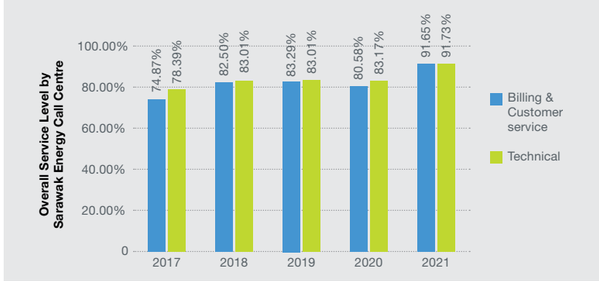
GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
GRI 418: Customer Privacy 2016					
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	There were no substantiated complaints regarding breaches of customer privacy and losses of customer data in 2021. **Number of Calls Handled by Sarawak Energy Call Centre and Overall Service Level by Sarawak Energy Call Centre** **Customer Service - No. of Calls Handled by Sarawak Energy Call Centre 2017 - 2021**  **Customer Service - Overall Service Level by Sarawak Energy Call Centre 2017- 2021**  ***Notes:*** *1. For Billing and Customer Service, our customer care executives offer assistance and handle enquiries associated with new applications, billing and meter related issues, as well as general enquires (office location, counter operating hours, tariff, etc).* *2. For Technical, we primarily cover outages, streetlight and other technical issues such as vegetation clearing, voltage issue, slanting/broken pole or wire, vandalism etc.*	No 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Sosioeconomic Compliance					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Statement on Risk Management and Internal Control, p. 55			
103-2	The management approach and its components	Statement on Risk Management and Internal Control, p. 55 - 59			
103-3	Evaluation of the management approach	Statement on Risk Management and Internal Control, p. 55 – 56 & p. 58 - 59			
GRI 419: Sosioeconomic Compliance 2016					
419-1	Non-compliance with laws and regulations in the social and economic area	During the year under review, Sarawak Energy did not incur any fines for non-compliance with: i. Products and services on information and labeling ii. Marketing communications including advertising, promotions and sponsorships		No 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
ELECTRIC UTILITIES SECTOR DISCLOSURES					
Organisational Profile					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	About Sarawak Energy, p. 3			
103-2	The management approach and its components	Our Response to Climate Change, p. 129			
103-3	Evaluation of the management approach	Our Response to Climate Change, p. 129			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Sector Disclosure: Organisational Profile					
EU1	Installed Capacity, Broken Down by Primary Energy Source and by Regulatory Regime	Embracing Low Carbon Economy, p. 136		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	**TCFD**
EU2	Net Energy Output Broken Down by Primary Energy Source and by Regulatory Regime	Our Response to Climate Change, p. 129; Embracing Low Carbon Economy, p. 136	Yes	No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development	TCFD

Major Grid Generation by Plants (GWh), by Energy Source	2017	2018	2019	2020	2021
Hydro					
Batang Ai HEP	442.32	480.59[2]	386.99[1]	517.43[1]	475.02*
Bakun HEP	13,078.27	14,351.89[2]	15,424.40[1]	14,680.88[1]	16,239.10*
Murum HEP	5,717.39	6,053.06[2]	5,688.83[1]	6,406.41[1]	6,456.37*
Lundu PS	2.62	2.85[2]	3.02[1]	1.64[1]	1.10*
Coal					
Sejingkat Power Corp.	684.11	593.49[2]	505.91[1]	494.90[1]	330.74*
PPLS Power Generation	673.69	614.13[2]	518.67[1]	516.33[1]	500.26*
Mukah Power Generation Sdn. Bhd.	1,494.40	1,401.96[2]	1,343.97[1]	770.63[1]	776.40*
Balingian Power Generation	-	-	1,421.72[1]	1,263.98[1]	2,104.91*
Gas					
Miri PS	516.56	487.51[2]	535.37[1]	468.37[1]	375.00*
Bintulu PS	614.31	661.31[2]	615.47[1]	608.67[1]	204.36*
Sarawak Power Generation	1,738.20	2,023.03[2]	2,106.25[1]	1,594.56[1]	1,073.28*
Kidurong Power Generation	-	-	-	212.11[1]	1,626.88*
Diesel					
Sg Biawak PS	16.18	-0.57[2]	0.89[1]	-0.79[1]	-0.49*
TOTAL ENERGY GENERATED	**24,978.05**	**26,669.24[2]**	**28,551.51[1]**	**27,535.13[1]**	**30,162.88***

Notes:

[1] *This net energy generated data has been assured by a third party for Sustainability Report 2020.*

[2] *This net energy generated data has been assured by a third party for Sustainability Report 2018.*

* *This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

EU3	Number of Residential, Industrial, Institutional and Commercial Customer Accounts	About Sarawak Energy, p. 3			

Grid / Non Grid No. of Customers Ending 2021

Grid	Tariff	No. of Active Customers' Account	No. of Inactive Customers' Account	Total No. of Customers' Account
Grid	C1	100,321	6,907	107,228
Grid	C2	19	1	20
Grid	C3	37	1	38
Grid	DOM	596,299	22,461	618,760
Grid	I1	933	22	955
Grid	I2	32	4	36
Grid	I3	83	3	86
Grid	I4	15	0	15
Grid	PL	11,713	282	11,995
Non Grid	C1	4,160	200	4,360
Non Grid	DOM	20,956	898	21,854
Non Grid	I1	24	0	24
Non Grid	PL	304	3	307
Grand Total		**734,896**	**30,782**	**765,678**

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
EU4	Length of Above and Underground Transmission and Distribution Lines by Regulatory Regime	Internalising the Global Sustainability Agenda, p. 96		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	

Distribution Lines

	Total Length of Distribution Lines in 2021					
	33kV Distribution		11kV Distribution		415V Distribution	
Region	O/H (km)	U/G (km)	O/H (km)	U/G (km)	O/H (km)	U/G (km)
WR Kuching	1,164.65	837.13	2,264.02	1,959.15	5,508.30	1,759.23
WR Sri Aman	869.66	67.72	1,592.52	183.64	1,456.78	102.53
CR Sarikei	349.13	74.35	673.5	109.54	1,349.45	136.69
CR Sibu	1,198.45	364.34	1,507.66	967.30	3,311.17	846.46
NR Bintulu	768.00	235.97	217.78	374.10	610.52	240.74
NR Miri	438.43	609.10	783.65	642.73	2,984.22	668.27
NR Limbang	109.77	20.60	691.29	80.16	578.24	40.04
Total	**4,898.08**	**2,209.20**	**7,730.41**	**4,316.61**	**15,798.68**	**3,793.95**

Transmission Lines

	Total Length of Transmission Lines in 2021			
	500kV energized at 275kV	275kV	132kV	Total
Overhead (km)	753.00	3,103.22	1,153.36	**5,009.58**
Underground (km)	0	0	23.47	**23.47**
Total (km)	**753.00**	**3,103.22**	**1,176.83**	**5,033.05**

Availability and Reliability				
GRI 103: Management Approach 2016				
103-1	Explanation of the material topic and its Boundary	Embracing Low Carbon Economy, p. 134		
103-2	The management approach and its components	Renewable Energy for Sarawak & Beyond, p. 9		
103-3	Evaluation of the management approach	Embracing Low Carbon Economy, p. 136		
Sector Disclosure: Availability & Reliability				
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Renewable Energy for Sarawak & Beyond, p. 9 – 10; Embracing Low Carbon Economy, p. 136		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Sector Disclosure: Organisational Profile					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Group Chief Executive Officer's Statement, p. 26			
103-2	The management approach and its components	2021 Year in Review, p. 15; Climate Action Stewardship Through Sustainable Solutions, p. 112 - 113; Embracing Low Carbon Economy, p. 138			
103-3	Evaluation of the management approach	2021 Year in Review, p. 15; Group Chief Executive Officer's Statement, p. 26; Report Card 2021, p. 63; Key Focus Areas' Targets, p. 65; Embracing Low Carbon Economy, p. 138			
Sector Disclosure: System Efficiency					
EU11	Average generation efficiency of thermal plants by energy source and by regulatory			No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all No 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development	

Plant Type	Major Plant	Total Average Energy Efficiency[1] (%) – Year 2017	Total Average Energy Efficiency[1] (%) – Year 2018	Total Average Energy Efficiency[1] (%) – Year 2019	Total Average Energy Efficiency[1] (%) – Year 2020	Total Average Energy Efficiency[1] (%) – Year 2021
Coal	Sejingkat Power Corp	26.42%	26.39%	27.25%	25.11%	26.83%
Coal	PPLS	30.19%	31.80%	30.72%	32.62%	22.00%
Coal	MPG	33.49%	32.70%	31.90%	33.01%	32.19%
Coal	BPG	-	-	35.58%	31.85%	35.22%
Combined Cycle - Natural Gas	SPG	38.22%	38.59%	40.25%	38.68%	32.72%
Combined Cycle - Natural Gas	KID1	-	-	-	-	44.78%
Open Cycle - Natural Gas	Bintulu SESCO	20.94%	21.70%	21.22%	21.03%	21.85%
Open Cycle - Natural Gas	Miri SESCO	20.89%	21.89%	21.28%	21.44%	21.79%
Diesel - Standby	Sg Biawak SESCO	31.19%	24.05%	22.14%	17.86%[2]	20.48%[2]
Diesel - Non Grid	Limbang SESCO	37.08%	34.88%	34.69%	34.58%	33.81%
Diesel - Non Grid	Lawas SESCO	36.30%	34.69%	34.40%	34.37%	33.31%

Notes:
[1] *Total average energy efficiency for Sarawak Energy thermal power plants connected to Main and Northern grids.*
[2] *Plant on standby mode*

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
EU12	Transmission and distribution losses as a percentage of total energy	2021 Year in Review, p. 15; Report Card 2021, p. 63; Key Focus Areas' Targets, p. 65; Internalising the Global Sustainability Agenda, p. 96; Embracing Low Carbon Economy, p. 138 - 139		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all No 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all No 12 – Ensure sustainable consumption and production patterns No 13 – Take urgent action to combat climate change and its impacts No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development	

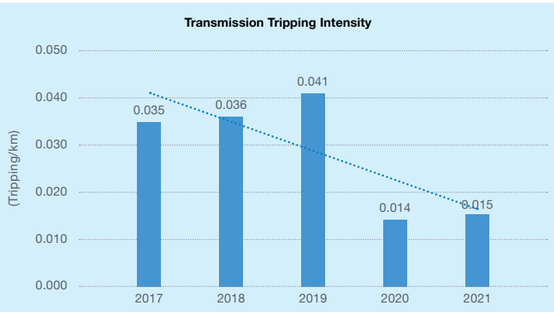
Total Number of Transmission Tripping and Tripping Intensity at Transmission (Year 2017 – 2021)

Total Distance of Distribution and Transmission lines:

Total Distance	2017	2018	2019	2020	2021
Distribution - 33kV, 11kV, 415kV (km)	34,421.06	35,095.00	35,948.05	37,174.33	38,746.93
Transmission (km)	2,187.59	2,224.80	2,404.76	4,707.46	5,033.05
TOTAL	**36,608.65**	**37,319.80**	**38,352.81**	**41,881.79**	**43,779.98**

Total Number of Transmission Tripping and Tripping Intensity at Transmission:

Total Distance	Year	2017	2018	2019	2020	2021
Number of Transmission Tripping	Substation	21	22	29	15	12
	Transmission	56	58	69	53	64
	Total	**77**	**80**	**98**	**68**	**76**
Transmission Tripping Intensity (Tripping/km)		**0.035**	**0.036**	**0.041**	**0.014**	**0.015**



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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Access					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	About Sarawak Energy, p. 3; Renewable Energy for Sarawak & Beyond, p. 8; Lighting Up Sarawak, p. 170			
103-2	The management approach and its components	About Sarawak Energy, p. 5; Renewable Energy for Sarawak & Beyond, p. 8; Energy for Sarawak, p. 13; 2021 Year in Review, p. 15; Group Chief Executive Officer's Statement, p. 25; Management Discussion & Analysis, p. 30 - 31; Delivering Sustainable Growth, p. 82; Creating Value for Stakeholders, p. 160; Lighting Up Sarawak, p. 170			

Total Number of DRMS (Distribution Remote Monitoring System)

Year	2020	2021
Description	**Total Number Installed**	**Total Number Installed**
DRMS Sub	695	1,092
RTU	705	1,142

Sensor	Telemetry Points	Telemetry Points
Photobeam	1	1
Street Light Aux. Cont.	41	53
Street Light Supply	84	104
Battery Charger Supply	-	37
Battery Room Door	-	33
Air Conditioner	-	8
Zone Substation	-	11
Mobile Sub Door	-	10
Substation Building	27	-
Pillar Door	846	1,321
EFI	561	852
Transformer Loss of Supply	747	1,319
Main Gate	16	16
Total Points	**2,325**	**3,765**

103-3	Evaluation of the management approach	2021 Year in Review, p. 15; Report Card 2021, p. 62 - 63; Key Focus Areas' Targets, p. 65; Creating Long-Term Value, p. 101; Internalising the Global Sustainability Agenda, p. 136; Embracing Low Carbon Economy, p. 137; Creating Value for Stakeholders, p. 160; Lighting Up Sarawak, p. 170			

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GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Sector Disclosure: Access					
EU26	Percentage of population unserved in licensed distribution or service areas	About Sarawak Energy, p. 3 & 5; Renewable Energy for Sarawak & Beyond, p. 8; 2021 Year in Review, p. 15; Group Chief Executive Officer's Statement, p. 25; Management Discussion & Analysis, p. 30 - 31; Delivering Sustainable Growth, p. 82; Internalising the Global Sustainability Agenda, p. 96; Creating Long-Term Value, p. 101; Creating Value for Stakeholders, p. 160; Lighting Up Sarawak, p. 170 • State electrification coverage – 98.62%* • Rural electrification coverage – 96.54%* (135,490 of rural households electrified since 2009)	Yes	No 1 – End poverty in all its forms everywhere No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	

NEW HOUSEHOLDS CONNECTED

YEAR	2017	2018	2019	2020	2021
Normal Rural Electrification Scheme (RES)	5,409	3,990	5,239	3,186	4,010
Hybrid Programmes	966	270	483	70	115
SARES	1,124	1,448	3,122	3,354	1,912
TOTAL	**7,499**	**5,748**	**8,844**	**6,610**	**6,037**

Note:

** These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 178 - 182.*

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
EU27	Number of residential disconnections for non-payments, broken down by duration of disconnection and by regulatory regime	Embracing Low Carbon Economy, p. 139		No 1 – End poverty in all its forms everywhere No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	
EU28	Power outage frequency	2021 Year in Review, p. 15; Management Discussion & Analysis, p. 31; Report Card 2021, p. 63; Key Focus Areas' Targets, p. 65; Embracing Low Carbon Economy, p. 137		No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	
EU29	Average power outage duration	Energy for Sarawak, p. 13; 2021 Year in Review, p. 15; Management Discussion & Analysis, p. 31; Report Card 2021, p. 63; Key Focus Areas' Targets, p. 65; Sustainability Key Highlights, p. 94; Internalising the Global Sustainability Agenda, p. 96; Embracing Low Carbon Economy, p. 137		No 1 - End poverty in all its forms everywhere No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	
EU30	Average plant availability factor by energy source and by regulatory regime	Management Discussion & Analysis, p. 31; Report Card 2021, p. 62; Key Focus Areas' Targets, p. 65; Internalising the Global Sustainability Agenda, p. 96; Embracing Low Carbon Economy, p. 136		No 1 - End poverty in all its forms everywhere No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	

Average plant equivalent availability factor (%) and Forced Outage (Hours) by energy source (Thermal Power Plants)

		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021	
Plant Type	Major Plant	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)
Plant Type	Major Plant										
Coal	Sejingkat Power Corp	85.91	62.01	88.45	340.77	73.32	3,998.2	82.88	1,187.65	83.32	1,573.05
Coal	PPLS	90.48	217.8	88.63	433.95	89.56	1,191.7	90.34	400.93	95.36	44.48
Coal	MPG	80.63	784.57	79.33	547.42	75.43	519.98	87.73	220.67	86.36	452.72
Coal	BPG	-	-	-		41.48	5.88	97.04	182.72	73.41	1,053.22
Combined Cycle – Natural Gas	SPG	71.88	1,050.09	88.61	87.63	88.25	252.24	72.04	282.87	61.55	877.16
Open Cycle – Natural Gas	Bintulu SESCO	87.58	963.93	91.17	196.93	91.1	642.26	87.04	237.44	95.02	1,458.72
Combined Cycle – Natural Gas	Kidurong Power Generation	-	-	-	-	-	-	-	-	87.48	1,835.77
Open Cycle – Natural Gas	Miri SESCO	75.47	1,365.65	77.96	712.03	93.48	273.45	88.81	2,108.05	82.32	5,446.14
Diesel – Standby	Sg Biawak SESCO	92.24	992.93	87.12	4,106.3	99.06	32.29	98.79	0.00	89.34	0.00
Diesel – Non Grid	Limbang SESCO	97.87	145.5	95.08	1336	97.05	221	97.48	120.00	86.87	10,627.00
Diesel – Non Grid	Lawas SESCO	72.30	29	76.26	0	74.57	1,560	95.59	114.00	82.02	137.00

Part 12 GRI CONTENT INDEX

102-55

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
EU30	Average plant availability factor by energy source and by regulatory regime			No 1 - End poverty in all its forms everywhere No 7 – Ensure access to affordable, reliable, sustainable and modern energy for all	

		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021	
Plant Type	Major Plant	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)
Hydro	Batang Ai HEP	94.8	35.97	92.1	3.9	83.83	172.22	91.40	122.04	95.89	19.04
Hydro	Murum HEP	95.19	48.24	96.08	170.94	85.09	1076.91	94.85	250.51	93.69	295.29
Hydro	Bakun HEP	93.56	1,662.82	92.23	23.37	97.13	482.17	94.84%	284.22	95.68	278.59

Notes:
1. Sarawak Energy Thermal Power Plants is using Equivalent Availability Factor (EAF).
2. Sarawak Energy Hydro operation is using Availability Factor (AF).

Research and Development					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Delivering Sustainable Growth, p. 83			
103-2	The management approach and its components	Delivering Sustainable Growth, p. 80 & p. 83 - 85			
103-3	Evaluation of the management approach	Delivering Sustainable Growth, p. 83			
Sector Disclosure: Research & Development					
(Former EU8)	Research and development activity and expenditure aimed at providing reliability electricity and promoting sustainable development	Delivering Sustainable Growth, p. 83 - 85		No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all No 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation No 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	

Research and Development Projects for 2021

Name of Project	Approved Budget (RM)
Semadang_Microgrid project	3,974,996.00
New Laboratory	962,000.00
Grid Connected Energy Storage System	364,565.30
Solar-Hydrogen in rural electrification	996,451.00
Gasification Plant at Paloh PowerStation	90,000.00
Fall Protection System Menara SE Rooftop	243,267.87
Transformer Oil & Lubricating Oil Laboratory	320,000.00
Refurbishment of Kalamuku MH - E&M Works	295,760.00
Development of AI Robotic System	80,000.00
Hydro Env Sci Research Programmes	58,085.00
GHG Monitoring of HEPs (CP)	31,915.00
Integration of |Smart and Low-Cost Sensor	100,000.00
New Software-CFD	55,000.00
Covered Conductor Pilot Project	50,084.70
Refurbishment of Sg Kejin Mini Hydro (CP)	332,041.07
Modelling and Simulation tools for DER	620,000.00
Lightning Research Study on 275kV TL	360,000.00
PV and Micro hydro integration for Rh Bada	15,000.00
Energy Efficiency and Energy Management Initiatives	275,000.00
Waterpower prototype & research programme	150,000.00
TOTAL	**9,374,165.94**

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