



SUSTAINABILITY REPORT



● Menara Sarawak Energy.

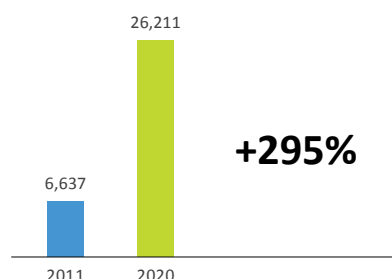
SUSTAINABILITY KEY HIGHLIGHTS

PERFORMANCE AT A GLANCE

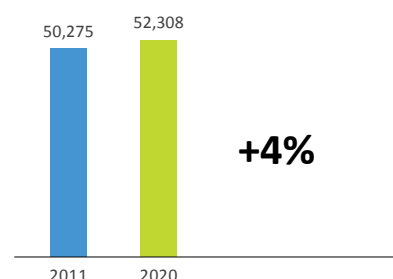
To provide reliable, affordable and renewable energy for our customers, we endeavour to create long-lasting value and positive impacts along our journey, seeking opportunities for the sustainable growth of our business as well as for Sarawak. Our aim is to meet energy needs while preserving the environment and empowering our society, even as we generate resilient financial growth. To ensure we meet our goals, we benchmark our performance against the three pillars of sustainable development – Economic, Environment and Social.

Our performance in 2020 is presented against the baseline year of 2011 in the following graphs:

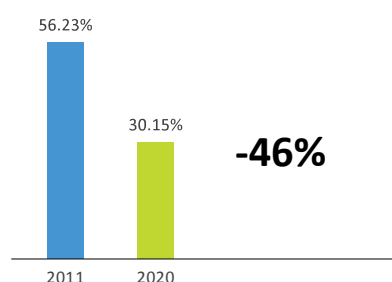
Total Electricity Sales (GWh)



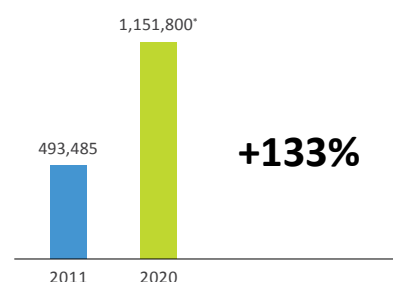
Total Hours of Training (Hours)



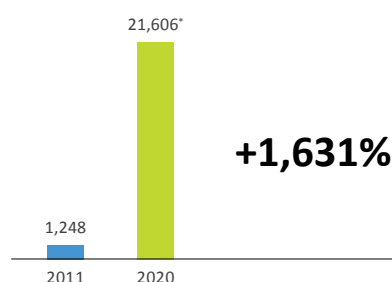
Operating Expenses Ratio (%)



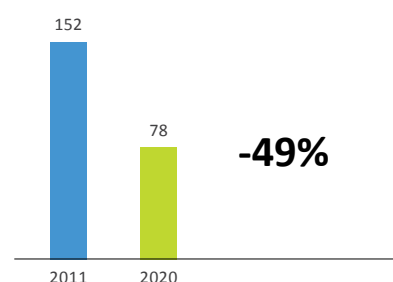
Tenders Awarded to Local Sarawakian Companies (RM'000)



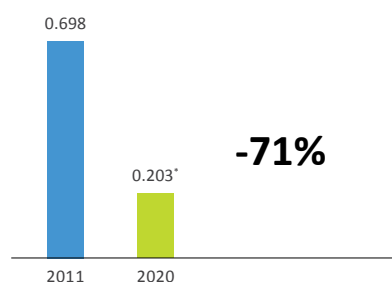
Renewable Energy Generated – Main Grid (GWh)



SAIDI – Distribution (Minutes per Customer)



Emissions Intensity – Main Grid (tCO₂eq/MWh)



Note:

* These main grid CO₂ 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 165 – 169.

MATERIALITY ISSUES

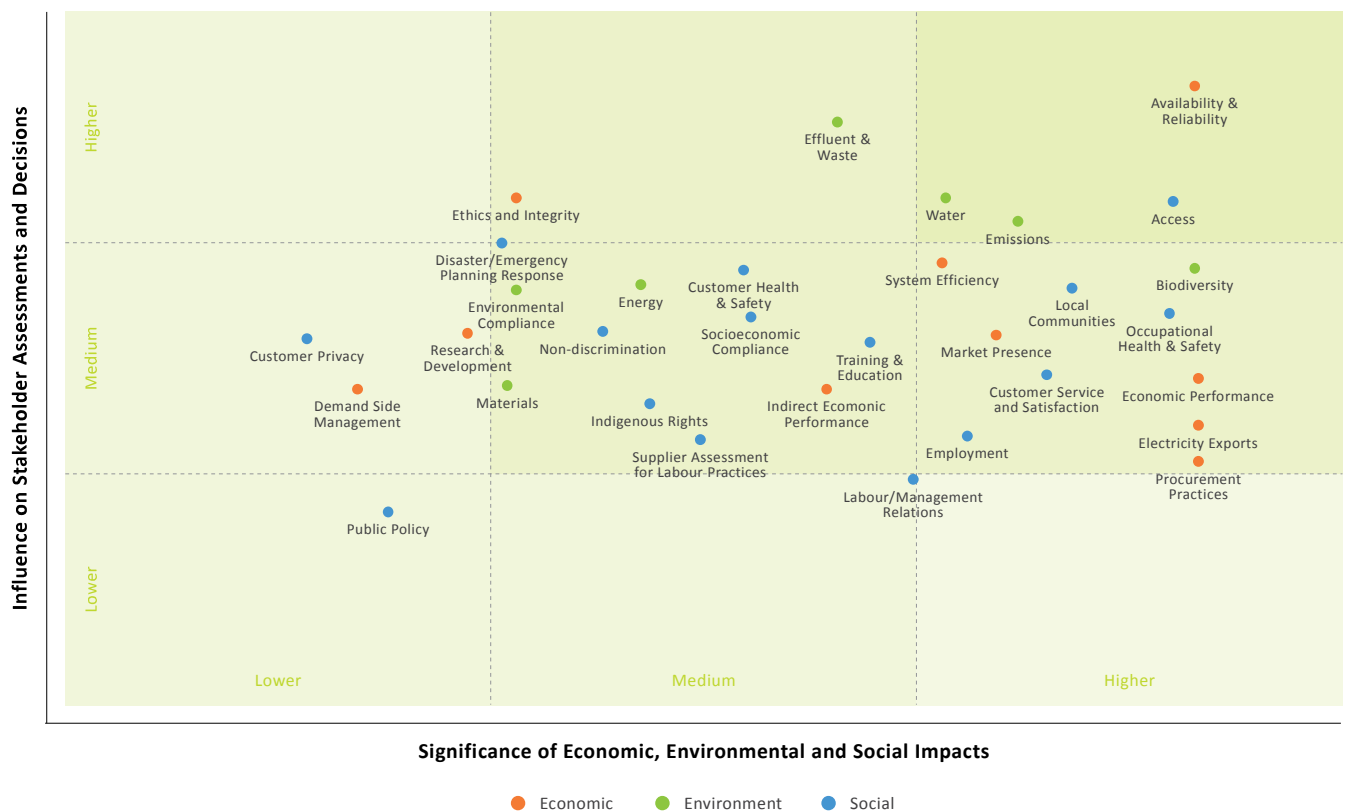
Identifying material issues is integral to our sustainability journey. Apart from allowing us to focus on matters that are most important to our business and stakeholders, it also enables us to anticipate the risks and opportunities of each material issue.

We identify our material issues from various sources including stakeholder feedback, surveys, thought leader perspectives and social media coverage. Our materiality assessment is guided by GRI Standards and the last materiality assessment was conducted in 2017, where 32 material issues were identified based on the pillars of – Economic, Environment and Social.

Processes of Materiality Assessment



Our materiality matrix is shown below:



INTERNALISING THE GLOBAL AGENDA (UN SDGs)

The United Nations Sustainable Development Goals (UN SDGs) are a set of 17 global goals agreed by the UN member states in 2015. The aim is to create a sustainable future for the world by 2030 through contributions from the member states to end poverty, fight inequality and address climate change.

As Malaysia's largest provider of renewable energy, we are committed to accelerating the global goals to achieve sustainability and prosperity for Sarawak. Part of our climate action plans is to further explore disruptive technology concepts and leverage innovative technology to minimise negative environmental impacts. Among the concepts we have adopted are solar hybrid, solar rooftop and smart technologies.

We collaborated with UN Global Compact Malaysia & Brunei (UNGCMYB) to launch the SME-SDG Toolkit during the GO ESG ASEAN Corporate Sustainability Virtual Summit 2020.

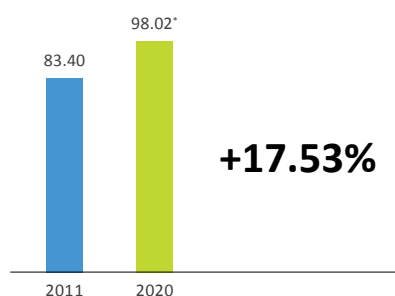
The free-for-use online toolkit was developed in partnership with UN Global Compact Network Malaysia & Brunei as a step-by-step guide for small and medium enterprises (SMEs) to incorporate sustainability practices into their business. The toolkit has been designed to promote the United Nations Sustainable Development Goals (UN SDGs) 2030 and was developed around a fit-for-purpose MAJU (Advance) framework to enable SMEs to create their own unique sustainability roadmaps. The MAJU framework is a four-step process encompassing (M)ission, (A)ctivity, (J)ustifying and (U)pgrading components designed as a complete Sustainability Management suite for SME development in Malaysia as well as our supply chain.

We continue to contribute to the UN SDGs by aligning our initiatives with six prioritised global goals that are within our capacity. Our contributions to the global goals are illustrated in the following graphs:

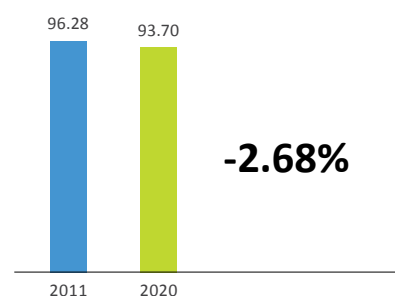


SDG 7: Affordable and Clean Energy

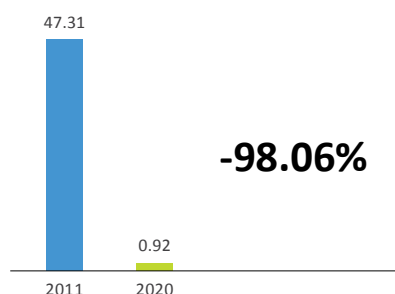
Sarawak Electricity Coverage (%)



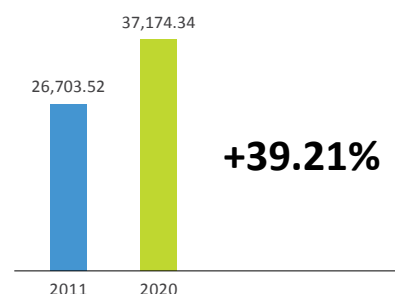
Hydropower Average Availability Factor (%)



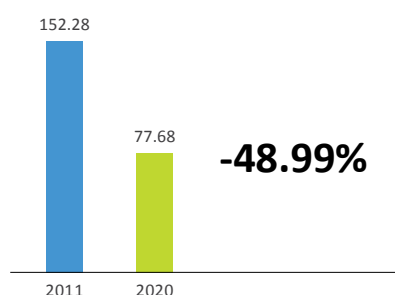
SAIDI for Transmission (min/customer)



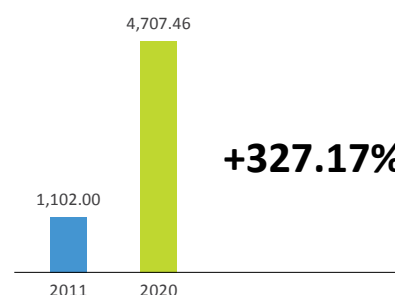
Total Length – Distribution (km)



SAIDI for Distribution (min/customer)



Total Length – Transmission (km)



Note:

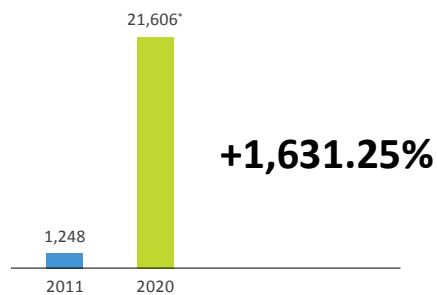
* This Sarawak electrification coverage data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

INTERNALISING THE GLOBAL AGENDA (UN SDGs)

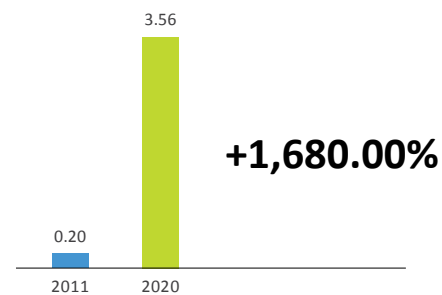


SDG 13: Climate Action

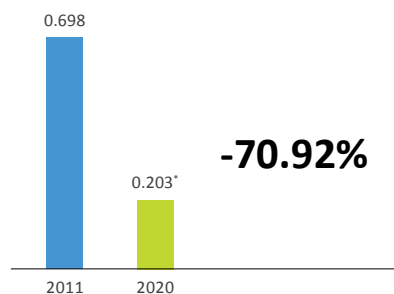
**Renewable Energy Generated (GWh)
(%)**



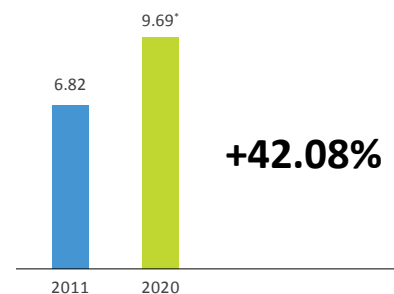
**Renewable Energy to Non-renewable
Energy Generated Ratio**



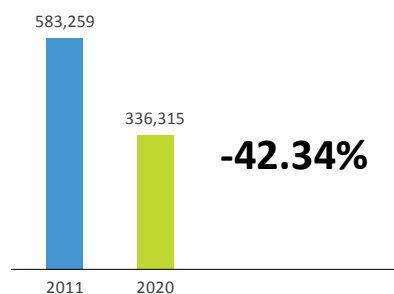
**Main Grid Emissions Intensity
(tCO₂eq/MWh)**



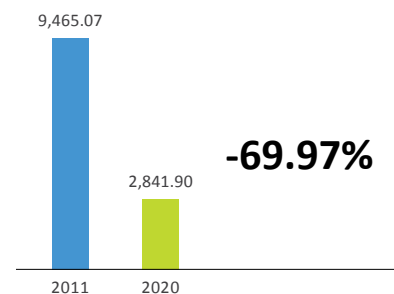
**Total Scheduled Waste Generation
Intensity (Tonne/MWh)**



**Total CO₂ Emissions Reduction
(tCO₂eq) – Thermal Plants**



**Total Fuel Consumption Intensity
(MJ/MWh)**



Note:

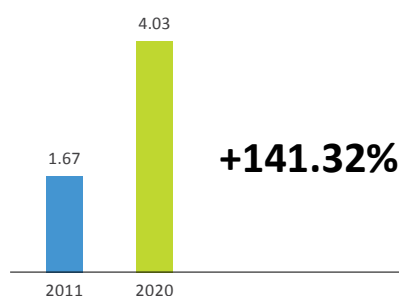
* These net energy generated, main grid CO₂ emissions intensity and scheduled waste generation intensity data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

INTERNALISING THE GLOBAL AGENDA (UN SDGs)

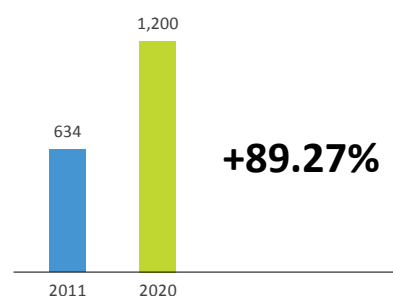


SDG 8: Decent Work & Economic Growth

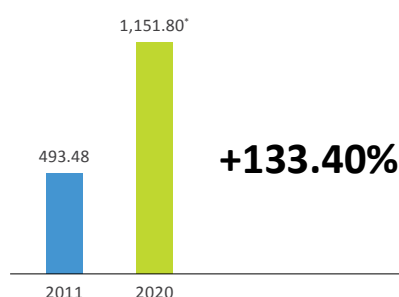
Electricity Sales/GDP¹
(%)



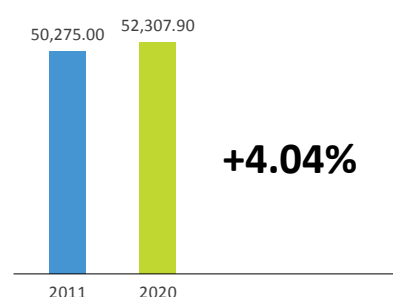
Total Number of Women in
Our Workforce



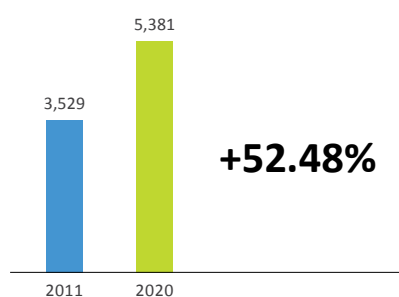
Tenders Awarded to Local Sarawakian
Companies (RM million)



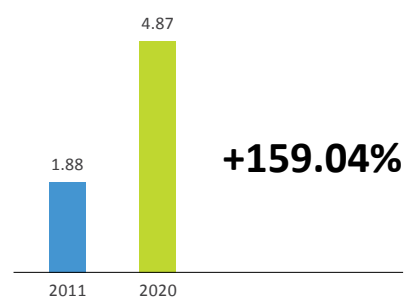
Total Training Hours Provided



Total Number of Employees



Electricity Sales/ Number of Employees
(GWh/ Staff)



Notes:

¹ GDP for State of Sarawak in 2020 based on current prices.

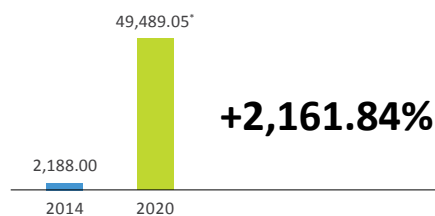
* This total value of tenders awarded to local Sarawakian companies' data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

INTERNALISING THE GLOBAL AGENDA (UN SDGs)

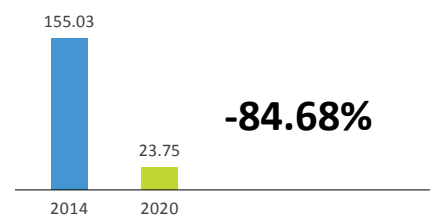


SDG 6: Clean Water and Sanitation

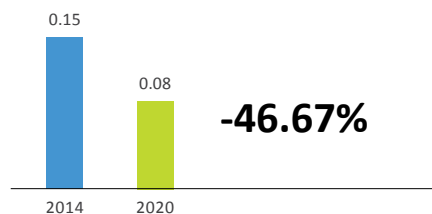
Water Volume Regulated by Hydropower Plants for Electricity Generation (million m³)



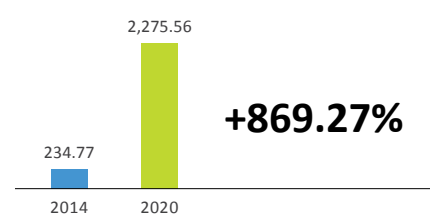
Water Intake Intensity by Thermal Plants by Source for Cooling Process – Seawater or Other Natural Water Source (m³/MWh)



Water Intake Intensity by Thermal Plants by Source for Cooling Process – Municipal Water (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.



SDG 15: Life on Land

- Supported the Heart of Borneo (HoB) Initiative which seeks to protect and conserve the biodiversity and ecology of water bodies in Sarawak
- 66,721 ha of Baleh National Park gazetted on 21 September 2017
- Conducted various workshops on watershed management
- Nurtured Flora Conservation Garden
- Batang Ai Enrichment Planting



SDG 17: Partnerships for the Goals

- Partnership in conservation and protection of HoB areas
- Collaboration with government agencies, NGOs such as WWF and universities in developing an 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 to champion sustainability global agenda in local context

Note:

* This annual water volume for electricity generation data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

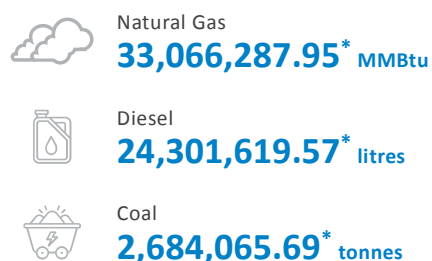
CREATING LONG-TERM VALUE

In all that we do, we place sustainability at the core of our business activities to ensure long-term value creation. We strive to uphold the interests of our stakeholders as we seek to optimise opportunities and mitigate risks across our value chain. This includes leveraging local resources and smart technology to reduce our carbon footprint and adapt to climate change to generate sustainable growth and prosperity for Sarawak.

INPUT

Powering the Economy

Fuel Consumption by type:



Hydro – Water Volume Regulated for Electricity Generation:

49,489.05* million m³

Thermal – Water Utilisation

674* million m³
(Cooling process)

Empowering Our People



Total Workforce (People): +3.34%

Note:

* These fuel consumption, 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 165 – 169.

VALUE TO OUR STAKEHOLDERS



Key Trends

We put local resources and the production of clean energy first to unlock returns throughout our value chain



SDG 06
CLEAN WATER AND SANITATION



SDG 07
AFFORDABLE AND CLEAN ENERGY



SDG 08
DECENT WORK AND ECONOMIC GROWTH



SDG 11
SUSTAINABLE CITIES AND COMMUNITIES



SDG 13
CLIMATE ACTION



SDG 17
PARTNERSHIPS FOR THE GOALS

CREATING LONG-TERM VALUE

VALUE CREATION PROCESS

1 Contributing to Economic Development

2 Generating Positive Impact

3 Safeguarding Natural Resources

4 Nurturing Our Workforce



Investors



Employees



Society at Large

OUTPUT



Contributing to Economic Development

- Operating Expenses Ratio - **30%**
- Economic Value Retained (RM Million) - **RM2,162***
- Payments to the Government (RM Million) - **RM163**
- Employee Remuneration (RM Million) - **RM541**
- Electricity Sales - **26,211GWh**



Generating Positive Impact

- Total Assets (RM Million) - **RM39,157**
- Operating Costs (RM Million) - **RM1,704**
- Tenders Awarded to Local Sarawakian Companies (RM Million) - **RM1,152***
- Sarawak's Rural Electrification Coverage Raised - **95%***
- Benefitted at least **130,673 rural households** since 2009



Safeguarding Natural Resources

- Grid Emissions Intensity (Main Grid) - **0.203* tCO₂eq/MWh**
- Grid Emissions Intensity (Main Grid) - **9% (Decreased from 2019)**



Nurturing Our Workforce

Human Capital Development

- Total Training Hours - **52,308 hrs**
- Employee New Hires - **350**

Note:

* These economic value retained, main grid CO₂ emissions intensity, 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 165 – 169.

305-1, 305-4, 305-5

CLIMATE ACTION THROUGH RENEWABLE ENERGY



Emissions Intensity (Main Grid)

0.203* tCO₂eq/MWh

Emissions Intensity (Northern Grid)

0.607* tCO₂eq/MWh

Total CO₂ Emissions (Main Grid)

5.60 million tCO₂eq

Total CO₂ Reductions from Clean Development Mechanism Projects:

336,315 tCO₂

Notes:

- 1. Emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄ and N₂O.
- * These main grid CO₂ emissions intensity and northern grid CO₂ emissions intensity data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

CLIMATE ACTION THROUGH RENEWABLE ENERGY

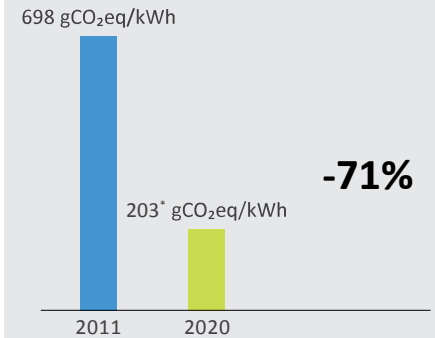
Climate change is one of the biggest global challenges, causing disruptions in daily lives and business operations due to extreme weather conditions. With world leaders calling for industries to actively combat climate change, Sarawak Energy is committed to lowering its carbon footprint and Sarawak's carbon emissions. We are 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° Celsius above pre-industrial levels.

Our journey in transitioning to a renewable energy developer and power utility has played a vital role in and contributed significantly to lowering Sarawak's carbon emissions intensity. This result has been largely attributable to our focus on hydropower as a renewable energy source that provides clean, reliable and affordable energy to meet Sarawak's targets of economic and social development, energy security and affordable and sustainable energy.

Since 2011, renewable energy share in Sarawak's generation mix has grown remarkably by 1,631%, from 1,248 GWh in 2011 to 21,606* GWh in 2020. This has led to a 71% reduction in Sarawak's main grid CO₂ emissions intensity, which is 54% lower than the global average of 450 gCO₂eq/kWh.

Note:

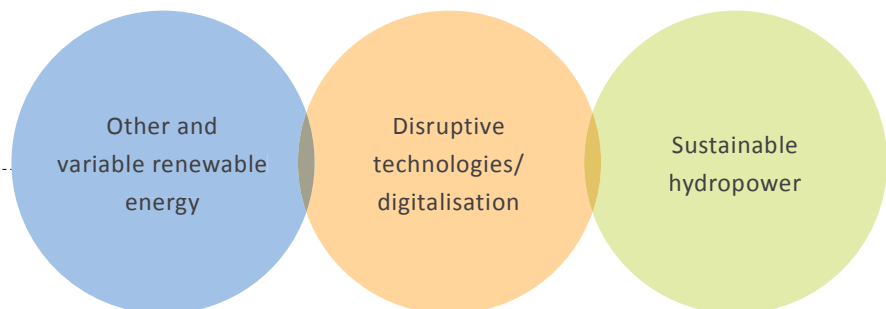
* This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.



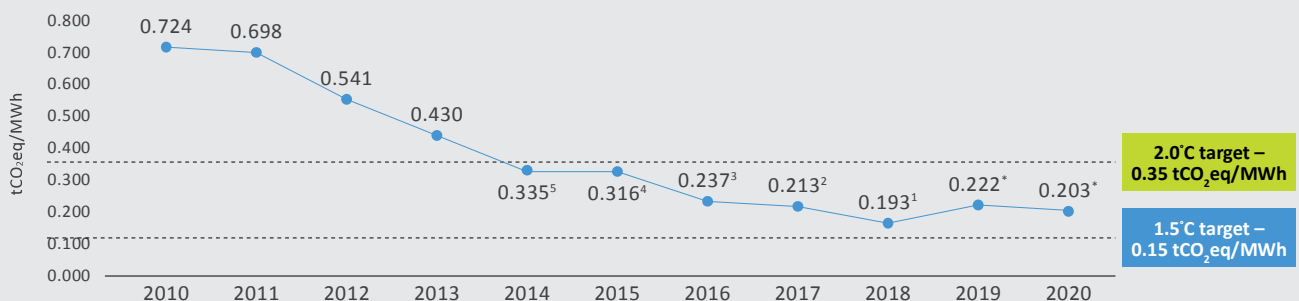
Note:

* This main grid CO₂ emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

**Building resilience towards
climate change:**



Scope 1 Main Grid CO₂ Emissions Intensity Within the 2°C and 1.5°C Targets in Accordance with the Paris Agreement



Notes:

¹ This main grid CO₂ emissions intensity data has been assured by a third party for Sustainability Report 2018.

² This main grid CO₂ emissions intensity data has been assured by a third party for Sustainability Report 2017.

³ This main grid CO₂ emissions intensity data has been assured by a third party for Sustainability Report 2016.

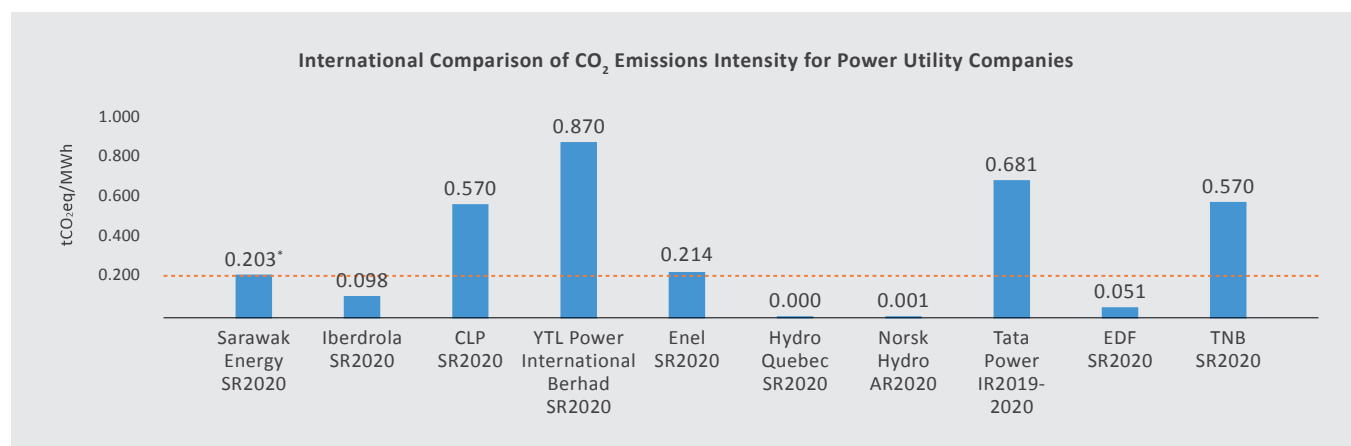
⁴ This main grid CO₂ emissions intensity data has been assured by a third party for Sustainability Report 2015.

⁵ This main grid CO₂ emissions intensity data has been assured by a third party for Sustainability Report 2014.

* This main grid CO₂ emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

CLIMATE ACTION THROUGH RENEWABLE ENERGY

For the year under review, our total main grid emissions were 5.60 million tCO₂eq, which was a 12% reduction from 2019. Our emissions intensity, of 0.203^{*} tCO₂eq/MWh, continues to be one of the lowest when benchmarked against other power utility companies globally.



Note:

Published Annual, Sustainability & Integrated Reports 2020.



Note:

* These main grid CO₂ emissions intensity and northern grid CO₂ emissions intensity data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

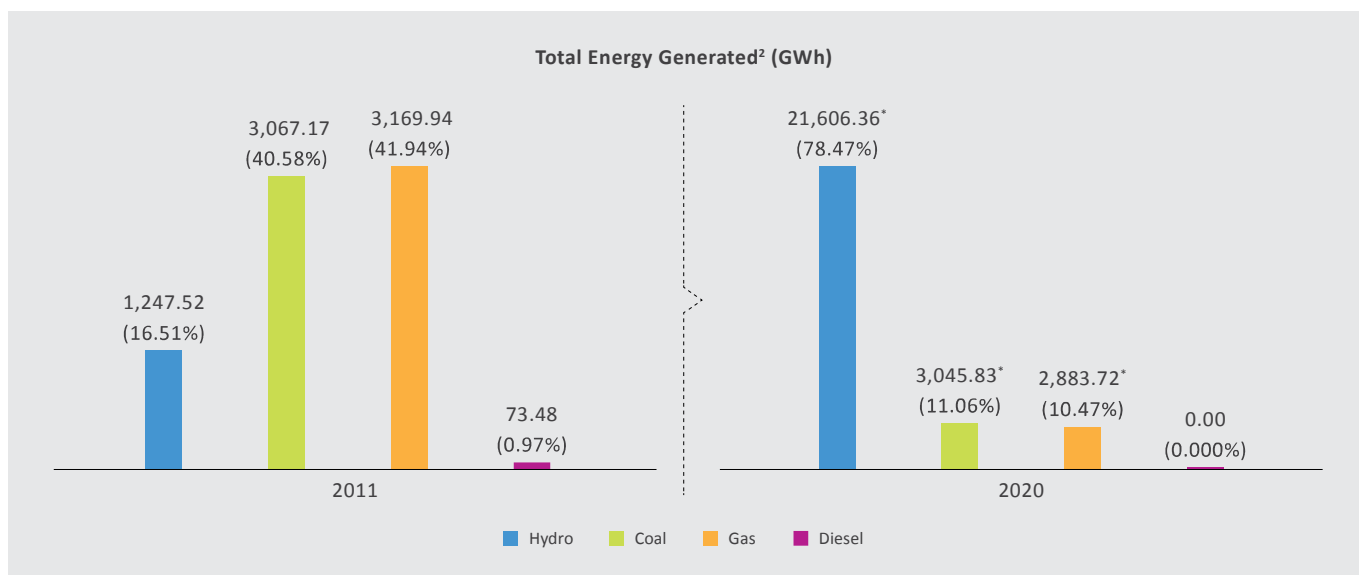
CLIMATE ACTION THROUGH RENEWABLE ENERGY

REDUCING SARAWAK'S CARBON FOOTPRINT

Sarawak Energy has been transforming into a renewable energy developer and power utility by diversifying its generation mix through increased hydropower expansion since 2011. Our commitment to the energy transition has helped the state to meet the Paris Agreement goal. We are cognisant of our responsibility of harnessing the state's resources sustainably and responsibly, while creating value such as new opportunities for Sarawak and its stakeholders.

Energy Generated ² / Energy Source	Year 2019		Year 2020	
	GWh	%	GWh	%
Hydro	21,503.25 ¹	75.31	21,606.36*	78.47
Coal	3,790.28 ¹	13.28	3,045.83*	11.06
Gas	3,257.09 ¹	11.41	2,883.72*	10.47
Diesel	0.89 ¹	0.003	0.00*	0.000
Total	28,551.51 ¹	100	27,535.91*	100

Sarawak Energy's generation mix by category has evolved as follows:



Notes:

¹ This net energy generated data has been assured by a third party for Sustainability Report 2019.

² Net energy generation.

* This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

CLIMATE ACTION THROUGH
RENEWABLE ENERGY

Climate Change Resilience

Sarawak Energy is cognisant of the energy sector’s significant role in climate change and is committed to mitigating and minimising the effects of the sector on climate change. Our hydropower facilities help to mitigate the impacts of climate change by decarbonising the power system.

To ensure a resilient hydropower resource, we strive to protect our upstream water catchment and ensure adequate and good-quality water supply for rising energy demand while delivering environmental services for downstream needs. Identifying real risks and opportunities from hydropower development and operation will also bolster our hydropower resources. This requires collaboration between various stakeholders to resolve interdependent issues through a holistic catchment management plan.

We recognise the importance of taking a proactive approach in advocating good catchment management practices. Sarawak Energy is currently a member of Sarawak’s Integrated Watershed Management Committee, which contributes to the development of state policy, procedures and guidelines for integrated watershed management.

Greenhouse Gas (GHG) Research Programme

Our GHG Research Programme was developed to support our vision of being a regional hydropower expert that operates in accordance with international sustainability standards. The programme aims to understand the biogeochemical cycles that occur within the hydropower reservoir to enable us to develop specific mitigation and management measures.

In 2020, Sarawak Energy conducted internal studies using the GHG Reservoir Tool (G-res Tool), which is a web-based tool developed by the International Hydropower Association (IHA) in collaboration with the UNESCO Chair for Global Environmental Change. The G-res tool was developed as a means to assess, validate and report the carbon footprint of a reservoir. We submitted data on Baleh HEP on the topic of Climate Change and Resilience in the implementation stage and it is currently being independently validated by the IHA G-res team.

Our GHG & H₂S team also used the tool to estimate the GHG emissions for Bakun and Murum hydropower reservoirs in an attempt to further improve our understanding. In addition, since the protocol for GHG Measurement Guidelines for Freshwater Reservoirs was published in 2010 by UNESCO/IHA, Sarawak Energy has conducted numerous post-impoundment field campaigns for Bakun and Murum. In 2020, one campaign was carried out for each reservoir.

Over the past few years, Sarawak Energy has been involved in a collaborative project with Université du Québec à Montréal (UQAM), Canada to study carbon and methane emissions from the Batang Ai Reservoir.

Power density is calculated using the average reservoir area (the area of flooded land, net of the pre-impoundment water body) and the capacity of the power facilities in the project fed by this water body. It is a predictor of the emissions intensity of a hydropower project. Our hydropower projects’ power density are as shown in the table below:

Hydropower Project	Installed Capacity (MW)	Reservoir Surface Area (km ²)	Power Density (W/m ²)
Bakun	2,400	695	3.5
Murum	944	245	3.9
Baleh	1,285	588	2.2
Batang Ai	108	90	1.2
Mentarang Induk	1,375	202	6.8

CLIMATE ACTION THROUGH RENEWABLE ENERGY

Renewable Energy Certificate

Sarawak Energy launched its first Renewable Energy Certificate (REC) in 2019, which promotes traceability and serves as proof that the energy is generated from renewable sources. A registry was also established to provide best practice guidelines and Carbon Disclosure Project standards for tracking and reporting of RECs, assuring buyers of the integrity of each REC transaction.

Individuals or
corporates who
want to commit to
renewables can:

Purchase an equal number of RECs
to apply against their electricity
consumption.

The REC represents the environmental
benefits of that megawatt-hour of
renewable energy.

For each megawatt-hour of renewable
energy produced, one REC is issued and
uniquely numbered and tracked.

It enables the consumer to claim the
associated environmental benefits
and validate their commitment to
decarbonising their energy
consumption.

Residual Mix Emission Rate

A residual mix emission rate helps to ensure credible and reliable disclosure of electricity consumption, preventing double counting of environmental attributes from renewable power generation. It is an adjusted emission rate that removes all REC-certified energy sales in a grid and sets out the emission rates from the proportion of electricity that remains in the power grid after all certified renewable electricity is accounted for.

Sarawak's residual mix emission rate is as 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 emission rates for the publication period.

CO ₂ eq emissions (Tonne)	Net Generation (MWh)	Emission Rate (tCO ₂ eq/MWh)	Voluntary RE (MWh)	Residual mix emission rate (tCO ₂ eq/MWh)
5,600,892.97	27,535,129	0.203*	43,250	0.204

The residual mix emission rate was
calculated using the following formula

$$\text{Residual mix emission rate} = \frac{(\text{Total amount of CO}_2\text{eq emissions})}{(\text{Total amount of electricity generation} - \text{RECs})}$$

Notes:

1. The residual mix emission rate is only applicable for the Sarawak main grid.

* This main grid CO₂ emissions intensity data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

CLIMATE ACTION THROUGH
RENEWABLE ENERGY

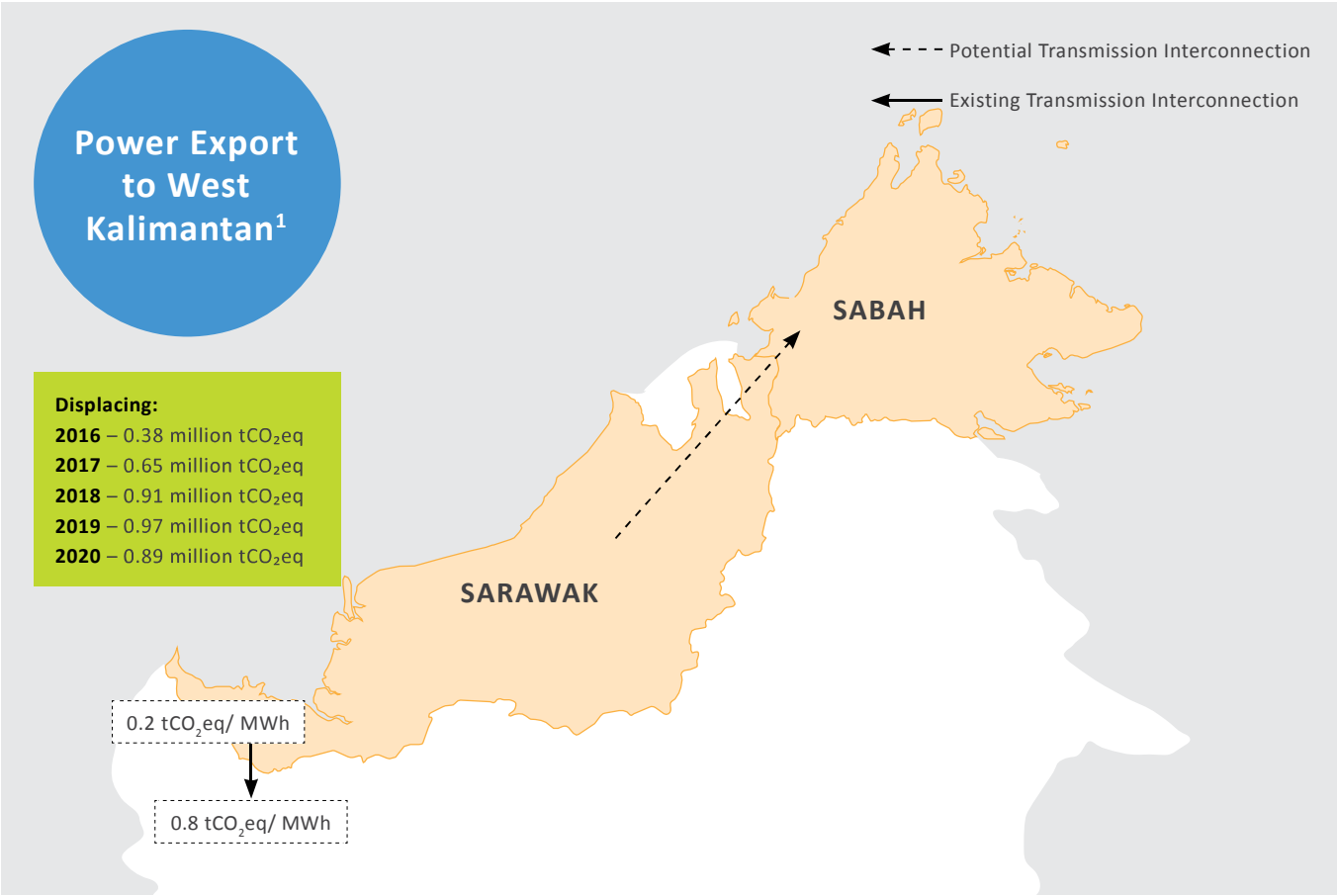
SUPPLYING CLEAN ENERGY BEYOND SARAWAK

Sarawak Energy is set to lower GHG emissions across the Borneo region by decarbonising its energy sources beyond Sarawak, in tandem with its goal of becoming a regional powerhouse providing renewable energy for the ASEAN region.

The Company took its first steps towards becoming a regional powerhouse in 2016 through the Sarawak-West Kalimantan Interconnection, a cross-border HVAC link connecting the Mambong 275 kV substation in Sarawak to the Bengkayang 275 kV substation in West Kalimantan. Since then, it has exported an average of 190 MW to 200 MW of power to Indonesia’s national utility, Perusahaan Listrik Negara (PLN).

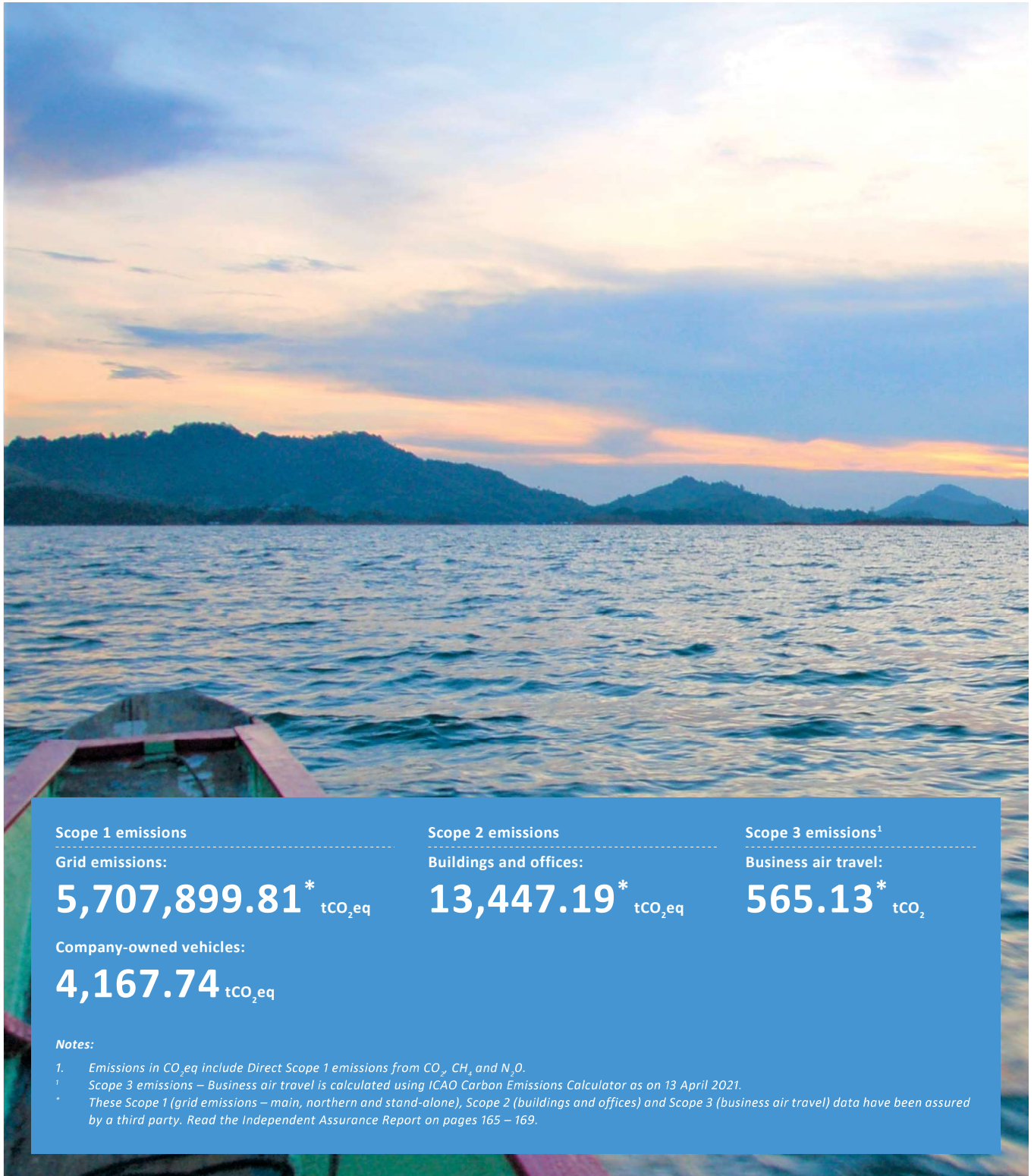
Since 2016, the Company has exported 6,510 GWh of energy to West Kalimantan, achieving a displacement of 3.80 million tCO₂eq, equivalent to sequestration of 10,712 ha of tropical forest.

Moving forward, Sarawak Energy plans to establish more interconnection projects with the vision of building the ASEAN Power Grid for a shared sustainable energy future.



Note:
¹ West Kalimantan grid – using conservative estimation based on diesel emission factor of 0.8 tCO₂eq/MWh (IPCC 2016).

CLIMATE ACTION AT THE FOREFRONT



● Scenic view at Batang Ai reservoir.

CLIMATE ACTION AT THE FOREFRONT

INCORPORATING CLIMATE ACTION INTO OUR BUSINESS STRATEGY

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

As a forward-looking sustainable energy provider, Sarawak Energy is cognisant of the adverse effects climate change can have on our business growth, supply chain, stakeholders and the prosperity of the state in the long term. We continue to focus on energy transition by incorporating climate action into our business strategy to mitigate negative impacts and minimise risks while generating long-lasting positive impacts for future generations.

We are committed to developing full-fledged Task Force on Climate-Related Financial Disclosures (TCFD) recommendations based on four thematic areas that represent core elements of how Sarawak Energy operates:



CLIMATE ACTION AT THE FOREFRONT

GOVERNANCE

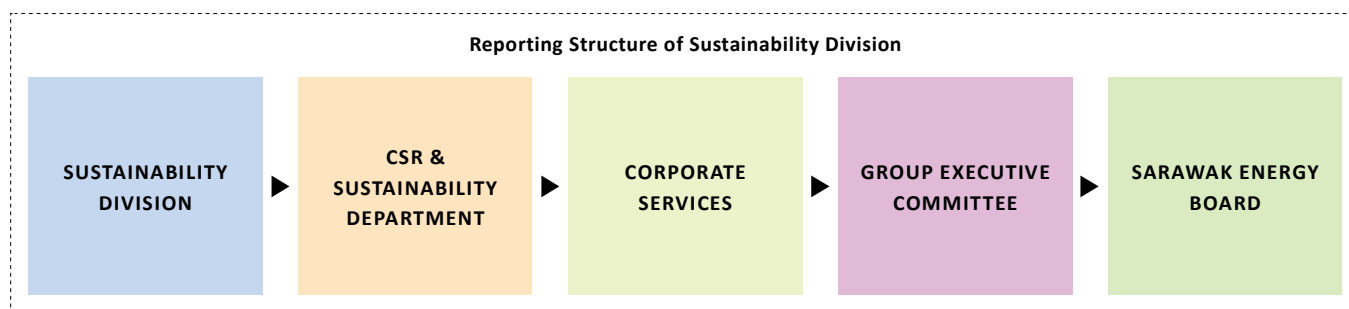
SUSTAINABILITY GOVERNANCE

A DEDICATED DIVISION TO DRIVE SUSTAINABILITY BEST PRACTICES

Since 2012, Sarawak Energy's sustainability efforts have been overseen and guided by a dedicated Sustainability Division. The division was incorporated with the purpose of progressively integrating the principles of sustainability into the strategic objectives of the Company.

Since its establishment, the division has introduced various processes to enable the effective implementation of sustainability initiatives across the Company and is responsible for the measurement and verification of our sustainability performance.

The division is responsible for following through with the TCFD and strategies to address climate-related risk, although currently the Company has not yet established a TCFD Steering Committee or a Board Committee that oversees climate change governance.



ADOPTING INTERNATIONAL SUSTAINABILITY ASSESSMENT TOOL – HYDROPOWER SUSTAINABILITY ASSESSMENT PROTOCOL (HSAP)

We began adopting the Hydropower Sustainability Assessment Protocol (HSAP) within our processes in stages in 2012 and we reinforced our approach in 2014 by establishing an internal HSAP governing structure.

The HSAP is a leading internationally recognised assessment framework used to holistically assess hydropower projects against social, environmental, technical and economic considerations.

The HSAP goes beyond being an assessment tool; it creates distinct values for the Company by:

- Addressing project risks
- Serving as a platform to access finance
- Meeting future bank requirements
- Enabling independent assessment and review
- Maintaining our licence to operate
- Benchmarking with international best practices
- Serving as a communication and engagement platform



● *Piloting our sustainability agenda.*

Leveraging our adoption of the protocol and the internal HSAP governing structure, we holistically assess our hydropower projects with reference to these topics, thereby firmly integrating sustainability best practices into our hydropower development and operation processes.

Sarawak Energy's alignment with HSAP practices has provided the Company with a platform to enable it to strive towards attaining sustainable development within its hydropower projects. It continues to provide a valuable framework within which the Company is able to fulfil its sustainability agenda.

CLIMATE ACTION AT THE FOREFRONT

Looking ahead, the Sustainability Division will persist in spearheading the integration of sustainability practices within Sarawak Energy’s hydropower projects, with special focus on the following objectives:

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

ROLES & RESPONSIBILITIES

HSAP Sponsor Head of Corporate Services	HSAP Focal Point of Contact Head of Sustainability	Lead Assessors (Various Departments)	Internal Assessors (Various Departments)
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	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	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	Conduct assessments ----- Ensure independent reviews of documents and processes to determine the extent of conformity with HSAP ----- Prepare assessment reports

CLIMATE ACTION AT THE FOREFRONT

Climate Action as an Integral Part of Sarawak Energy

With increasing investor interest in sustainable and responsible investment, there is growing pressure from financial institutions to better understand our climate change risk management. Physical impacts due to extreme climate events are expected to increase in the future, driving regulatory changes and stakeholder expectations towards a low-carbon economy.

In 2020, we continued to embark on climate-related financial disclosures by adopting recommendations from TCFD to strengthen our climate-related risk data management. This included improving our risk measurement and evaluation, as well as identifying opportunities to better adapt to climate change.

We became the first company in Malaysia to sign the UNGC's 'Business Ambition for 1.5°Celsius' pledge. Through this pledge, we are committed to setting a science-based emissions reduction target across relevant scopes, in line with the Paris Agreement to limit global temperature increase to 1.5°C above pre-industrial levels by 2030.

Based on our evaluation, climate change could impact our power generation, power infrastructure, power delivery and financial resilience. The following infographic illustrates the high-level strategic risks and opportunities that could arise from climate change:

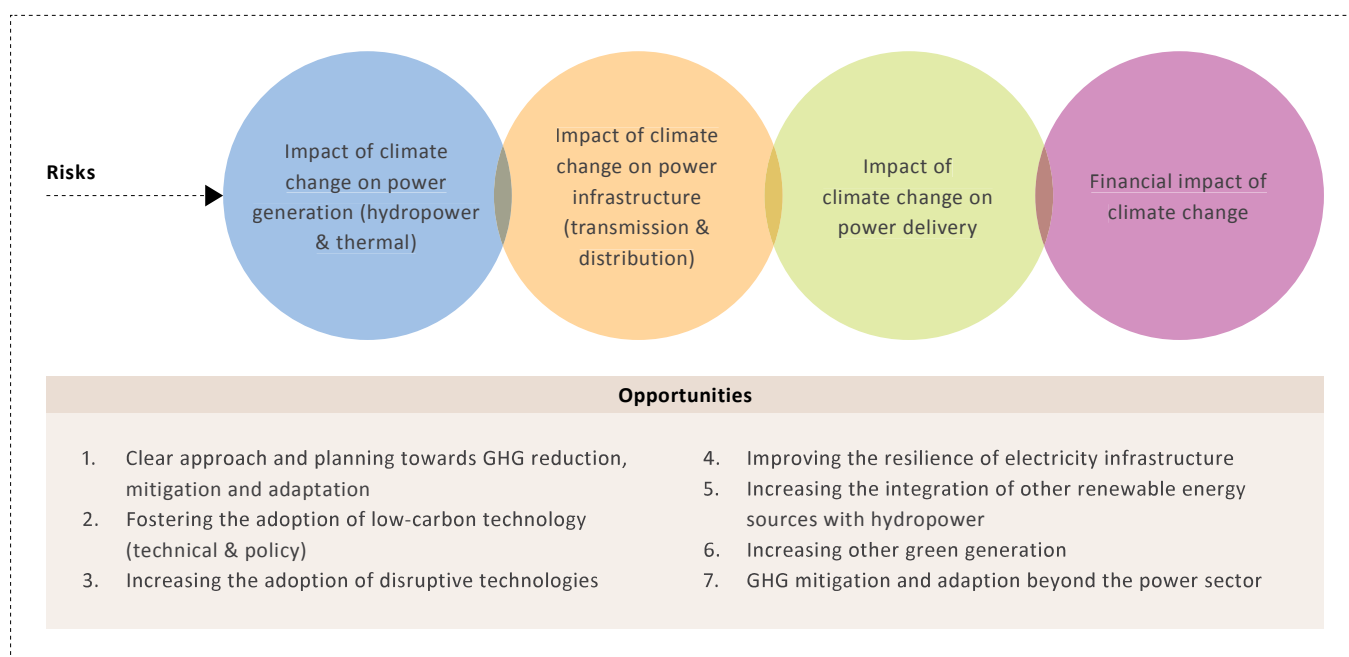


Table 1: High-Level Strategic Risks and Opportunities Arising from Climate Change

CLIMATE ACTION AT THE FOREFRONT

STRATEGY

Climate Action Strategy

Having a well-planned climate action strategy is pivotal in minimising risks in our transition to renewable energy to achieve a low-carbon economy. We strive to address the risks associated with the physical impacts of climate change, including rising temperatures, changes in weather patterns and increasing frequency and severity of extreme weather events. We have also identified the opportunities in adaptation to climate change issues over the long term. To this end, we have formed a comprehensive five-pronged strategy that addresses the key areas of our business operations, as shown in the table below. We aim to minimise greenhouse gas (GHG) emissions while accelerating economic development in Sarawak.

Strategy				
Developing a holistic approach and plan towards GHG mitigation and adaption for the power sector in Sarawak	Exploring other renewable energy sources	Developing an integrated approach in improving resilience of power generation to climate change	Assessment and planning on disruptive technology in enhancing the adoption of low-carbon technology	Supporting climate action beyond the power sector that is aligned with energy sector directions
Key Areas				
GHG mitigation and adaptation for the power sector in Sarawak				
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)				
State-wide flood modelling – adaptation to climate change				
River Basin Management – Adaptation to climate change for hydropower & water resources				
Greenhouse gas (GHG) emissions’ measurement from large-scale hydropower reservoirs				
Improving the accuracy and method of GHG emissions’ estimation				
Integration of disruptive technology				
Guidelines and policies on interconnection within the distributed resources into the local system				
Establishing energy efficiency and energy management				
Enhancing the energy sector’s role in the adoption of low-carbon/smart/green city framework & 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

CLIMATE ACTION AT THE FOREFRONT



● Upstream view of Bakun catchment area.

RISK MANAGEMENT

Climate Scenario Analysis

To further understand the physical impacts of climate risks on our business growth, we conducted a climate scenario analysis for Sarawak based on the World Bank's Climate Change Knowledge Portal in 2019. We analysed four climate scenarios that covered average daily temperatures and precipitation levels in four probable conditions (low, medium-low, medium-high and high) and four time periods (short, medium-short, medium-long and long).

We discovered that between now and 2030, Sarawak's average annual air temperature may increase, and the state will most likely have a higher amount of rainfall. Maximum sea levels are also expected to rise while dry spells are projected to occur between 2045 and 2055¹.

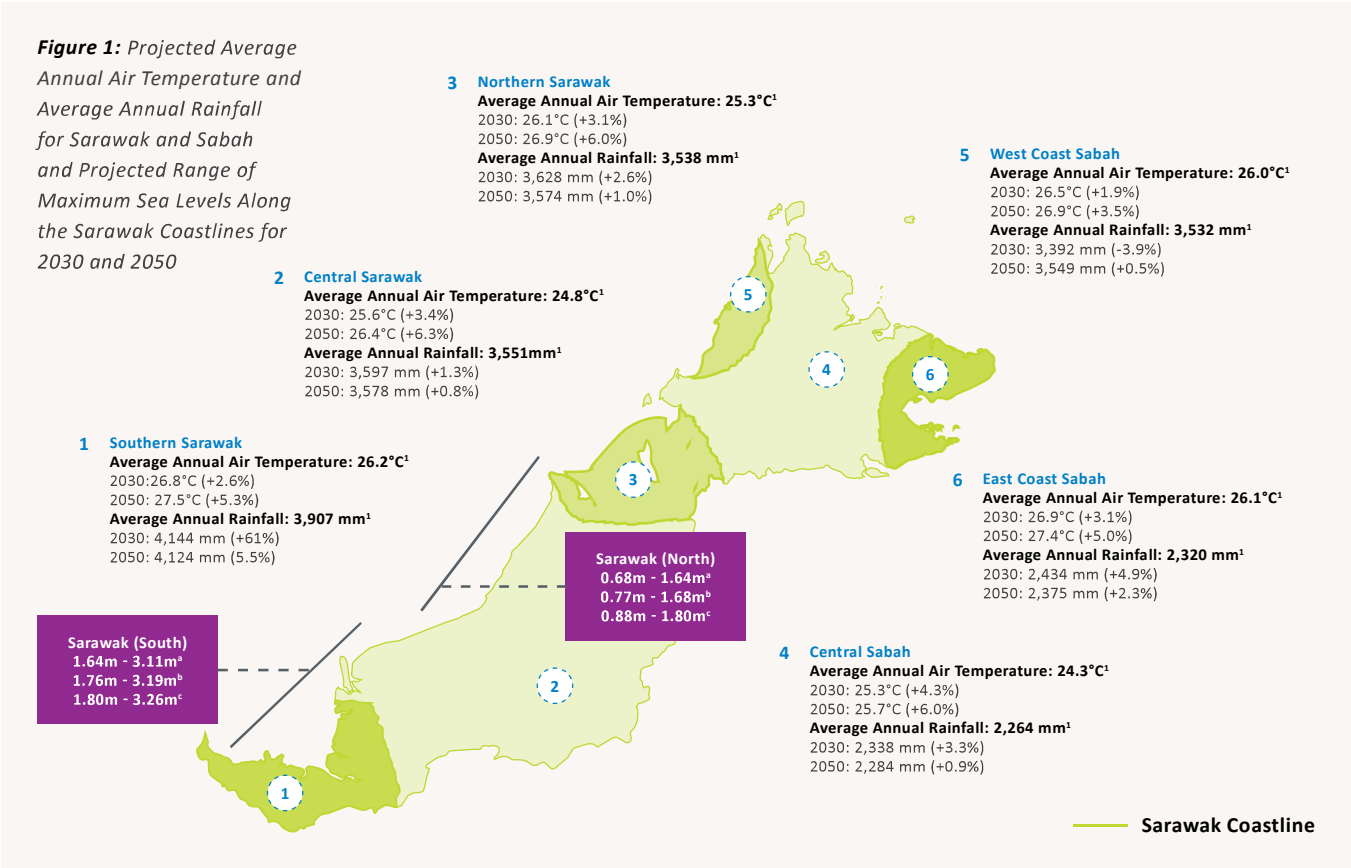
Parameter	Observed (1970 - 2000)	Projected for 2030	Projected for 2050
Average Annual Temperature	24.8 - 26.2°C	25.6 - 26.8°C (0.6 to 0.8°C increase)	26.4 - 27.5°C (1.3 to 1.6°C increase)
Average Annual Rainfall	3,551 - 3,907 mm	3,597 - 4,144 mm (1 to 6% increase)	3,574 - 4,124 mm (1 to 5% increase)
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.

CLIMATE ACTION AT THE FOREFRONT



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.

Period		1986 - 2005	2020 - 2039				2040 - 2059				2060 - 2079				2080 - 2099			
Scenario		Historical	RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5	RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5	RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5	RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5
Average Daily [°C]	Minimum	25.32	25.95	25.74	25.92	25.97	25.95	25.95	26.18	26.45	25.93	26.26	26.55	27.13	25.91	26.41	26.95	27.76
	Median	25.48	26.13	26.21	26.11	26.31	26.29	26.67	26.53	27.07	26.30	26.97	27.03	28.03	26.31	27.02	27.61	29.06
	Maximum	25.55	26.56	26.73	26.55	26.72	26.79	27.29	26.97	27.71	27.04	27.76	27.64	28.83	27.10	27.95	28.29	29.98
25-yr return level of 5-day precipitation [mm]	Minimum	148.20	150.48	153.03	146.99	150.05	152.26	154.22	148.20	154.83	151.69	158.43	153.30	151.30	151.04	156.61	148.68	148.38
	Median	253.01	262.23	267.59	281.87	251.53	284.11	249.02	295.46	243.69	267.03	260.07	311.60	255.15	256.58	272.11	320.49	279.99
	Maximum	574.62	561.20	602.69	541.35	609.76	551.78	604.01	579.26	694.44	571.82	651.63	645.51	717.07	575.02	646.80	631.05	866.56
10-yr return level of 5-day precipitation [mm]	Minimum	131.25	133.21	135.39	130.10	132.76	134.78	136.49	131.13	137.07	134.28	140.11	135.64	133.97	133.68	138.57	131.66	131.25
	Median	206.36	213.87	218.08	233.44	207.95	232.34	213.76	249.21	207.32	217.53	217.86	255.43	219.75	214.14	224.84	263.53	236.51
	Maximum	429.32	445.07	447.07	433.59	456.49	437.62	477.14	455.40	533.55	456.44	514.06	496.09	542.53	451.60	507.33	488.84	644.32

Table 4: Sarawak Climate Scenario Based on World Bank Climate Change Knowledge Portal (WBCKKP)

CLIMATE ACTION AT THE FOREFRONT

The climate scenario analysis has enabled us to identify transitional physical risks and opportunities related to the Company's assets and services in Generation, Transmission, Distribution and Retail over the short, medium and medium-to-long terms. The following table explains our risks and opportunities and the impacts on our business strategy and financial planning.

Transition – Risks & Opportunities			
Timescale	Type of Risks	Strategy Response	
		Risks & Opportunities	Impacts on Business Strategy and Financial Planning
Short to Medium Term (1 - 5 years)	Transition Risks	Corporate 1. 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 2. Quantifying the climate change impact risks 3. Enhancing carbon emissions reporting, structure and governance of climate-related risks and climate-related financial disclosure 4. Renewable energy incentives 5. Access to new financing platforms 6. Regulatory and policy frameworks to drive climate-related initiatives 7. Stringent legal/market requirements on climate change (cost of carbon) 8. Cost to transition to low-carbon technology	1. Better assessment, reporting and governance of climate change risks 2. Detached from non-renewable generation sources 3. Integrated approach in improving the resilience of electricity assets and infrastructure to climate change risks (including upstream resources) 4. 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 5. Resilience of electricity delivery system via efficient, smart & flexible system infrastructure 6. Advancement in development of flexible system infrastructure as platform for integrating other new renewable energy capacity 7. Advocating best practices in managing climate risks - ahead of the regulatory frameworks 8. Meeting the growing expectations of stakeholders (e.g. shareholders, financial institutions, customers and general public)
		Generation Hydropower & Thermal Generation (Development & Operation) 9. Embedding climate change risks in hydropower development at design stage 10. Understanding and quantifying the risks of climate change 11. Clear & practical approach and planning towards mitigation of and adaptation to climate risks 12. Technology advancement – efficiency improvement	
		Other Renewable Energy Sources 13. Integration of other renewable energy sources with hydropower generation 14. Aligning with global, national and state goals and targets in GHG emissions reduction	
		Transmission & Distribution 15. Assessment of climate change risks in hydropower development at design stage 16. Climate change impacts on electricity infrastructure and delivery	

Table 5: 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.

CLIMATE ACTION AT THE FOREFRONT

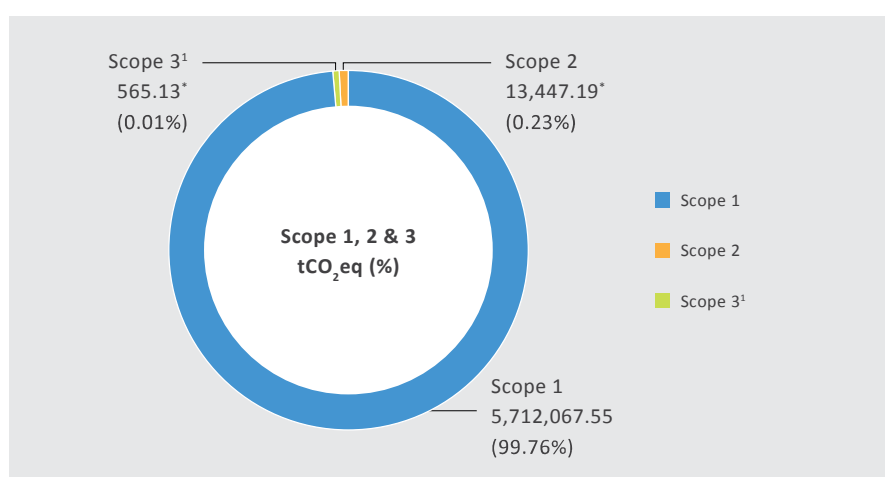
Physical – Risks & Opportunities			
Timescale	Type of Risks	Strategy Response	
		Risks & Opportunities	Planning & Response
Long Term (> 5 years)	Physical Risks	Corporate 1. Stringent legal/market requirements on climate change (cost of carbon)	1. Improving the resilience of electricity assets, infrastructure and upstream resources 2. Increasing the resilience of electricity delivery system to climate change 3. Integrating other new renewable energy capacity 4. Detailed climate modelling studies to assess vulnerability of specific resilience-improvement plans 5. Enhancing demand side management to better understand changes in demand patterns 6. Establishing a clear linkage between financial planning and carbon intensity 9. Establishing of solid governance of climate change issues 10. Climate change as one of the core elements in corporate planning
		Generation 1. Extreme weather events impacting generation assets 2. Extreme weather events impacting hydropower generation 3. Rising sea levels impacting power assets and infrastructure 4. Rising of mean temperatures impacting plant efficiency & reliability	
		Transmission & Distribution 1. Extreme weather events impacting electricity delivery, system reliability and efficiency 2. Rising mean temperatures impacting the power delivery efficiency	
		Customer Services 1. Shift in consumer preferences	

Table 6: Climate-Related Physical Risks & Opportunities and Strategic Response

METRICS AND TARGETS

Carbon Inventory

We continually monitor our metrics and targets to effectively manage our carbon footprint and demonstrate our commitment to the Paris Agreement. Our main aim is to reduce our GHG emissions as we continue to focus on generating renewable energy from hydropower to reduce the state's carbon emissions.



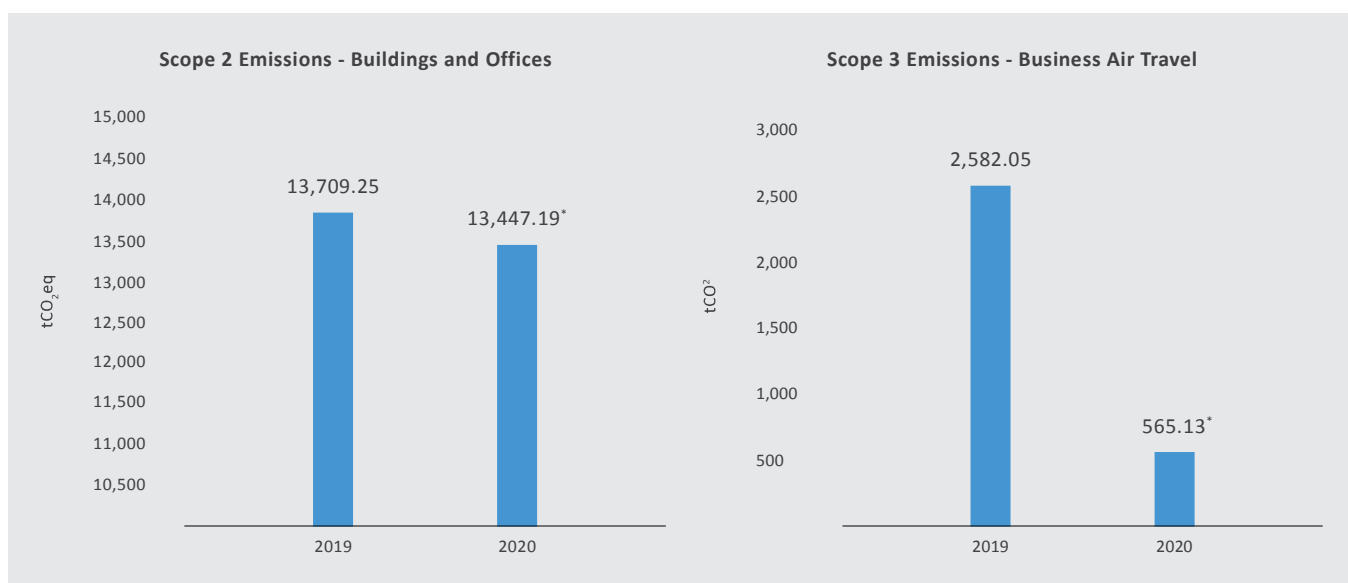
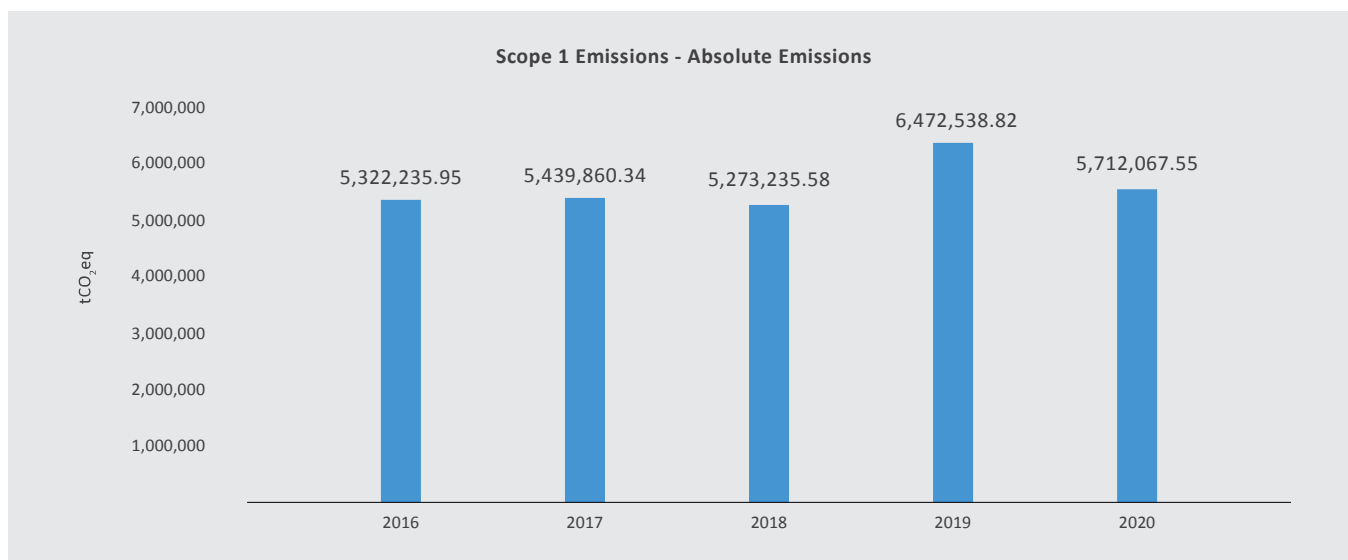
Notes:

¹ Emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄ and N₂O.

¹ Scope 3 emissions – Business air travel is calculated using ICAO Carbon Emissions Calculator as on 13 April 2021.

* 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 165 – 169.

CLIMATE ACTION AT THE FOREFRONT

**Note:**

Emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄ and N₂O.

102-15, 103-2, 103-3, 301-1, 303-3, 305-1, 305-2, 305-3, 306-1, 306-3

CLIMATE ACTION AT THE FOREFRONT

Input: 

Fuel Consumption	Unit	2019	2020
Coal Consumption	Tonne	3,064,825.62 ¹	2,684,065.69*
Natural Gas Consumption	MMBtu	36,756,369.74 ¹	33,066,287.95*
Diesel Consumption	Litre	53,544,416.55 ¹	24,301,619.57*

Fuel Consumption Intensity	Unit	2019	2020
Coal Consumption Intensity	MJ/MWh	1,707.36	1,531.23
Natural Gas Consumption Intensity	MJ/MWh	1,317.98	1,228.44
Diesel Consumption Intensity	MJ/MWh	67.54	82.23
Total Fuel Consumption Intensity	MJ/MWh	3,092.88	2,841.90

Water Withdrawal Intensity by Source	Unit	2019	2020
Municipal Water Withdrawal Intensity	m ³ /MWh	0.09	0.08
Seawater or Other Natural Water Source Withdrawal Intensity	m ³ /MWh	33.04	23.87

Water Regulated Intensity for Hydropower	Unit	2019	2020
Water Volume Regulated by Hydropower Plants for Electricity Generation	m ³ /MWh	2,271.48	2,275.56

Scheduled Waste Generation			
Type of Waste	Unit	2019	2020
Fly Ash	Tonne	80,394.56 ¹	78,183.21*
Bottom Ash	Tonne	78,636.51 ¹	194,414.13*
Others (Used Oil, Contaminated Items, E-Waste, Gas Condensate, Contaminated Soil and Chemicals)	Tonne	473.72 ¹	320.27*
Total Scheduled Waste Generation	Tonne	159,504.78 ¹	272,917.61*

CLIMATE ACTION AT THE FOREFRONT

Output:

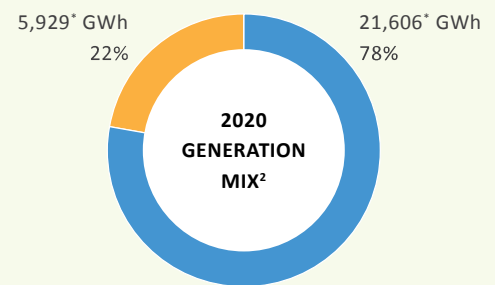
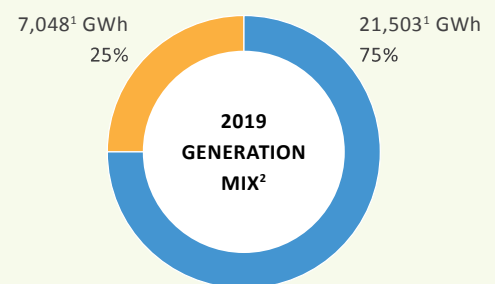
Scope 1 Emissions	Unit	2019	2020
Main Grid	tCO ₂ eq	6,348,254.39*	5,600,892.97*
Northern Grid	tCO ₂ eq	104,477.64*	97,829.99*
Stand-alone Grid	tCO ₂ eq	14,453.34	9,176.85*
Company-owned Vehicles	tCO ₂ eq	5,353.45	4,167.74
TOTAL	tCO ₂ eq	6,472,538.82	5,712,067.55*

Scope 2 Emissions	Unit	2019	2020
Buildings & Offices	tCO ₂ eq	13,709.25	13,447.19*

Scope 3 Emissions	Unit	2019	2020
Business Air Travel	tCO ₂	2,582.05	565.13*

Scope 1 and Scope 2 Emissions Intensity	Unit	2019	2020
Scope 1 Emissions Intensity (normalised by gross energy)	tCO ₂ eq/MWh	0.220 ³	0.201
Scope 1 Emissions Intensity (normalised by net energy)	tCO ₂ eq/MWh	0.225 ³	0.206
Scope 2 Emissions Intensity (normalised by gross energy)	tCO ₂ eq/MWh	0.000466	0.000474
Scope 2 Emissions Intensity (normalised by net energy)	tCO ₂ eq/MWh	0.000477	0.000485

Scheduled Waste Generation Intensity			
Type of Waste	Unit	2019	2020
Fly Ash	Tonne/GWh	2.89	2.77
Bottom Ash	Tonne/GWh	2.82	6.90
Others (Used Oil, Contaminated Items, E-Waste, Gas Condensate, Contaminated Soil and Chemicals)	Tonne/GWh	0.02	0.01
Total Scheduled Waste Generation Intensity	Tonne/GWh	5.72 ¹	9.69*



■ Non-renewable Energy ■ Renewable Energy

Notes:

1. Scope 3 emissions (business air travel) are calculated using ICAO Carbon Emissions Calculator as on 13 April 2021.

2. Emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄ and N₂O.

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 2019.

² Net energy generation.

³ This Scope 1 emissions intensity (normalised by gross and net energy) for year 2019 figure has been corrected from the Sarawak Energy Sustainability Report 2019.

* 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 165 – 169.

DRIVING SUSTAINABLE GROWTH



● Darul Hana Bridge at Kuching City Waterfront.

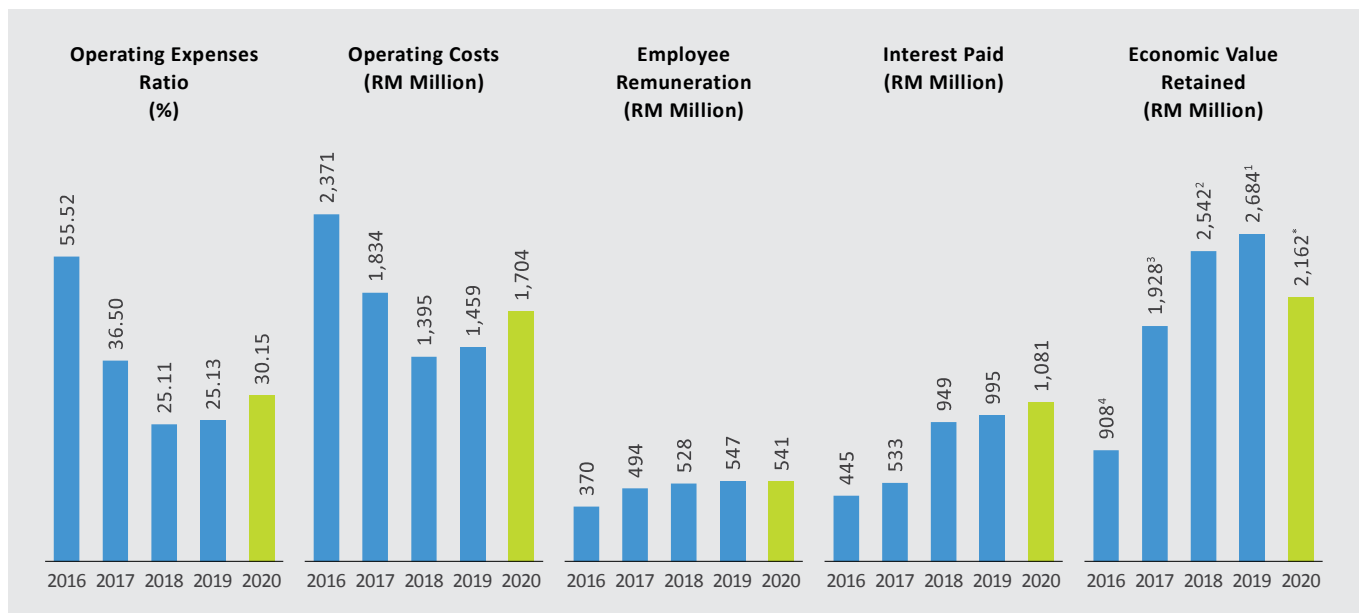
DRIVING SUSTAINABLE GROWTH

Creating Sustainable Value for Sarawak

Sarawak Energy's ability to generate sustainable economic activity across its supply chain continues to create positive impacts for the State of Sarawak and its people.



● View of Kuching City Waterfront with Sarawak State Legislative Assembly Building.

**Notes:**

¹ This economic value retained data has been assured by a third party for Sustainability Report 2019.

² This economic value retained data has been assured by a third party for Sustainability Report 2018.

³ This economic value retained data has been assured by a third party for Sustainability Report 2017.

⁴ This economic value retained data has been assured by a third party for Sustainability Report 2016.

^{*} This economic value retained data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

DRIVING SUSTAINABLE GROWTH

During the year, RM3.49 billion was distributed through operating costs, employee remuneration, interest paid and taxes. This resulted in RM2.16 billion in economic value retained compared to RM2.68 billion in 2019.

	2016	2017	2018	2019	2020
Economic Value Distributed (RM Million)					
Operating costs	2,370.70	1,834.20	1,394.50	1,459.20	1,704.20
Employee remuneration	369.90	494.40	527.80	547.00	541.30
Payment to capital providers					
Dividends paid	-	-	-	-	-
Interest paid	445.30	532.50	949.30	995.10	1,081.20
Payments to government					
Income taxes paid (net of refunds)	175.80	236.10	140.70	121.80	162.80
Economic value retained	908.20⁴	1,928.20³	2,542.30²	2,683.70¹	2,162.20[*]

Notes:

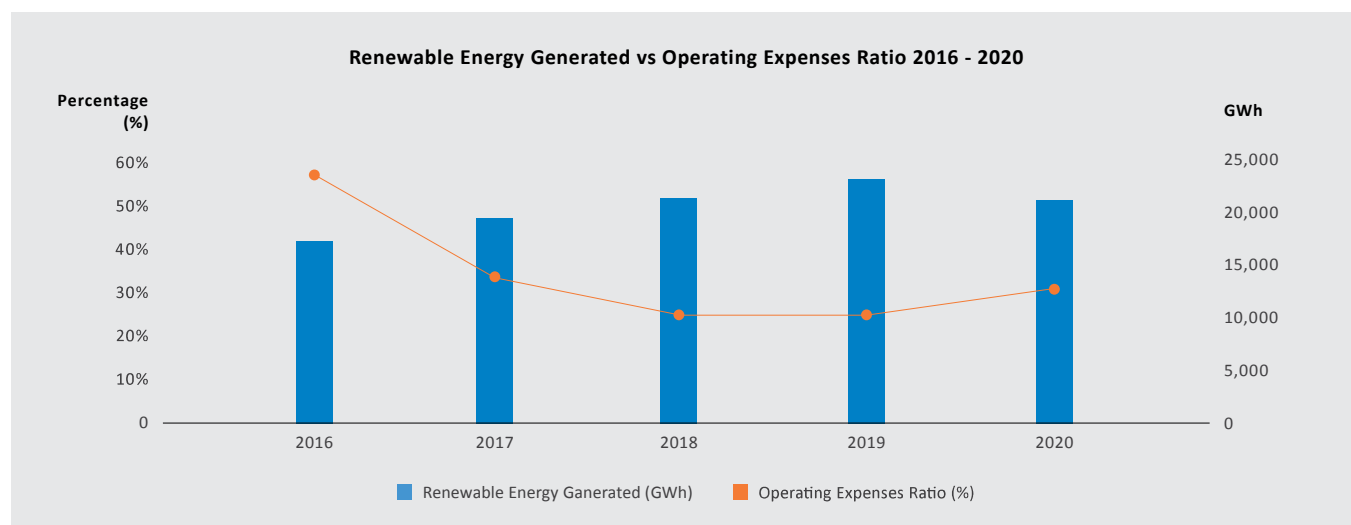
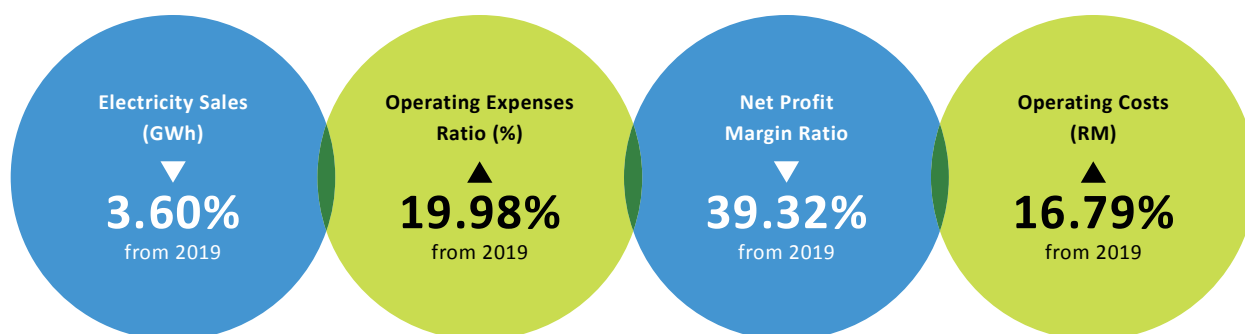
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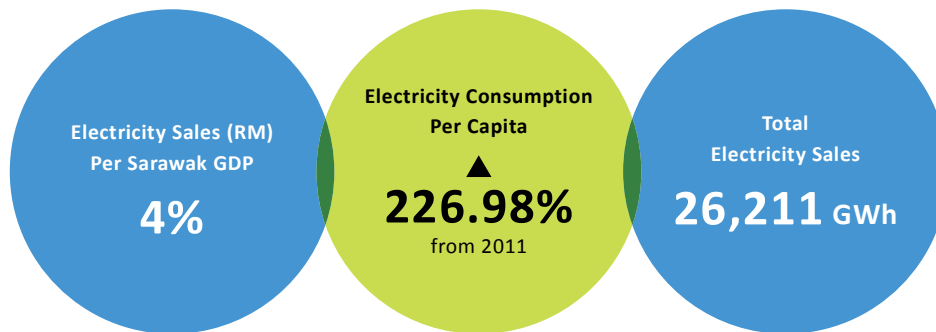
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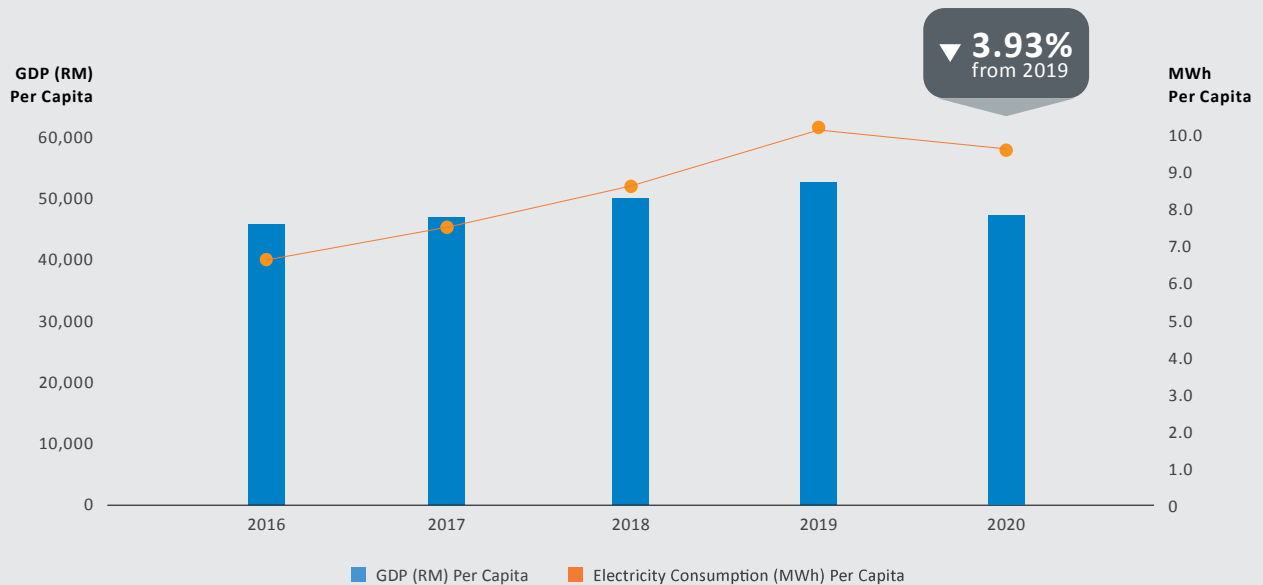




DRIVING SUSTAINABLE GROWTH



Electricity Intensity – Electricity Consumption Per Sarawak GDP 2016 - 2020



Sarawak's GDP declined by 8.91% in 2020 according to the Department of Statistics Malaysia, compared to a 2.8% increase in 2019. This was largely due to the lockdowns imposed by the government to contain the spread of the COVID-19 virus which also led to lower electricity consumption overall. However, hydropower-driven renewable energy remains a key enabler of Sarawak's economic growth and charted an average growth of 30.66% per annum from 2011 to 2020.

DRIVING SUSTAINABLE GROWTH

SUPPORTING LOCAL BUSINESSES

In our commitment to achieving sustainable growth and prosperity for Sarawak, we are cognisant of the important role we play in boosting the growth of local businesses. Supporting local suppliers and companies can potentially attract additional investment into the local economy and improve our relationship with the local communities. By 'local', we refer to Sarawakian and non-Sarawakian Malaysian companies.

Local companies continued to win the largest percentage of the Company's total projects awarded in 2020 by garnering 89% of the projects, valued at RM1,264.64 million. Sarawakian companies continued to command the largest share of the Company's tenders, winning 81% of the overall total of RM1,421 million worth of projects. The Company's overall total value of projects decreased in 2020 as the bulk of main contracts were awarded in 2019.

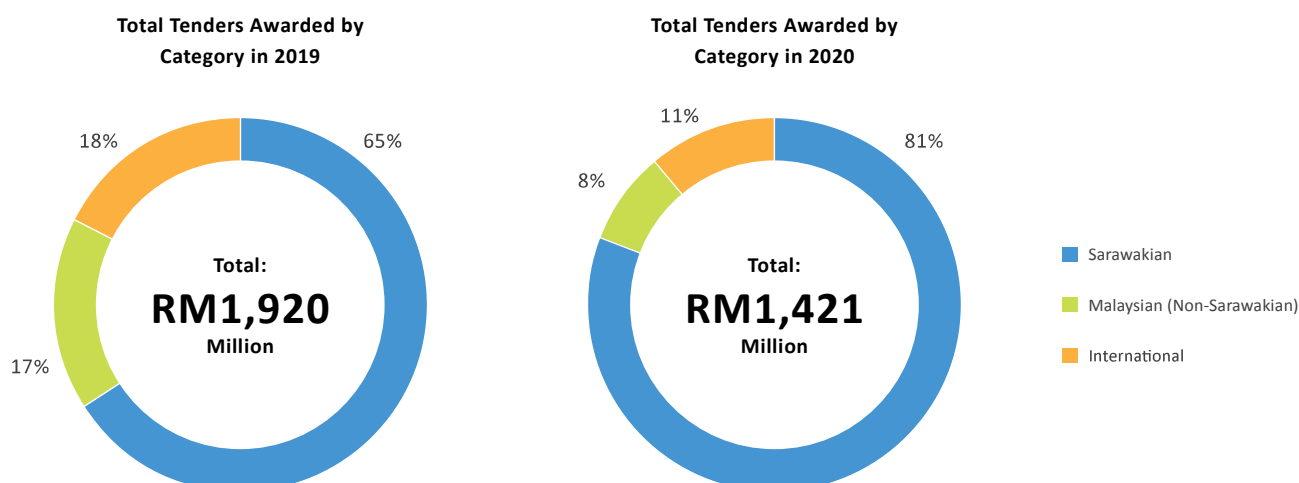
2019 vs 2020

Status	2019	2020
Sarawakian	1,238,701,902.57 ¹	1,151,800,210.86*
Malaysian (Non-Sarawakian)	328,819,029.00	112,843,633.26
International	352,144,759.00	156,363,049.30
Overall Total	1,919,665,690.57	1,421,006,893.42

Notes:

¹ This total value of tenders awarded to local Sarawakian companies' data has been assured by a third party for Sustainability Report 2019.

* 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 165 – 169.



The Impact of COVID-19 on Procurement

The disruptions caused by the COVID-19 pandemic affected Sarawak Energy's procurement process, as processes and procedures had to be adapted and adjusted to comply with SOPs and movement restrictions. Sarawak Energy was fortunate that we were able to mitigate most of the disruptions due to the timely implementation of the Sarawak Energy e-Procurement (SEPRO) platform in 2019 which ensured that the tender process was able to keep moving forward. Despite the tender process being executed virtually in most instances, the team was still able to ensure strict confidentiality while meeting the prescribed timelines, demonstrating our agility in adapting to the new norm and commitment to creating value despite facing unprecedented challenges.

DRIVING SUSTAINABLE GROWTH



● Kuching City.

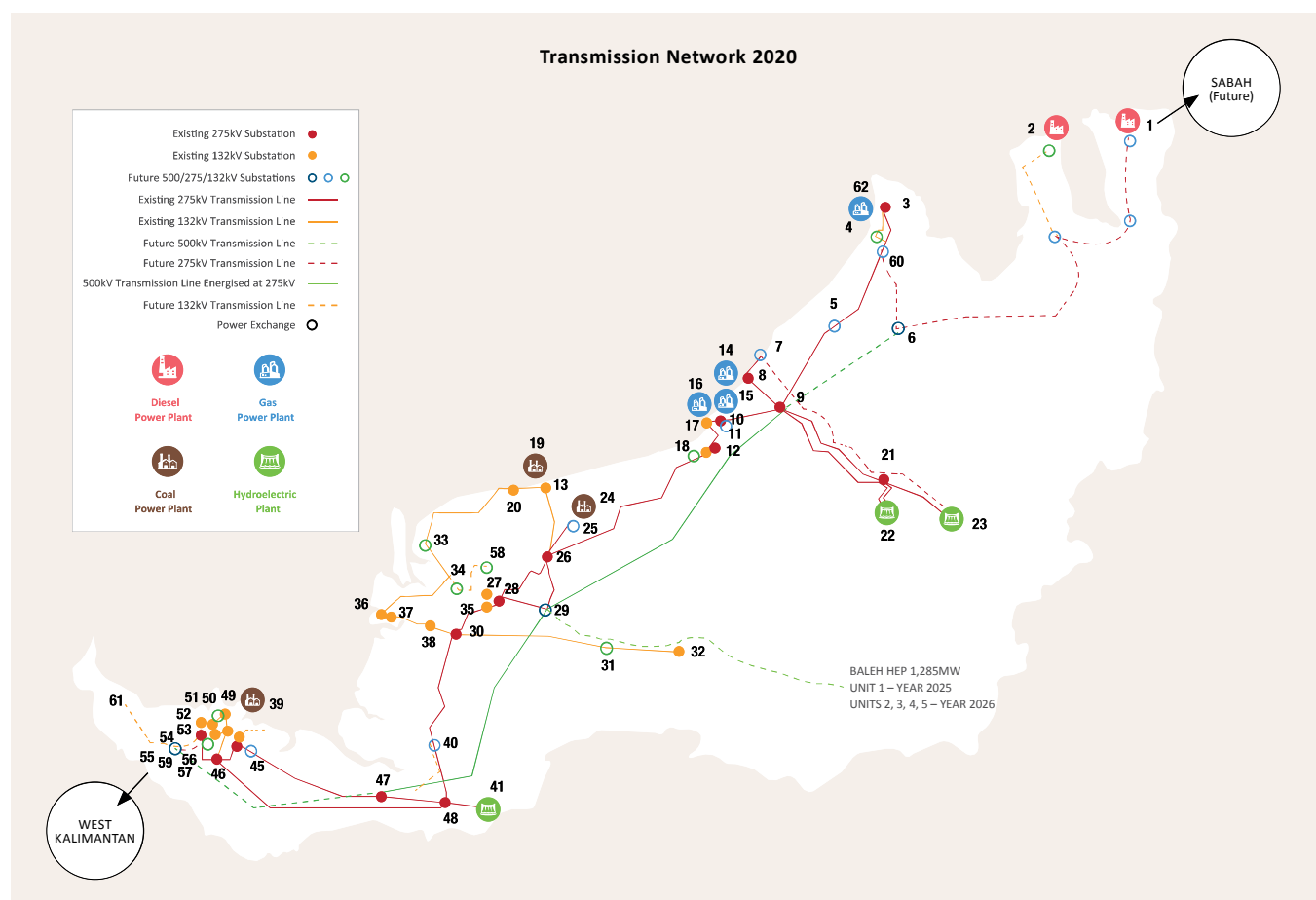
MEETING SARAWAK'S ENERGY NEEDS DURING THE PANDEMIC

Overall energy demand from Sarawak Energy declined by 3.6% in 2020 to 26,211 GWh compared to 27,189 GWh in 2019, mainly due to a reduction in demand from our bulk, industrial and commercial customers as they were affected by the Movement Control Order (MCO) which was implemented in March 2020. As a result, existing bulk customers reduced their operations, while industrial customers who were looking to expand their activities had to delay their plans. The decline in demand from our business customers was, however, partly mitigated by the increase in demand from retail customers who had to stay home during the MCO. To navigate this, Sarawak Energy rationalised and reoptimised our generation despatch to manage the demand reduction. The Company committed to delivering a total of 3,918 MW to both organic and bulk customers during the year.

The Company's total electricity sales by customer category for the year was as follows:

Electricity Sales (GWh) – by Customer Type	2016	2017	2018	2019	2020
Domestic	2,102	2,149	2,368	2,401	2,620
Commercial	2,512	2,575	2,857	2,767	2,584
Industrial	1,871	2,027	2,367	2,297	2,329
Public Lighting	77	88	110	104	109
Bulk Customers	14,065	16,836	18,123	19,620	18,569
Total Electricity Sales	20,627	23,675	25,825	27,189	26,211

DRIVING SUSTAINABLE GROWTH

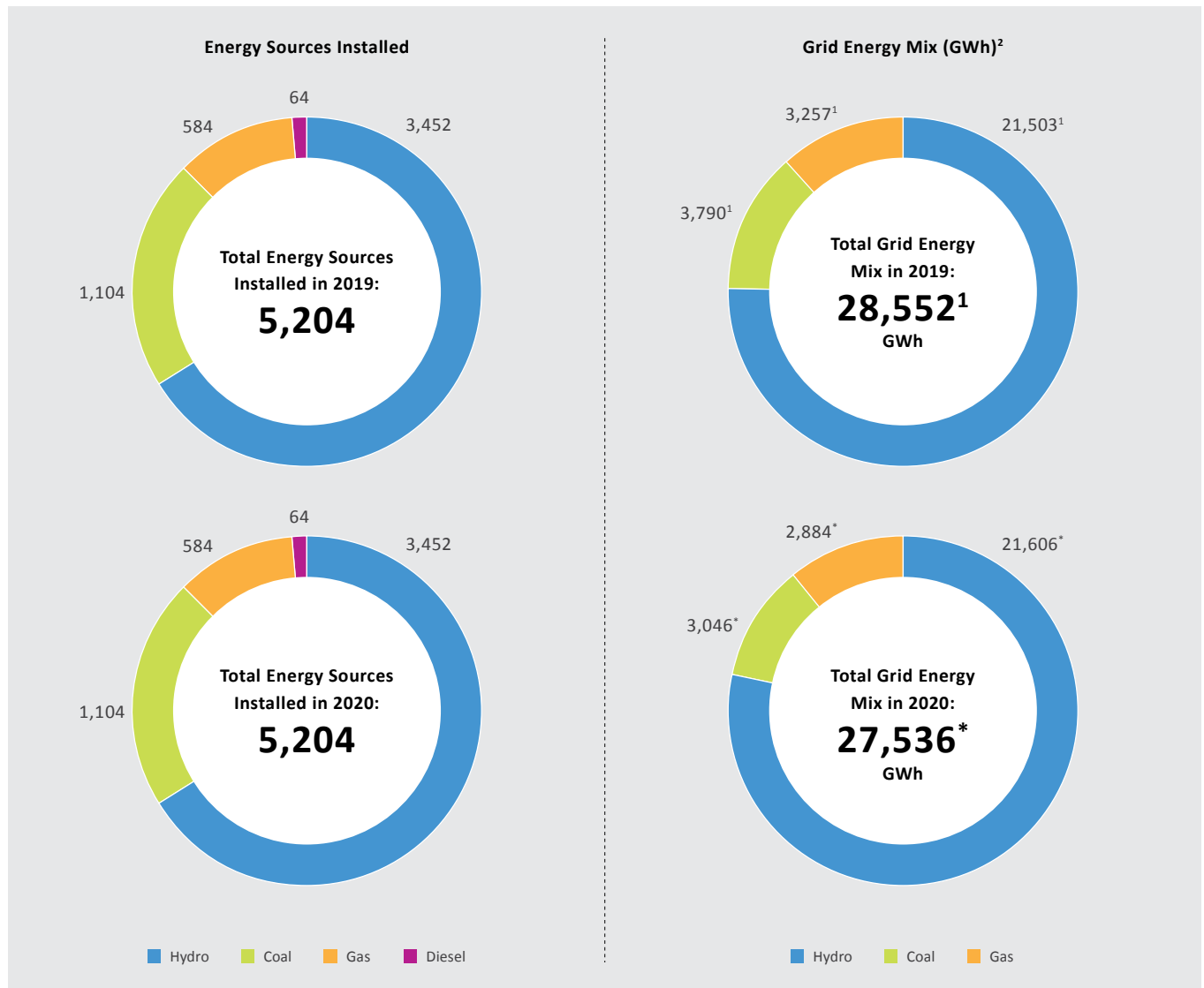


- | | | |
|--|---|------------------------------------|
| 1. Lawas 275/33kV S/S | 21. Murum Junction 275/33kV S/S | 42. Muara Tabuan 132/33kV S/S |
| 2. Limbang Town 132/33kV S/S | 22. Bakun HEP 2,400MW | 43. Samajaya 132/33kV S/S |
| 3. Tudan 275/132/33kV S/S | 23. Murum HEP 944MW | 44. Entinggan 275/132/33kV S/S |
| 4. Eastwood 132/33kV S/S | 24. Balingian P/S 624MW | 45. Entinggan 3rd 275/132/33kV TRX |
| 5. Niah 275/33kV S/S | 25. Balingian 275/33kV | 46. Mambong 275/132/33kV S/S |
| 6. Bunut 500/275/33kV S/S | 26. Selangau 275/132/33kV S/S | 47. Lachau 275/33kV S/S |
| 7. Samalaju B 275/132/33kV S/S | 27. Deshon 132/33kV S/S | 48. Engkilili 275/33/11kV S/S |
| 8. Samalaju 275/132/33kV S/S | 28. Oya 275/132/33/11kV S/S | 49. Sejingkat 132/33kV S/S |
| 9. Similajau 500/275/33kV S/S | 29. Mapai 500/275/33kV S/S | 50. Astana 132/33kV S/S |
| 10. Bintulu 275/132kV S/S | 30. Kemantan 275/132/33/11kV S/S | 51. Semariang 132kV S/S |
| 11. Bintulu B 275/132kV S/S | 31. Song 132/33/11kV S/S | 52. Mendu 132/33kV S/S |
| 12. Kemena 275/33kV S/S | 32. Kapit 132/33/11kV S/S | 53. Matang 275/132/33kV S/S |
| 13. Matadeng 132/33kV S/S | 33. Daro 132/33kV S/S | 54. Transmitting 132/33kV S/S |
| 14. Bintulu Open Cycle P/S 165MW | 34. Sg Maaw 132/33kV S/S | 55. Tondong 500/275kV S/S |
| 15. Tanjung Kidurong CCGT P/S 842MW (Future) | 35. Salim 132/33kV S/S | 56. Semenggo 132/33kV S/S |
| 16. Sarawak Power Generation P/S 317MW | 36. Tanjung Manis B 132/33/11kV S/S | 57. Stakan 132/33kV S/S |
| 17. Tanjung Kidurong 132/33/11kV S/S | 37. Tanjung Manis 132/33/11kV S/S | 58. Sungai Merah 132/33kV S/S |
| 18. Sibiyu 132/33/11kV S/S | 38. Sarikei 132/33/11kV S/S | 59. MJC 132/33kV S/S |
| 19. Mukah Power Generation P/S 270MW | 39. Sejingkat Power Corporation P/S 210MW | 60. Marudi Junction 275/33kV S/S |
| 20. Petian 132/33kV S/S | 40. Serudit 275/132/33kV S/S | 61. Lundu 132/33kV S/S |
| | 41. Batang Ai HEP 108MW | 62. Pujut Open Cycle 101.6MW |

DRIVING SUSTAINABLE GROWTH

GRID CONNECTED POWER PLANT CAPACITY (MW) – BY ENERGY SOURCE

The Company's grid connected power plant capacity remained unchanged with total installed capacity at 5,204 MW in 2020. Firm capacity saw an increase to 4,227 MW compared to 4,083 MW in 2019.

**Notes:**

¹ This net energy generated data has been assured by a third party for Sustainability Report 2019.

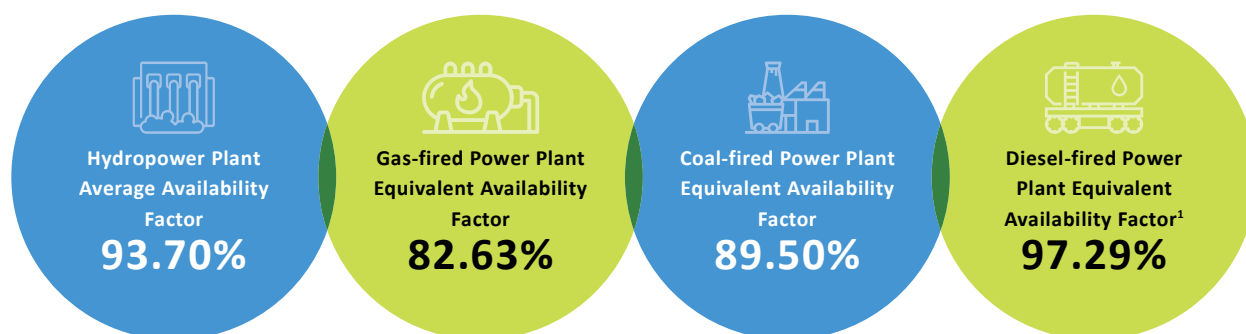
² Net energy generation.

* This net energy generated data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

DRIVING SUSTAINABLE GROWTH

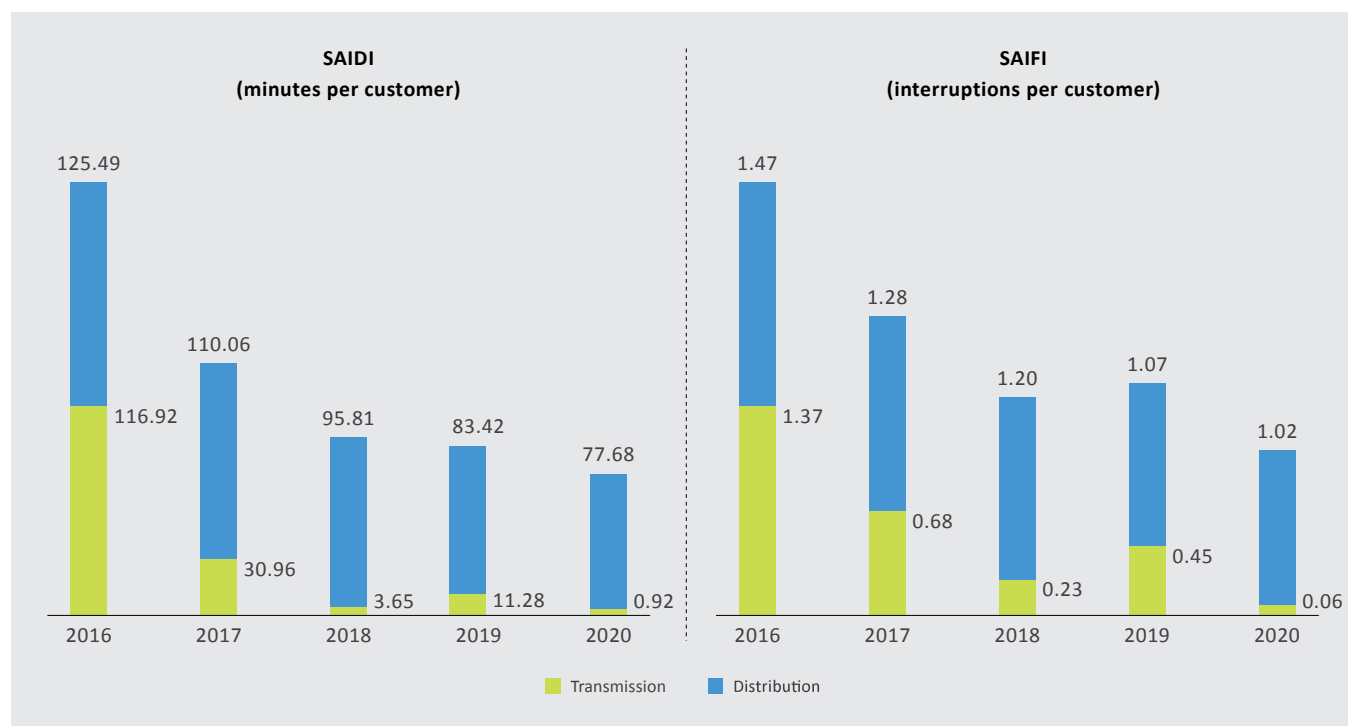
IMPROVING RELIABILITY AND RESILIENCE

The Company remains a reliable supplier of energy, recording strong and consistent availability of power at the power plant, transmission and distribution stages. Sarawak Energy continues to provide excellent service to our customers and in tandem with this, we have seen consistently improving reliability metrics over the past few years.

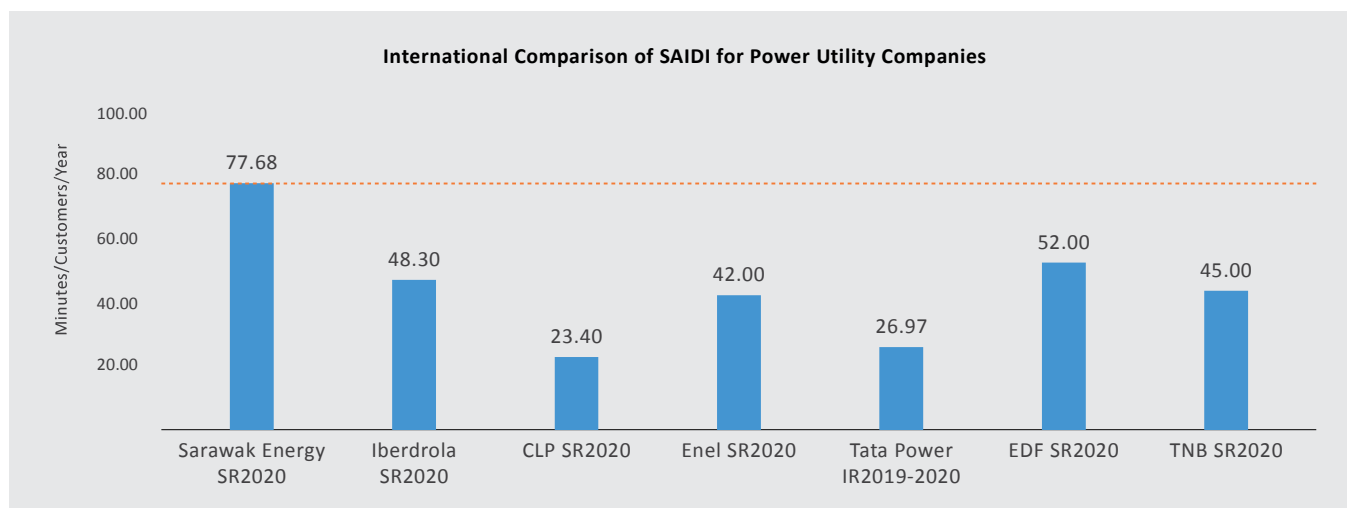
**Note:**

¹ Consists of Sg. Biawak, Limbang & Lawas Diesel-Fired Power Plants.

To help speed up service restoration, we commissioned 10 motorised Ring Main Units (RMU) in March 2020 that can be controlled remotely to isolate faults rapidly. Five critical feeders were identified for this motorised RMU project in the Kuching area.



DRIVING SUSTAINABLE GROWTH

**Note:**

Published Annual, Sustainability & Integrated Reports 2020.

TRANSMISSION AND DISTRIBUTION LOSSES

Transmission and Distribution losses remained largely stable during the year as the Company continued to implement system efficiency improvement initiatives as well as enforcement activity to detect and prevent power theft. Some of our efficiency improvements included the use of energy-efficient amorphous transformers, reinstating capacitor banks, upgrading and replacing transmission lines and transformers and introducing new injection points.

In 2020, the task of enforcement became more challenging due to the new SOPs that had to be observed during the pandemic. Given that we had to minimise close contact with customers, we focused instead on:

Inspecting meters at gate poles and centralised meter cabinets

Conducting surveillance to detect illegal reconnection or direct tapping

Replacing meters for street lighting with automatic meter readers

Although non-technical losses declined from 4.41% in 2019 to 4.05% in 2020, a new trend that our enforcement team detected was the growth of cryptocurrency mining activities in Sarawak, where 25 mining operators were found to have tampered with their wiring systems, which led to losses for Sarawak Energy.

To further combat power thefts, we are:

- Collaborating with China Light Power (Hong Kong) to embark on a fraud analytics model to identify and detect potential tampering, as well as sharing knowledge with meter inspection teams across the region.
- Working together with other government agencies such as PDRM and the MACC to support our executive action operations to minimise non-technical losses.

DRIVING SUSTAINABLE GROWTH

Total Number of Transmission Tripping and Tripping Intensity at Transmission:

	Year	2016	2017	2018	2019	2020
Number of Transmission Tripping	Substation	56	21	22	29	15
	Transmission	20	56	58	69	53
	Total	76	77	80	98	68
Transmission Tripping Intensity (Tripping/km)		0.044	0.035	0.036	0.041	0.014

Transmission & Distribution Losses

Description	2016	2017	2018	2019	2020
Transmission Losses (%)	1.95	1.99	1.99	2.17	2.32
Distribution Losses (Technical) (%)	10.87	6.33	6.33	6.43	6.59
Distribution Losses (Non-Technical) (%)	1.03	3.80	4.47	4.41	4.05

The Company recorded a significant reduction in account disconnections to 11,312 in 2020 for the Kuching, Sibul, Sarikei, Bintulu, Miri, Limbang and Lawas areas, valued at RM35.57 million, from 19,253 accounts valued at RM90.09 million in 2019. A total of 9,135 out of the 11,312 disconnected accounts were reconnected following the receipt of RM18.94 million in payments, of which electricity was restored within 24 hours of receiving payment for 9,047 accounts.

Year	<24 Hours	24 Hours – 1 Week	>1 Week
2020	9,047	891	89
2019	14,841	397	24
2018	19,304	348	32
2017	15,721	2,679	1,170



● Continuously delivering reliable energy to our customers.

Year	Total Accounts Disconnected	Total Amount Disconnected (RM)	Total Accounts Reconnected	Total Amount Reconnected (RM)
2020	11,312	35,567,618.04	9,135	18,939,263.65
2019	19,253	90,094,268.16	15,309	55,427,122.74
2018	24,014	87,270,165.20	19,875	93,989,694.04
2017	28,586	75,414,881.61	19,576	60,091,606.54
2016	9,579	22,014,128.63	6,463	8,981,922.85

DRIVING SUSTAINABLE GROWTH

BUSINESS CONTINUITY MANAGEMENT

Since 2016, Sarawak Energy has established a Business Continuity Management (BCM) Framework to bolster organisational resilience and seek effective solutions to uphold the interests of key stakeholders, the Company's reputation and value-creating activities, as well as to collaborate with government agencies during crises or disasters. The framework is aligned with ISO 22301:2012, ISO22313:2012 and relevant Malaysian and international BCM standards and guidelines.

BCM Policy Statement

The Company's BCM policy statement highlights that the Company will maintain and ensure the continuity of its services to minimise the impact on its customers in the event of a service disruption.

To achieve this, the Company will:

- i. Maintain a BCM Programme which ensures that Sarawak Energy has the ability to respond and recover appropriately in line with its vision and mission.
- ii. Implement strategies for the resumption of business functions in line with recovery objectives.
- iii. Ensure appropriate business continuity plans are in place and procedures are established to manage a disruptive incident and for Sarawak Energy to continue its business functions based on identified recovery priorities.
- iv. Exercise and test Sarawak Energy's BCM Programme at defined intervals.
- v. Monitor and review Sarawak Energy's BCM Programme at planned intervals to ensure its adequacy and effectiveness.
- vi. Ensure BCM is embedded via effective communication and sustainable training activities.
- vii. Remain aligned with relevant standards, best practices and policies in BCM to continuously improve the Programme.

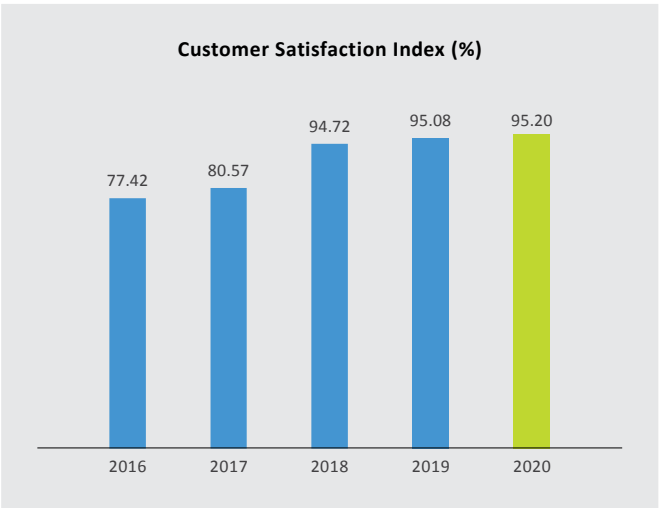
Our Milestones in 2020

Despite the challenges presented by the pandemic, we continued to strengthen our preparedness to ensure our business activities would not be interrupted. Together with other departments in Sarawak Energy, we reviewed each business function's BCM documents and tailored them to respond to the pandemic situation. All activities, inclusive of Crisis Simulation Exercises, documentation review workshops and awareness and refresher training sessions were conducted in a fully virtual environment. Some of the major activities carried out in 2020 were as follows:



DRIVING SUSTAINABLE GROWTH

RESILIENT CUSTOMER SERVICE



The COVID-19 pandemic proved to be one of the most challenging times for our customer service teams as customer service counters were temporarily closed and meter reading and bill delivery services were suspended in compliance with the MCO. During this time, customers were encouraged to use the Sarawak Energy Cares web and mobile platforms for billing and meter reading, payments, enquiries and reporting of technical issues. Our Customer Care Centre (CCC), which was a critical component of our ability to service our customers, also remained open during this time.

As a result of our efforts, our Customer Satisfaction Index increased from 95.08% in 2019 to 95.20% in 2020.

Leveraging Digitalisation to Improve Customer Experience

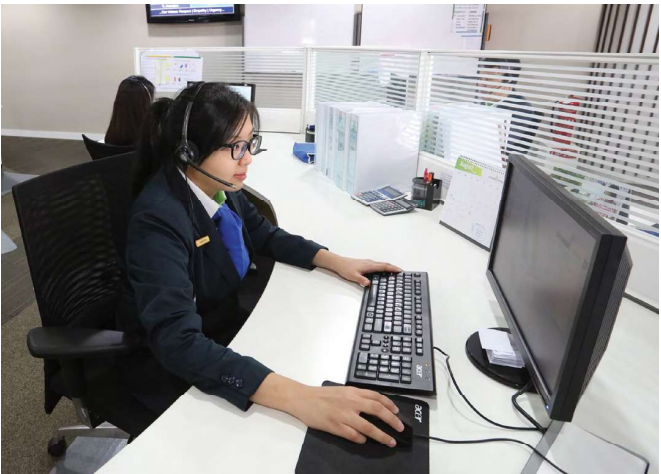
As part of Sarawak Energy’s digitalisation journey, we developed the e-Customer Experience system for the online submission of electricity supply applications, which was partially launched and went live in June 2020. The e-Customer Experience (eCX) system aims to:

- Streamline, standardise, simplify and digitalise the manual application process.
- Improve transparency and create a contactless experience, ideal for the pandemic era.

In its current form, the eCX is utilised by electrical consultants and internal wiring contractors to submit bulk electricity supply applications, and we expect the full system, which can be used by retail customers, to be completed by the end of 2022.

Sarawak Energy also introduced other improvements such as:

- The ‘Carina’ virtual customer service assistant, a chatbot that serves our customers on our corporate website and on the SEB Cares platform.
- A Go Paperless Campaign to promote the use of e-Bills and discontinue the use of paper bills. Participating customers can opt to join the campaign that began on 1 January 2021 and will end on 31 December 2021 through all our various customer service channels and will receive a RM2 rebate per month for a period of 12 months.
- With the implementation of the Salesforce CRM system, which consolidates customer data and case history from the Customer Care Centre, Technical Control Centre and counter staff, we can better track and manage customer records received through various channels including phone, email, SMS, mobile app and live chat services in a single, centralised database to ensure accurate and consistent feedback is given to customers.



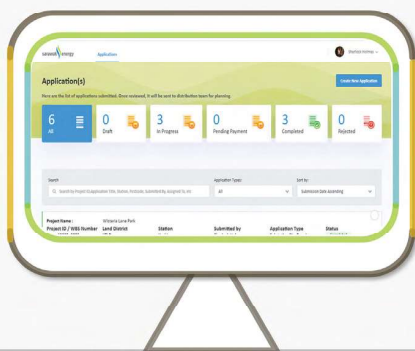
Upholding service excellence culture.

DRIVING SUSTAINABLE GROWTH

What is eCX?

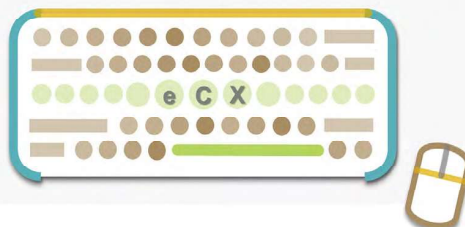
e-Customer Experience

Online Electricity Supply Application System



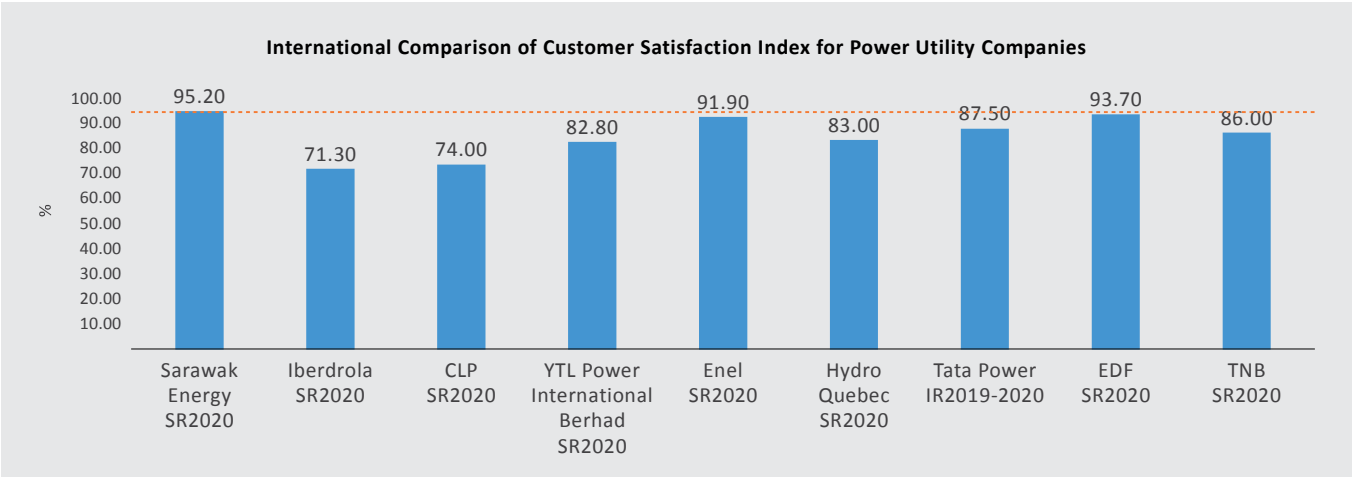
- 1** **Online Submission** of electricity supply application
- 2** **Online Registration & Renewal** of Consultant & Contractor profile
- 3** **Easy tracking** of the application milestones
- 4** **Receive real-time updates** on application progress
- 5** **Freedom** to submit application 24/7 without going to counter – save time!

Why eCX?



- 1** **AUTOMATION**
Replace the long and tedious manual application processes
- 2** **EFFICIENCY**
Achieve the best use of time and resources to complete application process
- 3** **STANDARDIZATION**
Establish consistent practices throughout all regions
- 4** **DIGITALISATION**
In view of the global COVID19 pandemic, this is a suitable time to adopt contactless interaction
- 5** **TRANSPARENCY**
Information regarding to application are easily accessed and shared
- 6** **ALL IN ONE PLACE**
One platform can be accessed by staff, consultants, contractors and public

DRIVING SUSTAINABLE GROWTH



Note:
Published Annual, Sustainability & Integrated Reports 2020.

In 2020, Sarawak Energy hosted a Dam Safety Emergency Plan (DSEP) drill at Batang Ai, Murum and Bakun HEPs. The annual event aims to ensure that station personnel are fully aware of the procedures and actions that need to be carried out during an emergency. The team was able to conduct physical drills while observing COVID-19 SOPs and tabletop exercises when mass gatherings were not permitted. In addition, we held Dam Safety Awareness meetings with government stakeholders in Bintulu and Sibul, and conducted a community engagement programme with the Nanga Pudai community (downstream of the Batang Ai HEP).

Asset Management Initiatives

Mobile Field Force Automation (MFFA)

The MFFA, which tracks and monitors the response time of technical field crews, was first introduced in 2016 and now covers Sarawak Energy's operational teams in Kuching, Sibul, Bintulu and Miri. In 2020, the focus shifted to auditing and performance monitoring and improvement. Moving forward, the plan is for the MFFA to also cover operational teams in Sri Aman, Sarikei, Mukah, Kapit, Limbang and Lawas.

Enterprise Management System

Sarawak Energy completed the roll-out of the Enterprise Asset Management (EAM) work order management and mobility system for transmission and distribution users in 2019. In 2020, we continued to enhance the EAM system while embarking on user engagement activities. Some recent updates related to the EAM include:

- As of December 2020, the EAM has recorded 55,845 work orders with 63.47% of these work orders being complete, which has demonstrated increased usage and proficiency by users.
- Customised reports have been developed to capture periodic maintenance progress, asset information, permit-related issues, and licence utilisation reports, which have led to cost savings of more than RM300,000.
- Moving forward, the EAM will be further promoted to ensure widespread usage for maintenance reporting and to make it the only point of reference for asset lifecycle documentation.

Geographical Information System (GIS)

Sarawak Energy continues to improve the management of its assets and has leveraged digitalisation to develop a GIS that helps us with mapping activities and network management. In 2020:

- We migrated the existing CAD-based data set to the GIS format to standardise and simplify the geospatial network data set which consists of the distribution of network assets and customer locations.
- This standardisation provides a uniform setup at all regional offices in managing the GIS data set for mapping activities and network management.
- By the end of Q4 2020, the GIS data set migration was completed at eight SESCO regional offices.
- Moving forward, we will continue to drive the GIS transformation journey throughout the Company to build a centralised GIS data repository which can also be displayed on the internet.

MANAGING OUR BUSINESS FOOTPRINT

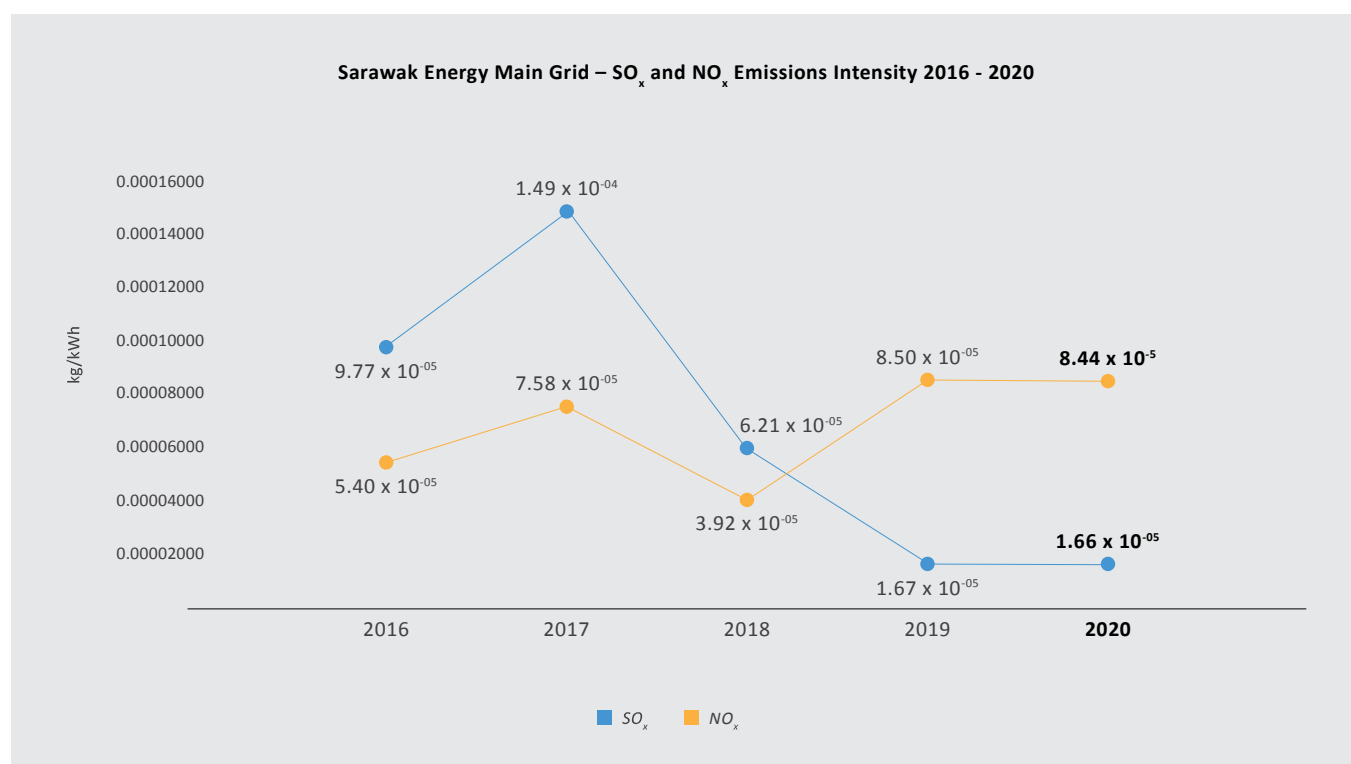


● Conserving catchment areas for the sustainability of our HEPs' operations.

MANAGING OUR BUSINESS FOOTPRINT

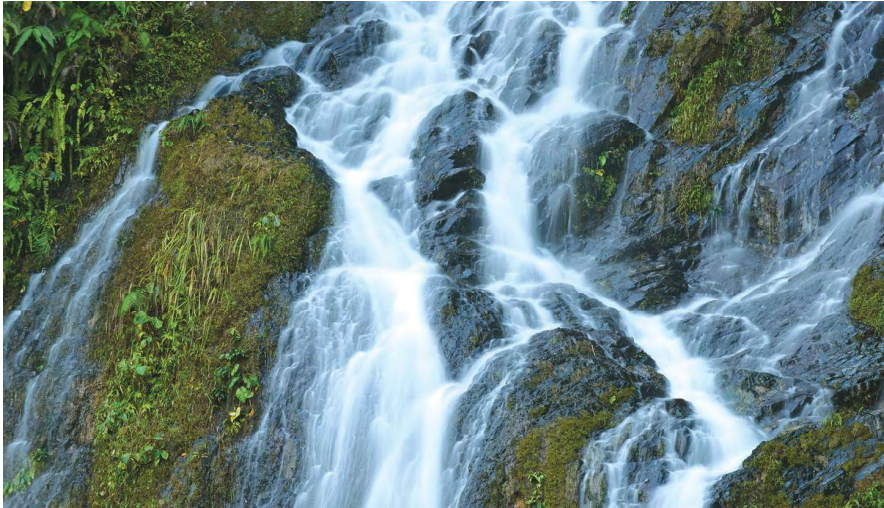
Sarawak Energy Main Grid – Total SO_x, NO_x Emissions

	Unit	2016	2017	2018	2019	2020
SO _x	Tonne	2,141.51	3,720.17	1,656.62	454.33	3,589.52
NO _x	Tonne	1,182.29	1,893.59	1,046.51	2,307.27	5,433.16

**Notes:**

- For reporting purposes, CO₂ emissions are calculated based on the amount of fuel used. SO_x & NO_x emissions are calculated based on monthly Stack Emission Monitoring.
- Reports are conducted by third party consultants. In addition, these monthly stack emission reports will be used to verify the CEMS measurements.
- The Continuous Emission Monitoring System (CEMS) is only available at our SPC, PPLS, Bintulu, SPG and MPG power plants and the measurement results are directly connected to the Department of Environment.

MANAGING OUR BUSINESS FOOTPRINT



● Waterfall in the Baleh National Park at Upper Baleh Catchment Area.

WATER MANAGEMENT

Water is a key resource across all our power plants. With our hydroelectric power plants, we need to ensure that there is a sustainable supply of water upstream. For our thermal power plants, water is a key component in the cooling processes. We are also cognisant of our impact on surrounding communities who depend on the natural water resources for their daily needs and are affected by our operations. We are committed to conserving our water resources for the sustainability of our operations and communities and have continued to engage with local authorities and communities to develop new ways of working together to protect this precious shared resource.

Water Withdrawal

The majority of the water withdrawn in our operations is from the sea and rivers and is used for the cooling processes in our thermal energy plants. The total water withdrawn in 2020 was 30% less than in 2019.

Total Water Withdrawal by Source

Plant Type	Source	Unit	2016	2017	2018	2019	2020
Coal	Municipal	m ³	2,525,529.00	2,457,930.00 ³	2,186,120.00 ²	2,204,029.00 ¹	2,007,712.00*
	Seawater or other natural water source	m ³	812,784,320.00	820,813,896.00 ³	739,325,453.18 ²	724,178,991.74 ¹	569,688,758.40*
Combined Cycle - Natural Gas	Municipal	m ³	132,442.00	157,777.00 ³	229,836.00 ²	353,319.00 ¹	279,765.00*
	Seawater or other natural water source	m ³	249,789,230.68	212,876,380.80 ³	227,489,565.60 ²	241,935,030.72 ¹	104,047,121.52*
Diesel	Municipal	m ³	22,402.14	21,192.00 ³	13,952.50 ²	6,896.13 ¹	1,731.51*
	Seawater or other natural water source	m ³	2,143,090.00	1,171,360.00 ³	69,650.00 ²	-	-

Notes:

¹ This total water withdrawn by source data has been assured by a third party for Sustainability Report 2019.

² This total water withdrawn by source data has been assured by a third party for Sustainability Report 2018.

³ This total water withdrawn by source data has been assured by a third party for Sustainability Report 2017.

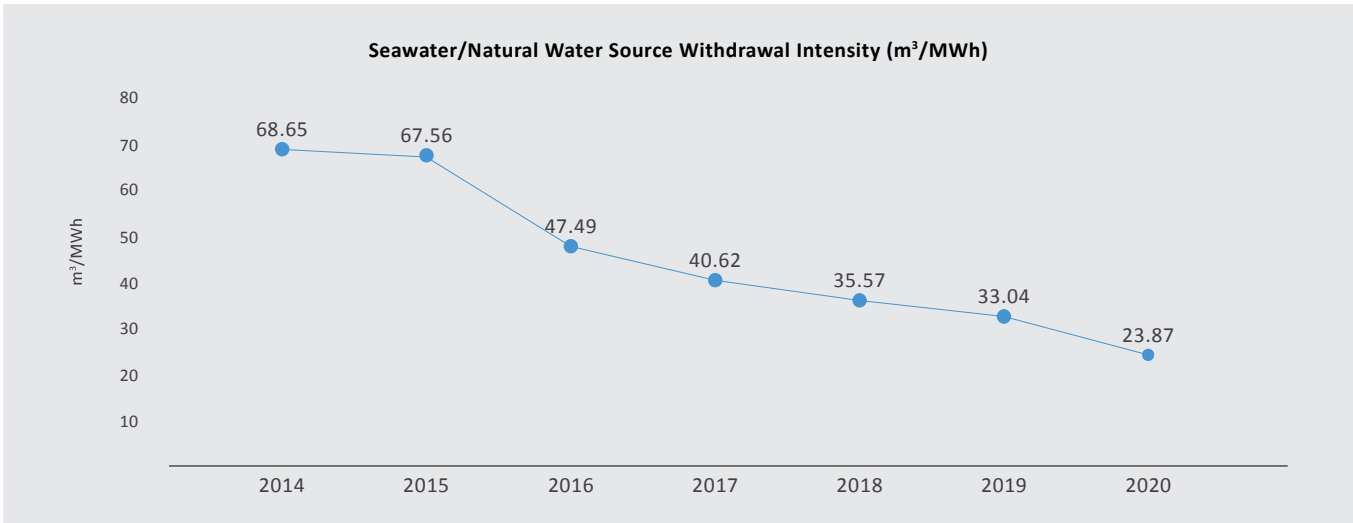
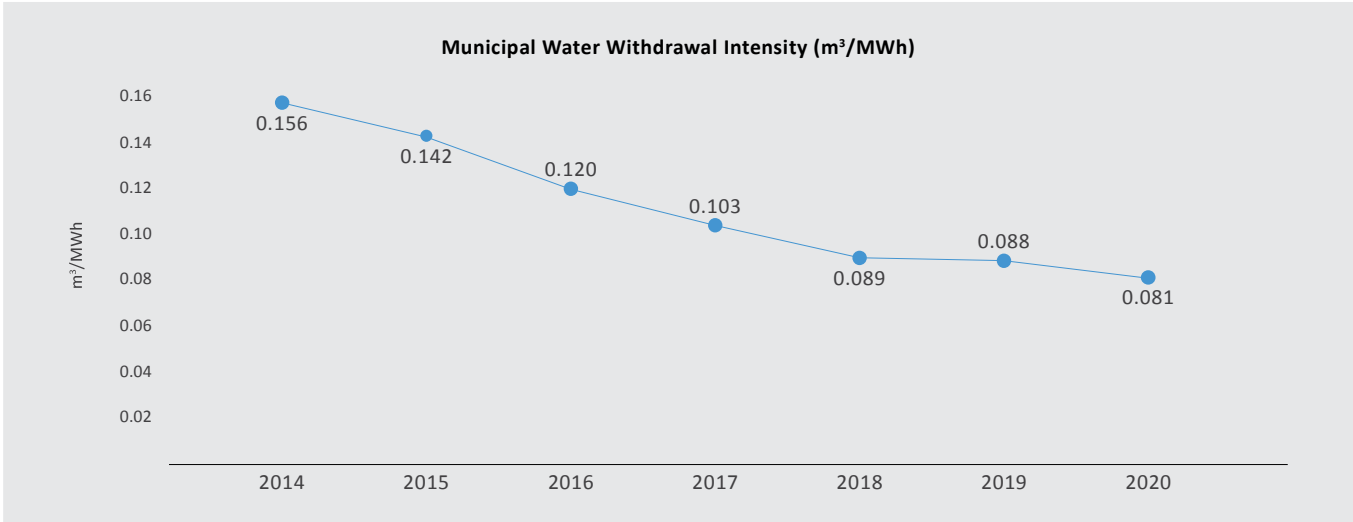
* This total water withdrawn by source data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

Water Withdrawal Intensity by Source (Thermal Plants)

Water Withdrawal Intensity by Source	Unit	2016	2017	2018	2019	2020
Municipal Water Withdrawal Intensity	m ³ /MWh	0.120	0.103	0.089	0.088	0.081
Seawater or Other Natural Water Source Withdrawal Intensity	m ³ /MWh	47.49	40.62	35.57	33.04	23.87

103-1, 103-2, 103-3, 303-1, 303-3, 304-1, 304-2

MANAGING OUR BUSINESS FOOTPRINT



Integrated Watershed Management

In 2019, we signed a memorandum of understanding (MOU) with the Forest Department Sarawak to collaborate on a three-year project to support biodiversity conservation as well as protect catchment areas and water resources.

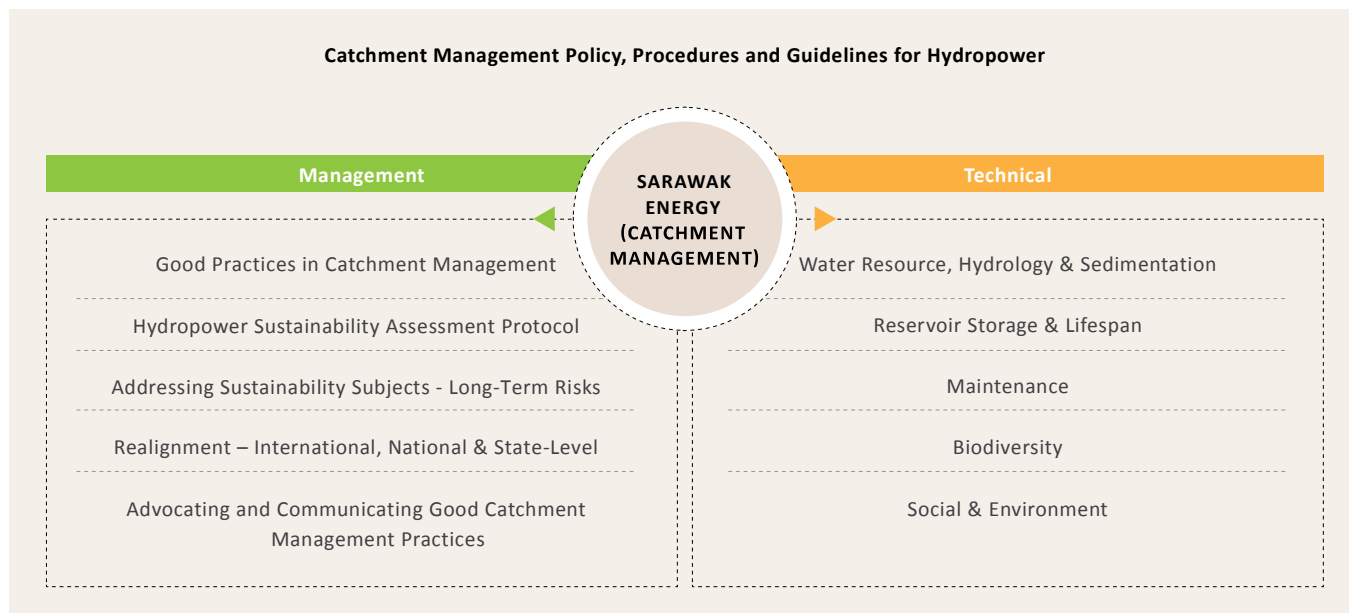
The Baleh Watershed Wildlife Connectivity Project invests in protecting the watershed area that has been identified as an important area for wildlife connectivity as it links the Hose Mountains in Sarawak to the Betung Kerihun National Park in Kalimantan, Indonesia.

The Baleh Watershed Wildlife Connectivity Project continues the important scientific work done during the Heart of Borneo (HoB) expedition in 2015, where 66,721 ha of the surveyed area was subsequently officially gazetted as Baleh National Park.

Investing in the conservation of this area is also part of Sarawak Energy’s long-term risk management to ensure that upstream water resources are protected for the sustainable operation of the Baleh HEP, which is currently under construction.

MANAGING OUR BUSINESS FOOTPRINT

WHY SARAWAK ENERGY NEEDS TO BE INVOLVED

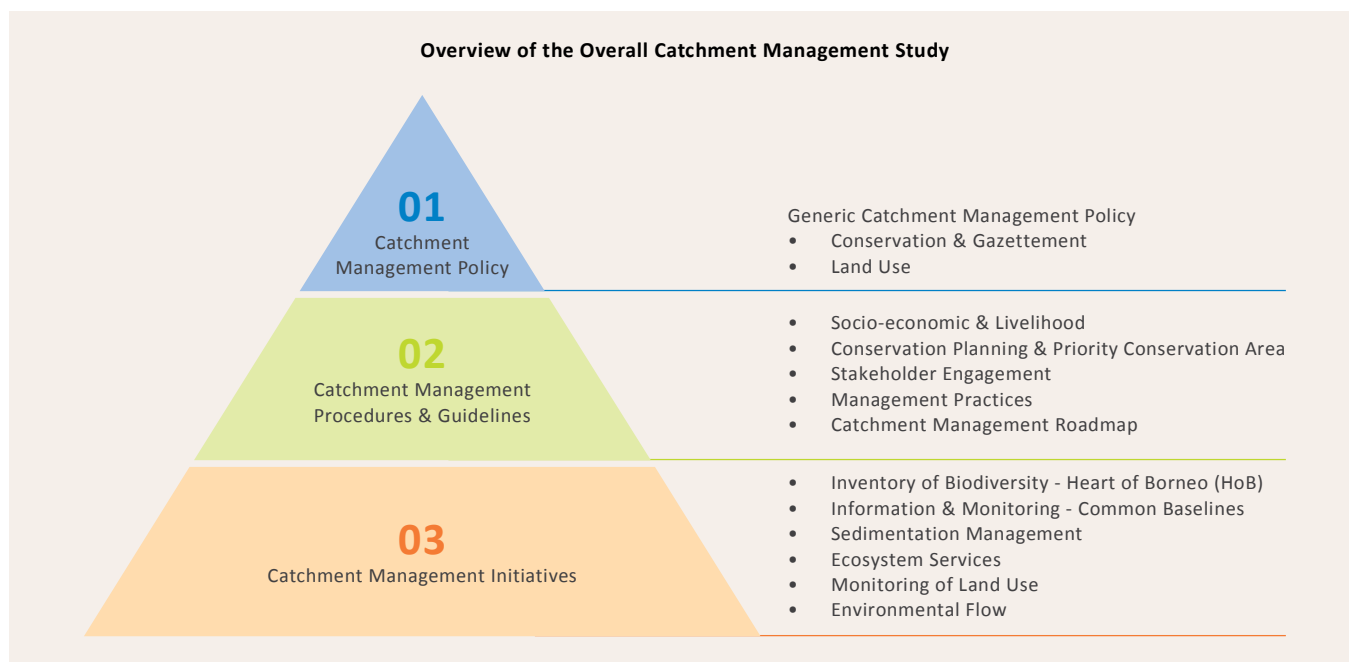


The proposed scope of work for the Catchment Management Study is divided into three main components:

1. Catchment Management Policy
2. Catchment Management Procedures & Guidelines
3. Catchment Management Initiatives

SAFEGUARDING UPSTREAM WATER RESOURCE SUPPLY

'Resilient Hydropower Resource'



MANAGING OUR BUSINESS FOOTPRINT

Water Quality Monitoring

Sarawak Energy conducts quarterly water quality monitoring at the Batang Ai, Bakun and Murum HEP reservoirs as per NREB requirements. Dams can cause negative environmental impacts on the quality and flow of water which have a ripple effect on the ecosystem. As such, it is essential to monitor the water quality on a regular basis to ensure that any potential problems can be rectified.

Flood Warning System

In 2020, Sarawak Energy invested in the establishment of a new HAP Rapid Hydrometric Station at Bakun HEP as the existing station had been washed away. Hydrometric stations help to record important parameters such as water levels, river flow discharge, water quality and other meteorological data. The station was built and has been operational since 28 September 2020. In addition, three flood warning stations in Mejawab, Segaham and Lahanan were refurbished to integrate their systems with the new HAP Rapid Hydrometric Station. The flood warning stations will now automatically notify nearby communities if water levels reach danger levels so that early evacuation can take place in the event of a flood.

Annual Water Volume Intensity for Energy Generation

Hydro Plant	Data	Unit	2016	2017	2018	2019	2020
Batang Ai	Annual Inflow	million m ³	3,802.00	3,658.00	3,576.00	2,852.00	4,255.00
	Annual Water Volume for Energy Generation	million m ³	3,881.00	3,396.73 ³	3,646.50 ²	2,844.00 ¹	3,974.38*
	Annual Energy Generated	GWh	445.00	442.32	481.00	391.00	518.00
Murum	Annual Inflow	million m ³	8,663.00	10,933.00	7,737.00	8,183.00	9,993.00
	Annual Water Volume for Energy Generation	million m ³	4,433.00	7,503.32	7,932.00	7,482.00	8,321.00
		million m ³ (including EPS)		7,567.19 ³	8,022.00 ²	7,532.00 ¹	8,548.94*
	Annual Energy Generated	GWh	3,390.00	5,717.39	6,094.00	5,714.00	6,415.00
Bakun	Annual Inflow	million m ³		49,794.00	40,481.00	40,373.00	55,730.00
	Annual Water Volume for Energy Generation	million m ³		32,961.65 ³	36,148.11 ²	38,827.10 ¹	36,965.72*
	Annual Energy Generated	GWh		13,078.27	14,482.00	15,544.00	14,803.00
Total Annual Water Volume for Energy Generation		million m ³	8,314.00	43,925.57 ³	47,816.61 ²	49,203.22 ¹	49,489.05*
Total Annual Water Volume Intensity for Energy Generation (Hydro Main Grid Gross Energy)		m ³ /MWh	513.65	2,266.64	2,273.42	2,271.48	2,275.56

Notes:

¹ This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2019.

² This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2018.

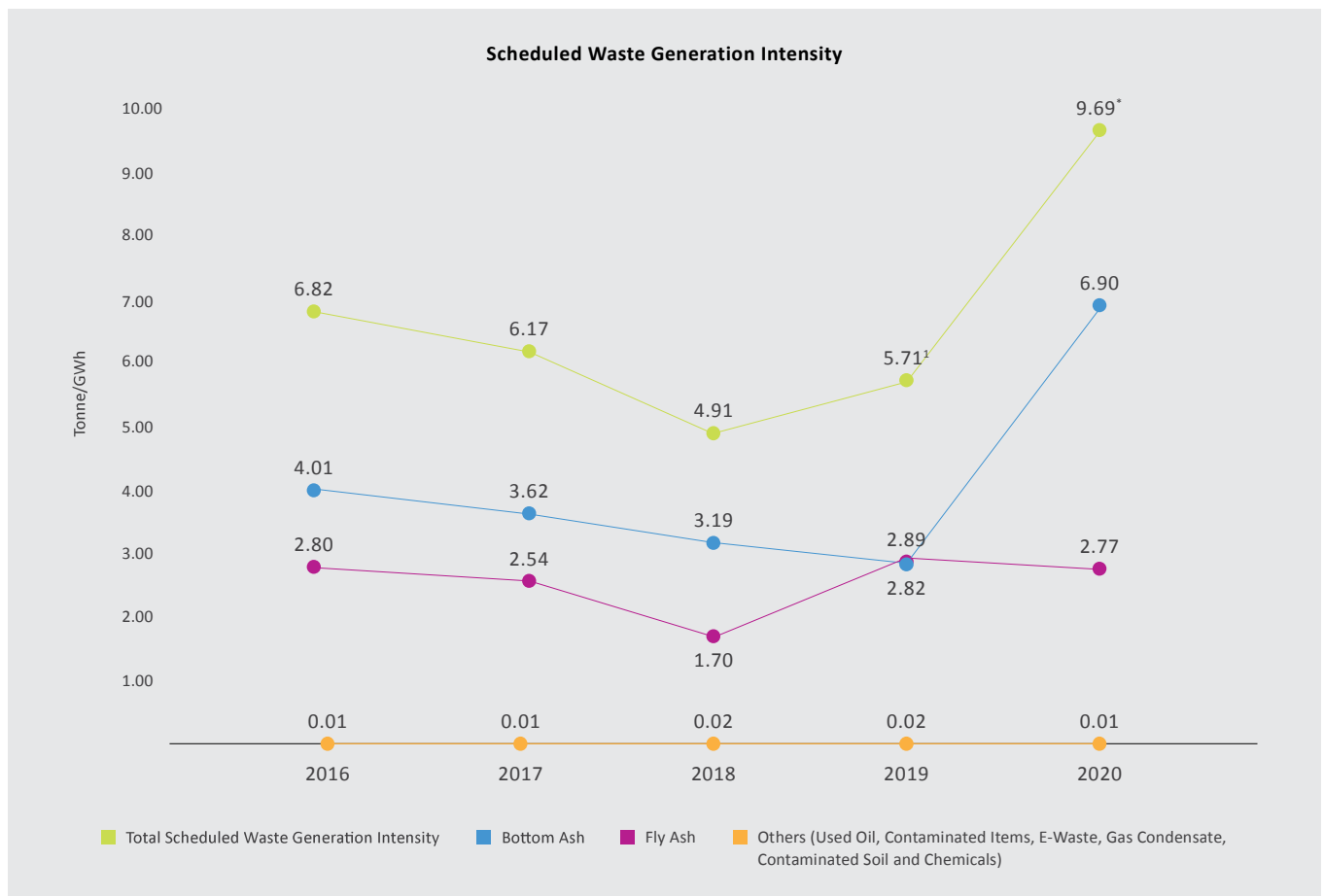
³ This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2017.

* This annual water volume for electricity generation data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

MANAGING OUR BUSINESS FOOTPRINT

SCHEDULED WASTE MANAGEMENT

Scheduled waste management is vital to the operations of Sarawak Energy. We acknowledge that it is an offence under the Environmental Quality (Scheduled Wastes) Regulations 2005 for a waste generator to store scheduled waste for more than 180 days, or exceeding 20 tonnes, whichever comes first. To ensure regulatory compliance, we assist all our stations across Sarawak with scheduled waste management, especially in monthly inventory reporting and waste disposal. Sarawak Energy has appointed an external contractor to responsibly dispose of all our scheduled waste at our stations. The majority of scheduled waste continues to be bottom ash and fly ash from our coal plants.



Notes:

¹ 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 165 – 169.

MANAGING OUR BUSINESS FOOTPRINT

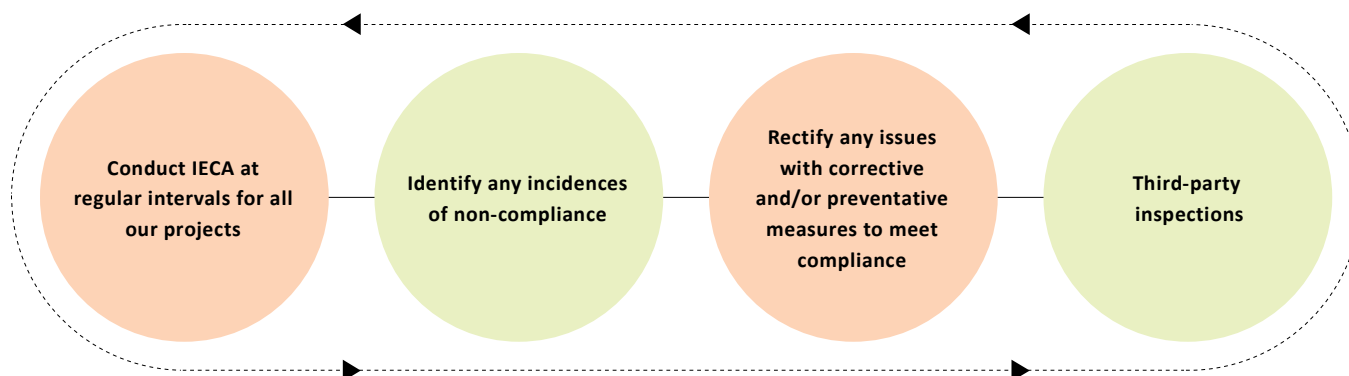
ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

In 2020, Sarawak Energy secured EIA/EMP approval for the following proposed projects:

No.	Project Title	Approval Authority	Approval Date
1.	EMP for the Proposed Bundwall-Haulage Road in Existing Energy Mineral (BEM) Coal Mining Operation at ML/1/12016/10D	Natural Resources and Environment Board (NREB)	15 October 2020
2.	EIA for the Proposed Batang Ai Floating Solar Farm Project	NREB	12 November 2020
3.	EIA Study for the Proposed Tondong – Lundu 132 kV Transmission Line Project	NREB	7 December 2020
4.	EMP for the Operation Stage of Bintulu Tanjung Kidurong Combined Cycle Power Plant, Bintulu Division, Sarawak	DOE	24 December 2020

Internal Environmental Compliance Audit (IECA)

To further our commitment to complying with EIA conditions and other environmental regulations, Sarawak Energy has initiated an Internal Environmental Compliance Audit (IECA) for all of its 13 major project developments with EIA / EMP approval. The IECA aims to strengthen our environmental management processes and systems through a self-regulatory process and achieve excellence in environmental management.



In 2020
all 13 projects
 were found to be 100%
 compliant and recorded zero
 penalties or fines

● Internal Environmental Compliance Audit (IECA) at Balingian Operator Village, July 2020.

MANAGING OUR BUSINESS FOOTPRINT

Other key activities:

- In September 2020, we rolled out an Environmental Management Guideline for Construction Sites which provides guidance on legal and technical environmental management requirements.
- We conducted an Introduction to Hydropower Sustainability Assessment Protocol (HSAP) for Environmental Impact Assessment Consultants workshop for 20 EIA Consultants where we shared the importance of HSAP and Sarawak Energy's commitment to incorporating HSAP into future EIA or ESIA studies.
- In November 2020, we held an 'Erosion and Sediment Control (ESC)' talk during the Corporate Health, Safety, Security & Environmental (HSSE) Week for about 350 participants.

Contractor EIA Compliance Award (CECA) 2019

CECA was introduced in 2017 to encourage environmental compliance among our contractors who work on our projects. Since its inception, the awards have received an encouraging response and have motivated Sarawak Energy's contractors to show greater commitment towards environmental excellence.

In 2019, 15 contractors undertaking 11 thermal, hydro, transmission line and substation projects were assessed for CECA 2019 with 13 awards being presented this year. Compared to CECA 2018, we saw more contractors achieving a Bronze Award, which is a good improvement. Due to COVID-19 restrictions, we were not able to host an awards dinner and instead personally presented the award certificates to each contractor at their respective offices.

For more details on the winners, please see Sarawak Energy's website under the News and Updates section.



● Mr Bhavin Rajnikant Doshi (left), Project Director from GE-Sinohydro Consortium, receiving certificate, plaque award and cheque from Mr. Lee Tiong Ho (centre).

MANAGING OUR BUSINESS FOOTPRINT


BIODIVERSITY CONSERVATION

Sarawak is one of the most biodiverse areas in the world and we take great pride in our efforts to safeguard the important flora and fauna in our operational areas. We have two key projects that are ongoing and continue to invest in scientific research projects to better understand our impacts and contribute invaluable knowledge to the scientific community.

Murum Plant Conservation Garden Island

- Established a partnership with Sarawak Forestry Corporation in 2015 to maintain a conservation garden for various important plant species
- Plant survival rate assessment conducted in December 2020 found that 97% of the plants were growing well and reproducing
- 153 plants added in 2020

Types of plants	No. of plants as of Dec 2019	Targeted no. to plant in 2020	Actual no. planted in 2020	Current total
Gaharu (<i>Aquilaria spp.</i>)	263	20	23	286
Ensrai (<i>Dipterocarpus oblongifo-lius</i>)	70	50	55	125
Tongkat Ali	63	10	20	83
Orchids (<i>Orchidae</i>)	240	20	20	260
Ethno-botanical plants	124	10	10	134
Bamboo	188	20	25	213
TOTAL	948	130	153	1,101



● One of the plant species found at Murum Plant Conservation Garden Island.

MANAGING OUR BUSINESS FOOTPRINT

Community-based Sg. Lekasi Tagang System at Tegulang Murum Resettlement

- Local community self-manages the Tagang (controlled fishing) system
- Fish stock assessment conducted in November 2020 showed a good improvement in fish stock

Fish Stock Assessment 2020 Growth Rate Data

Species	Average Width (cm)		Average Length (cm)		Average Weight (gm)		Growth Rate (%) Based on 2019 Weight
	2019	2020	2019	2020	2019	2020	
Semah	20.25	29.00	25.25	35.60	334.00	440.00	31.70%
Kulong	15.25	21.60	18.63	28.30	76.00	162.30	113.00%
Adong	14.50	16.30	17.50	20.60	50.00	99.60	79.20%
Doeng	13.00	19.60	17.00	18.30	46.00	53.60	16.50%



● Water quality analysis being conducted at Sg. Lekasi.



● Fish caught and released by committee for stock assessment.



● Recording of fish sample data.

MANAGING OUR BUSINESS FOOTPRINT



Baleh HEP Wildlife Monitoring and Rescue (WiMoR) Plan Workshop

Held on 26 February 2020 to discuss the Catchment Management Plan, Biomass Removal Plan and WiMoR Plan.



Freshwater Fish Movement Study

- Pilot study with UNIMAS done in 2018.
- Fish Remote Monitoring Station (FRMS) successfully tested in R&D lab in March 2021.
- Once installed, the data will provide invaluable information on the movement of selected indigenous fish and habitat connectivity.



Biodiversity Surveys and Population Monitoring for the Baleh Water Skink and other Herpetofaunal Species

- Two-year collaborative research project with UNIMAS beginning in 2019
- Aims to understand the conservation requirements of herpetofauna of the Baleh HEP region, especially the:
 - 1) Newly described Baleh Water Skink (*Tropidophorus sebi*) – identified as top conservation priority since the species is only known to exist in one specific location, and
 - 2) Bornean Earless Monitor Lizard (*Lanthanotus borneensis*) – endemic to the island and listed as Totally Protected under the Wildlife Protection Ordinance, 1998.
- The study has provided vital knowledge about the biological requirements of the targeted herpetofaunal species and will prove invaluable in making future conservation decisions to ensure the survival of key species.



● The Baleh Water Skink, *Tropidophorus sebi*, restricted to the Baleh region.



Environmental Flows in the Baleh River

- Three-year project with University of Nottingham Malaysia to understand downstream flow regimes in the Baleh River, before the 1,285 MW Baleh hydroelectric plant is built.
- Currently in the research and planning stage, the study will build our capacity to understand the ecological, physical and social interconnectivity of river flows and the delicate balance that is required to maintain a healthy river.
- Crucially, it will allow us to determine key aspects of the Baleh River's flow regime that are critical for the provision of 'good' aquatic habitats. The data will help us to schedule environmental flows into our operations in an effort to maintain aquatic habitats downstream.



Wild Orchids Book Publication

- Published a book titled 'Wild Orchids of Murum Dam, Sarawak' together with the Sarawak Forestry Corporation (SFC).
- The book provides illustrations of 110 species that were rescued from submerged areas in the Murum Dam area, including 30 species that are endemic to Borneo.



MANAGING OUR BUSINESS FOOTPRINT

ENVIRONMENTAL AWARENESS

Sarawak Energy Go Green Music Vibes Video Competition 2020

- Held In conjunction with Sarawak Energy Corporate HSSE Week 2020.
- Secondary students in Sarawak were asked to record a video of themselves performing a song using 'green' instruments made from recycled or used materials.

E-Waste Environmental Awareness Programme

- Held on 25 September 2020 together with the Bintulu District Education Office at SJK Sebieu Chinese Bintulu.
- An awareness programme for students on the responsible management and disposal of e-waste.
- Prizes given for winners of the E-Waste Logo Competition.



● Prize-giving ceremony for E-Waste Environmental Awareness Programme at SJK Sebieu Chinese Bintulu.

'Think Before You Throw' Recycling Competition

- Held in collaboration with Pejabat Pendidikan Daerah (PPD) Lawas, at SK Long Tuma, Lawas, from 19 October to 13 November 2020.
- About 34 students and teachers participated in the recycling competition that encouraged them to find interesting ways to reuse plastic bottles.



● Recycling of plastic bottles into decorative items.







MANAGING OUR BUSINESS FOOTPRINT

AWARDS

9th Chief Minister’s Environmental Awards (CMEA) 2019/2020

The theme for the 9th CMEA was ‘Enhancing Environmental Stewardship’. The prestigious awards are jointly organised by NREB and Sarawak Business Foundation (SBF) to publicly recognise the organisations that demonstrate exceptional environmental performance and excellence.

Sarawak Energy was the overall winner while its subsidiaries also won Gold and Merit awards.

 Champion (for initiatives in environmental stewardship) Mukah Power Generation Sdn Bhd (MPG) Large Enterprises Category – Manufacturing sector	 Gold Murum Hydroelectric Plant Large Enterprises Category – Manufacturing sector	 Gold Bakun Hydroelectric Plant Large Enterprises Category – Manufacturing sector
 Gold Sejingkat Power Corporation Large Enterprises Category – Manufacturing sector	 Merit Award Batang Ai Hydroelectric Plant	 Merit Award Tanjung Kidurong Combined Cycle Power Plant Project

SOCIAL INCLUSION



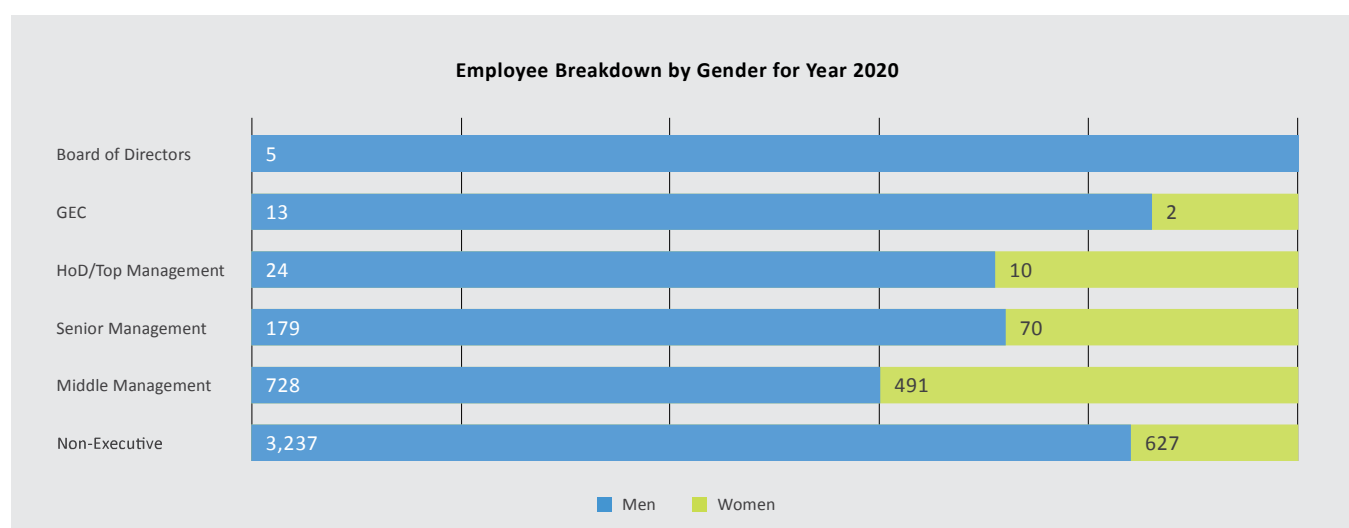
SOCIAL INCLUSION

NURTURING OUR WORKFORCE

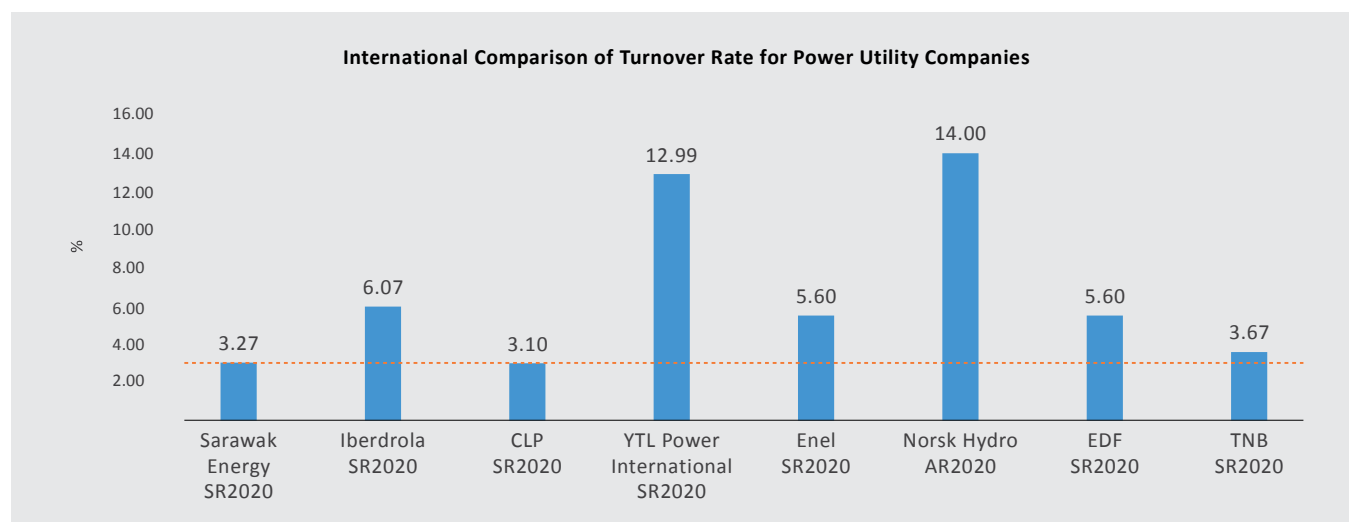
Sarawak Energy is committed to investing in people as we provide the power for the sustainable growth and prosperity of Sarawak. We continued to care for our employees' safety and wellbeing, lighting up the most remote areas in the state and reaching out to the marginalised even as we were faced with disruptions and challenges from the COVID-19 pandemic.

PROVIDING OPPORTUNITIES FOR ALL

Sarawak Energy continued to grow our staff strength in 2020 despite the pandemic. Employees in our diverse workforce increased from 5,207 in 2019 to 5,381 in 2020. The breakdown of our employees by gender and employment level is shown below:



The Company hired 350 new employees during the year, of whom 75 were women and 275 were men. The majority of these new hires were aged 30 years or younger and the total staff turnover for the year was 176. The detailed breakdown of new hires and staff turnover by gender and age can be found on pages 170 to 218 of the GRI Content Index.



Note:

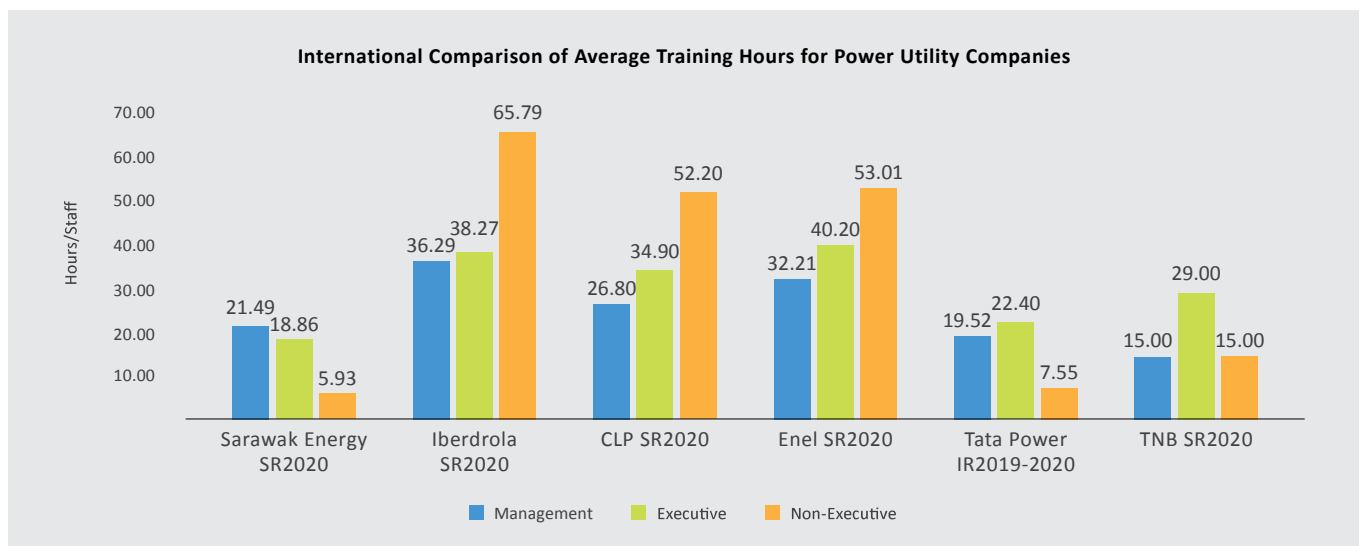
Published Annual, Sustainability & Integrated Reports 2020.

SOCIAL INCLUSION

Training and Education

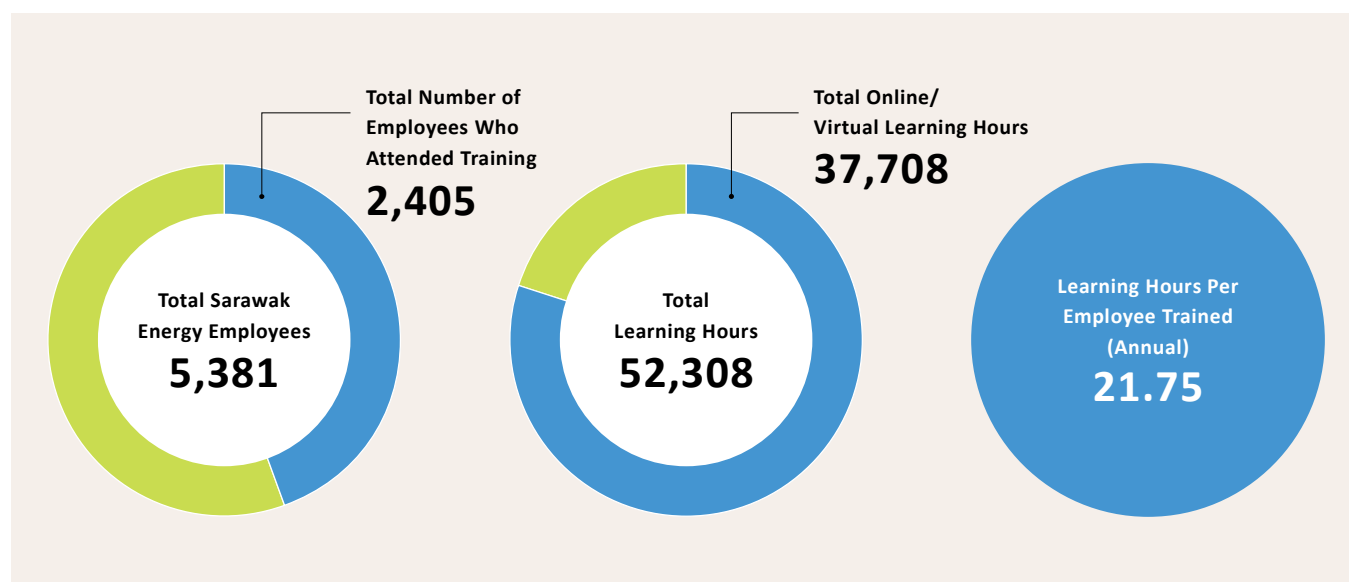
The total hours of training during the year reduced by about 42% due to disruptions from the COVID-19 pandemic. In 2020, we logged 52,308 hours compared to 90,065 hours in 2019. The total and average hours of training by employee category and gender are shown in the following table:

Year	2017			2018			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total Number of Employees by Category												
Management	158	64	222	331	146	477	95	50	145	216	82	298
Executive	1,613	931	2,544	1,370	769	2,139	995	543	1,538	728	491	1,219
Non-Executive	4,424	705	5,129	4,782	643	5,425	2,933	405	3,338	3,240	624	3,864
Total Hours of Training by Category												
Management	673	283	956	5,607	2,387	7,994	1,713	1,556	3,269	4,194	2,209	6,403
Executive	19,040	10,514	29,554	20,608	10,865	31,473	19,219	9,713	28,932	12,769	10,224	22,993
Non-Executive	63,803	6,877	70,680	66,241	7,623	73,864	51,316	6,548	57,864	19,051	3,861	22,912
Average Hours of Training by Category												
Management	4.26	4.42	4.31	16.94	16.35	16.76	18.03	31.12	22.54	19.41	26.95	21.49
Executive	11.80	11.29	11.62	15.04	14.13	14.71	19.32	17.89	18.81	17.54	20.82	18.86
Non-Executive	14.42	9.75	13.78	13.85	11.85	13.62	17.50	16.17	17.33	5.88	6.19	5.93



Note:
Published Annual, Sustainability & Integrated Reports 2020.

SOCIAL INCLUSION



Development Programmes

Leadership and Technical Mentoring

The Sarawak Energy Mentoring Programme (SEMP) was launched in July 2020 after it was piloted in various departments and in the Sarawak Energy Leading Women Network (SELWN) over the last two years. The SEMP serves as a platform for:

- Leaders to develop leaders within the organisation
- Providing opportunities for young talents in Sarawak Energy to grow and network with leaders
- Preparing sustainable talent bench strength for the organisation
- Mentors to benefit from the programme by equipping themselves with essential coaching and mentoring skills as leaders who groom and develop talents from within.

Moving forward in 2021, the SEMP aims to maximise the potential of the programme by growing those who are keen to develop their expertise as Specialists through Technical Mentoring. Technical Mentoring will enable mentors who are subject matter experts (SMEs) to groom talents within their departments and across the organisation as future SMEs.

Technician Foundation Programme (TFP)

The Technician Foundation Programme (TFP) is a structured development programme for our incoming technicians in the executive and non-executive levels. It is based on a 70:20:10 model (on-the-job training, formal learning and EIU examination) to ensure that incoming technicians are fully onboarded and well-equipped for their roles in Sarawak Energy.

In addition, we provide short-term assignments to our employees at our best-in-class partners to expose them to best practices in the industry.

Executive Leadership Programme (ELP) – Melbourne Business School (MBS)

The Executive Leadership Programme (ELP) caters for senior leaders and selected managers. It is a customised leadership programme held in collaboration with the Melbourne Business School and designed to support the development of Sarawak Energy leaders.

This nine-month, mixed-mode, distance-learning programme emphasises thought leadership and innovation in its learning, thus helping upcoming leaders grow and break new ground.

SOCIAL INCLUSION

OCCUPATIONAL SAFETY AND HEALTH

The health and safety of our people at Sarawak Energy is an uncompromised priority and an integral part of our corporate culture. We are committed to providing a safe and conducive working environment for our employees, contractors and other stakeholders by implementing measures and safeguards to prevent and reduce work-related accidents, injuries and illnesses. Our goal is to do no harm to people and to ensure that everybody goes home safely.



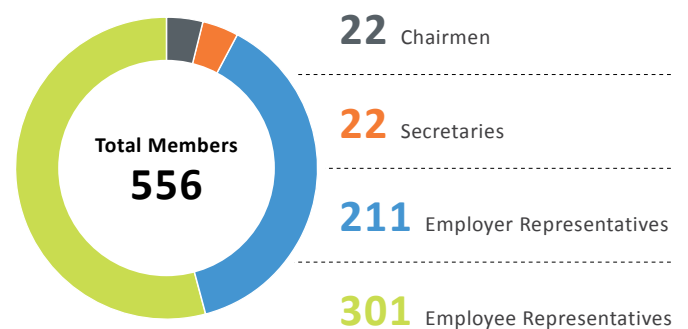
● Everybody goes home safely.

Health and Safety Governance

The Health, Safety, Security and Environment (HSSE) of Sarawak Energy is governed by the Group Executive Committee (GEC) HSSE Council, which is chaired by our GCEO. The GEC HSSE Council holds the highest decision-making authority in HSE matters. At the working level, the health and safety of each workplace is governed by an Environment, Occupational Safety & Health Committee (EOSH) which is led by a chairman and a secretary and consists of employer and employee representatives. The structure is in compliance with 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 each to oversee and manage daily HSE matters at the workplace.

The total membership of the Environment, Occupational Safety & Health Committees in 2020 were as follows:



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

SOCIAL INCLUSION

The Committee members’ functions and roles are in accordance with the Occupational Safety and Health (Safety and Health Committee) Regulations 1996, Part III (Functions of Safety and Health Committee) under regulation 11, which stipulates that the safety and health committee shall:

- (a) Assist in the development of safety and health rules and safe systems of work
- (b) Review the effectiveness of safety and health programmes
- (c) Carry out studies on the trends of any accident, near-miss accident, dangerous occurrence, occupational poisoning or occupational disease which occurs at the place of work, and shall report to the employer any unsafe or unhealthy condition or practices at the place of work together with recommendations for corrective action;
- (d) Review the safety and health policies at the place of work and make recommendations to the employer for any revision of such policies.

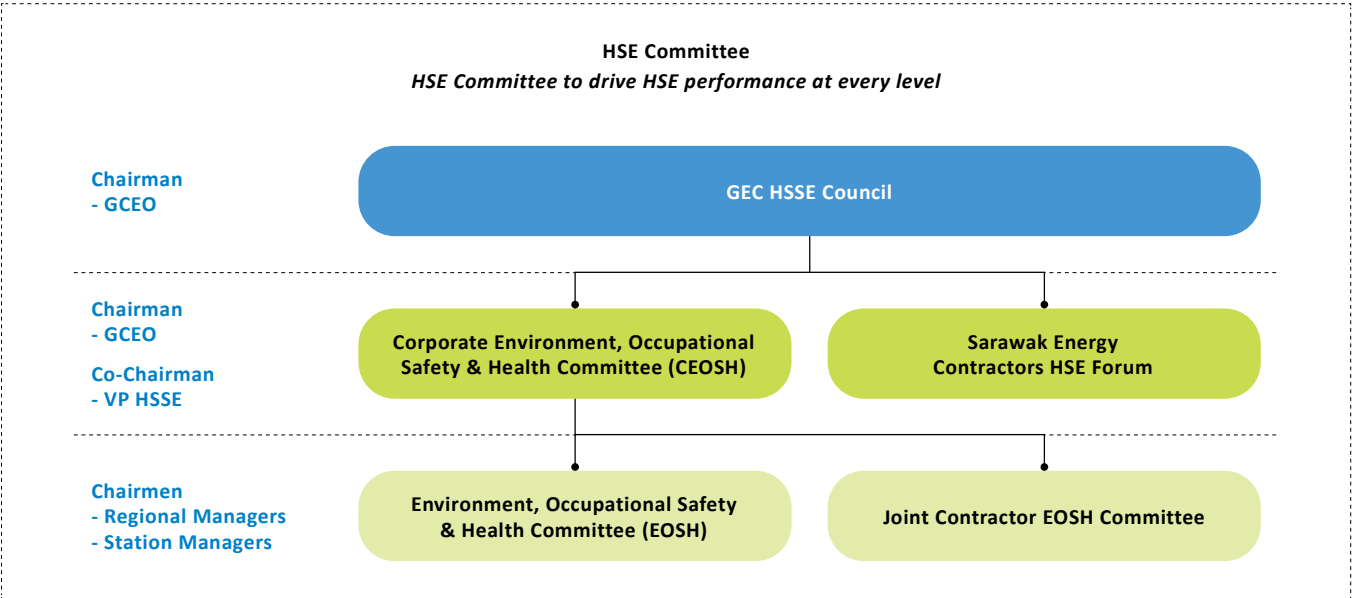
Other functions are:

- Inspection of place of work (regulation 12)
- Investigation into any accident (regulation 13)

To comply with Part IV Occupational Safety and Health Regulations 1996 (Safety and Health Committee), regulation 21, the EOSH Committees meet as and when is needed but not less than once in three months. In 2020, most of the meetings were held virtually to curb the spread of the COVID-19 virus.

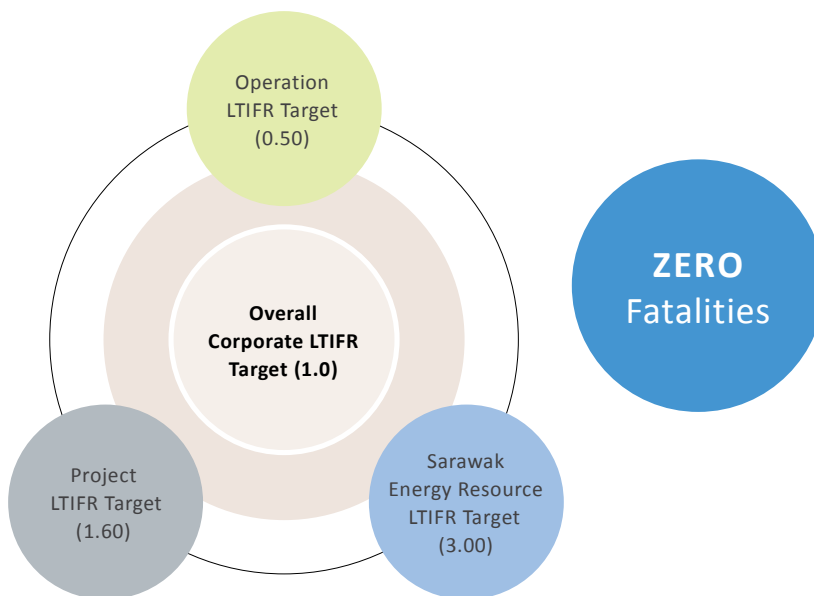
At the management level, the Corporate Environment & Occupational Safety and Health (CEOSH) Committee meets twice a year. The Committee:

- Consists of key personnel from various business units. The CEOSH meeting is chaired by the GCEO and co-chaired by the Vice-President of HSSE
- Discusses any major issues related to Health, Safety, Security and Environment (HSSE) of both the Company and the employees
- Deliberates on yearly HSSE programmes as well as KPIs with all chairmen and secretaries of the EOSH Committees to achieve the HSSE Excellent target and the Group’s Vision and Mission.



SOCIAL INCLUSION

Corporate KPI Target 2020 (Fatalities & 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 across various industries. During the year under review, we continued measuring our LTIFR in three categories:

Operation

(Covers the Company's overall operations from Corporate Functions (HR, HSSE, Finance, etc) to core business operations and projects from Generation (thermal and hydropower), Distribution, Transmission, Retail and SE(RES)).

Sarawak Energy Resources

(Covers coal mining operations)

Project Delivery

(Refers to any ongoing project)

Thus, the total LTIFR from all three categories represents the overall corporate LTIFR result for the Group.

- In 2020, we continued to improve on our LTIFR due to our commitment and unrelentless efforts in upholding occupational safety and health
- We achieved an overall corporate LTIFR of 0.36* (exclusive of fatalities), compared to the target of 1.0
- Total man-hours declined to 27,640,459* hours in 2020 from 29,917,472¹ hours in 2019 due to COVID-19 disruptions
- The most significant decline was in Project Delivery with man-hours falling from 10,189,251¹ hours in 2019 to 7,595,258* hours in 2020

We have set a stringent target of zero fatalities in 2020 and beyond. However, we regret to report that there was one fatality involving a contractor's worker. We take every injury incident seriously, especially fatalities, and will continue to ensure compliance with the highest levels of safety standards to prevent further loss of life.

Category	Operation	SER	Project Delivery Department	Corporate
Total man-hours (Employees only)	11,341,431*	96,778*	97,144*	11,535,353*
Total man-hours (Contractors only)	7,132,156*	1,474,836*	7,498,114*	16,105,106*
Total man-hours (Employees & Contractors)	18,473,587*	1,571,614*	7,595,258*	27,640,459*
Total LTI (without fatalities)	5*	0	5*	10*
LTIFR (without fatalities)	0.271*	0.000*	0.658*	0.362*
No. of fatalities	0	0	1	1

Notes:

¹ This total man-hours data has been assured by a third party for Sustainability Report 2019.

* 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 165 – 169.

SOCIAL INCLUSION

Embedding Occupational Health and Safety

Instilling the importance of health and safety is part of Sarawak Energy's corporate culture. Health and safety awareness campaigns and activities are conducted regularly to educate employees and contractors and to inculcate the Company's HSE values embedded in the slogan 'Saving Lives, Raising Standards, and Nurturing Culture'. Despite disruptions from the pandemic, we rolled out several impactful initiatives in 2020 to promote HSE awareness not only among Sarawak Energy employees and contractors but also among the local communities. We also achieved significant milestones and won awards for our efforts in 2020 as we endeavoured to uphold the health and safety of our stakeholders while preserving the environment.

Sarawak Energy ACE (SEACE) HSE Solutions

On 6 November 2020, we launched the Sarawak Energy ACE (SEACE) HSE Solutions – Sarawak Energy's first HSE software application for compliance programmes and management systems and data analytics and visualisation. This application will simplify our existing work processes and provide convenience for reporting an Unsafe Act Unsafe Condition (UAUC), including near misses, injury/illness, accidents and incidents.

Launched virtually by our GCEO, the SEACE application marks another milestone in our journey of HSSE Excellence, leveraging digitalisation. The application was named after the three core behaviours of HSE Culture: Assess, Comply and Empower (ACE). This is a new initiative building on our ongoing efforts towards HSSE Excellence and to establish a Best-in-Class HSSE culture in Sarawak Energy, further demonstrating our commitment to occupational health and safety.

Virtual Corporate HSSE Week 2020

In 2020, we continued with our annual Corporate HSSE Week virtually due to disruptions from the pandemic. Talks and exhibitions on HSE procedures and practices for daily activities, quizzes, virtual meet and greet sessions and lucky draws were conducted during the week-long campaign in addition to various independent HSE programmes held at regional offices, power stations and at the project delivery department. The campaign was launched by our GCEO and joined by more than 1,300 employees and guests from partner agencies and contractors across Sarawak.

In conjunction with the campaign, Corporate HSSE also organised two video competitions to further raise awareness about HSE. The first competition, Sarawak Energy Go Green Music Vibes, was for secondary schoolchildren to create a music video using 'green' instruments from recycled or reused materials.

The second competition, the Sarawak Energy HSE Excellence Short Video Competition, was aimed at promoting awareness on the Sarawak Energy Life-Saving Rules and Sarawak Energy HSE Culture (Assess, Comply and Empower) among employees.

Sarawak Energy Life-Saving Rules (SELSR)

The Sarawak Energy Life-Saving Rules (SELSR) is a set of mandatory safety rules for all employees of Sarawak Energy, its subsidiaries and its contractors to comply with whenever they are within Sarawak Energy's premises or representing the Company outside our premises. The rules are for creating a more focused approach towards achieving zero accidents, ensuring high-risk work is conducted safely and improving the safety performance of Sarawak Energy as a whole. In 2020, we aimed to instil a culture of ownership of the SELSR by improving our HSE Culture programme and HSE compliance.



SOCIAL INCLUSION

**Routine Audits & Inspections**

- To ensure all levels of Sarawak Energy's operations uphold the highest HSE standards and measure our safety performance at worksites, regularly planned HSE audits and inspections are conducted at all our regional offices, power stations, rural stations, projects and mining sites.
- The audits and inspections include:
 - o Routine OSH audit and inspection
 - o Contractor OSH audit and inspection
 - o Plan Shutdown Switching Request (PSSR) inspection
 - o ISO 45001 audit
 - o MSOSH audit

**Virtual Sarawak Energy Zero Leak Drive Launch**

- The Zero Leak Drive is meant to resolve issues concerning leakage such as risk of electrical leakage and fire protection system through constant monitoring and proper management of corrective action.

**Accident Investigation Training (Virtual) Using Tripod Beta Analysis**

- To equip our team with new knowledge and skills in adopting Tripod Beta Analysis in our accident investigation and report preparation for higher management.
- 15 participants from the division attended the training that was held from 8 to 9 October 2020.

**Mass Toolbox Talk Programme**

- A toolbox talk is held every morning prior to the commencement of daily activities at worksites.
- The aim is to ensure our contractors are well-informed about HSE matters, especially regarding their job hazards and risks.
- The supervisor or client representative will also deliver any HSSE-related messages to continuously remind workers that safety is a shared responsibility which will lead to shared success.

**Virtual Contractors Transformation Programme (CTP) Outreach Forum 2020**

- The forum, with the topic 'COVID-19: Challenges and Opportunity', served as a platform to discuss current HSSE issues and challenges faced by contractors during the pandemic, as well as to seek solutions to overcome the challenges.
- More than 1,300 colleagues and guests from our partner agencies and contractors joined the forum that was held in conjunction with the Corporate HSSE Week 2020.

**Drug Screening Programme in Collaboration with NADA**

- Sarawak Energy has zero tolerance for the use of drugs at the workplace.
- Our HSSE and HR departments have been working closely with the National Anti-Drug Agency (AADK) to conduct random spot checks and drug tests at our regional offices and power plants.
- Any employee, contractor or third-party associate found to be using illegal drugs will be subject to dismissal. In 2020, we conducted drug screenings at:
 - o Bintulu Regional Office
 - o Bakun & Murum HEPs
 - o Sg. Asap, Murum and Belaga

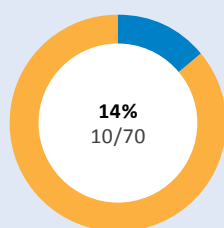
**Safety Starter Kit**

- A Safety Starter Kit was developed for newly hired employees of Sarawak Energy.
- The safety kit provides information on HSSE and a set of personal protective equipment (PPE).

SOCIAL INCLUSION

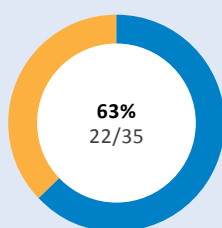
Public Safety

The year 2020 was a challenging one due to disruptions from the COVID-19 pandemic and the enforcement of the Movement Control Order (MCO). As a result, our targeted briefing plan for schools, longhouses and local lorry associations was affected. However, we managed to achieve our targeted briefings for our annual and subcontractors, government authorities, oil palm estates, public contractors and Pan Borneo contractors.



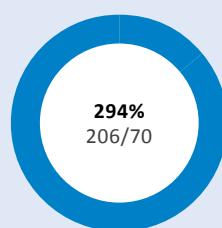
**Schools
(Primary/Secondary)**

Total:
1,476 students



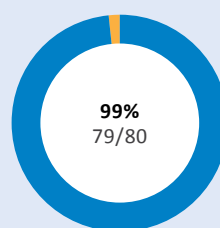
**Longhouses/
Villages**

Total:
1,835 participants



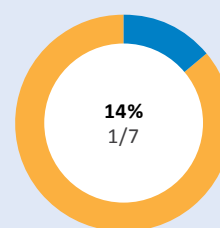
**Annual Contractors +
Subcontractors**

Total:
2,594 participants



**Gov. Authorities/
Oil Palm Estates/
Pan Borneo & Public
Contractors**

Total:
1,724 participants



**Local Lorry
Association**

Total:
10 participants

Health Programmes

We constantly communicate the importance of health and wellbeing to our employees and contractors through email, posters and educational talks, among others.

As part of our Occupational Health Governance, the Occupational Health Division developed five SOPs in 2020 as follows:

1. SOP for Employee Health Assessment & Fitness to Work Standards
2. SOP for Hearing Conservation Programme
3. SOP for Chemical Health Risk Management Programme
4. SOP for Workplace Ergonomic Management Programme
5. Guidelines on Office Ergonomics

Eight health messages were also published for Sarawak Energy employees through our various internal messaging communication platforms with awareness topics ranging from COVID-19, dengue, tuberculosis and HIV & AIDS to Working from Home, Staying Active & Mentally Fit and Flood Awareness.

Occupational Health/Industrial Hygiene Legal Compliance

- Regular talks were conducted to assist stakeholders in ensuring Sarawak Energy complies with all the relevant Occupational Health Legal Compliance requirements.
- Our efforts included conducting Hearing Booth Calibrations and Hearing Conservation Talks and providing advice on Chemical Health Risk Assessment, Noise Risk Assessment and Medical Surveillance.

Responding to COVID-19

- We ensured that there was a consistent supply of face masks to protect employees from the pandemic.
- A total of 15,300 boxes of face mask face masks were distributed from May to December 2020.
- We purchased 46 units of mist blower machines for all our ERTs throughout the state to enable them to sanitise their workplaces immediately if there were any reported positive COVID-19 cases.
- All personnel from the Occupational Safety division were instructed to develop a COVID-19 Hazard Identification, Risk Assessment and Risk Control (HIRARC) system, brief and activate ERP/ERT teams (EOSH Committees) and conduct briefings for all staff and contractors on the COVID-19 NWA, SOPs, ERP, HIRARC and Guidelines.

SOCIAL INCLUSION



● Our HSSE personnel conducting an HSSE briefing at one of the project sites.

PROJECT DELIVERY

In 2020, the Project Delivery team worked closely with contractors to guide them in complying with our strictly enforced COVID-19 SOPs at offices and project sites. This was to ensure Sarawak Energy project teams and contractor personnel implemented control measures to prevent the spread of COVID-19 at project sites and fully complied with SOPs as per the instructions of the Ministry of Health (MOH), Construction Industry Development Board (CIDB), Ministry of International Trade and Industry (MITI), DOSH, Sarawak Disaster Management Committee (SDMC) and Contractual Provision of Sarawak Energy Berhad.

AWARDS

MSOSH OSH Virtual Award Ceremony (MOVAC) 2020

Sarawak Energy was recognised for its efforts in health and safety during the 38th Occupational Safety and Health Virtual Awards organised by the Malaysian Society for Occupational Safety and Health (MSOSH) on 26 November 2020. We bagged a total of eight awards, demonstrating the high standards of our commendable health and safety management system and putting us on par with developed and large corporations. In 2021, our team is encouraged to participate in more avenues to gain external recognition to raise our standards and move towards achieving our targets of zero fatalities and LTI.

Awards Won at the 38th Occupational Safety and Health Virtual Awards



2 Gold Merit Awards

Departments:

Mukah and Limbang Power Stations
(Won under the utilities sector for excellent performance)



4 Gold Class 1

Departments:

Bakun, Murum and Batang Ai
HEPs and Miri Power Stations



4 Gold Class 2

Departments:

Bintulu and Lawas Power Stations
Bintulu and Miri regional offices
(Recognised for very good OSH performance)

SOCIAL INCLUSION

ADVANCING SARAWAK'S RURAL ELECTRIFICATION AGENDA

As the primary provider of reliable, affordable and predominantly renewable energy for Sarawak, it is our goal to ensure that the whole state is electrified. As of 2020, we have provided electricity to 98*% of Sarawak, an improvement from 97*% in 2019, with rural electrification coverage rising to 95*% from 93*%.

Year	2016	2017	2018	2019	2020
Sarawak Electricity Coverage (%)	94.3	95.5	96.0	97.0*	98.0*
Urban (%)	100	100	100	100	100
Rural (%)	87.0	89.8	91.0	93.0*	95.3*

Note:

* These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

During the year under review, we continued to expand electricity coverage in the state, especially in rural areas where 6,610 rural households were electrified under the State Government's Projek Rakyat initiative. Under the Project Rakyat initiative, the Sarawak government allocated an additional RM2.37 billion in late 2018 to accelerate rural electrification towards 99% by 2020 and full electrification by 2025.

The electrified households in 2020 comprised 3,186 households connected to the grid and 3,424 households connected through off-grid solutions. Due to the pandemic and the consequent movement restrictions, the target number of households to be electrified was revised downwards from 9,000 to 6,400.

Sarawak Energy has also expanded its solar hybrid system and it now has a total capacity of 8,618.17 kW as at the end of 2020. Nanga Kain and Nanga Balang Hybrid stations were completed in 2020, while Nanga Ibun, Nanga Meluan, Nanga Bebangan and Nanga Arau hybrid stations are targeted to be completed in 2021.



● Solar hybrid system installed at Long Selaton Dikan.

SARES Solar Project

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	2,280.06	3,355.11
Villages	58	59	75	74	99
Door	1,369	1,601	1,968	2,168	3,291

* As of 31 December 2020. SARES Phase 5 is still in progress and expected to energise all the villages (131 villages and 4,022 hh) by April 2021.

SOCIAL INCLUSION

BUILDING AN INCLUSIVE SOCIETY

In 2020, Sarawak Energy continued to invest in communities and contribute to people's wellbeing despite challenges from the COVID-19 pandemic. We reached out to the remote communities of Sarawak and those whose incomes were affected by the health crisis. Beyond that, we continued to empower local communities through training and development programmes while nurturing future generations and creating awareness on environmental preservation. During the year, the Company invested RM23.09 million in corporate social responsibility, an important component of Sarawak Energy's operations that is vital for the state's sustainable growth.

Sarawak Energy's corporate social responsibility efforts are focused on:

Education and Young People

Community Development and Entrepreneurship

Culture and Heritage

Environmental Management and Conservation

EDUCATION AND YOUNG PEOPLE

Baleh Youth Capacity Development

Youths from Baleh and Kapit have continued to equip themselves with useful skills under Sarawak Energy's Baleh Skill Training Programme. To date, 759 individuals have enrolled in and attended training courses through the youth skill training programme, which was developed in 2016. This has helped to build capacity and prepare the local community for employment and economic opportunities, especially those created by the Baleh Hydroelectric Project (HEP). The courses include occupational safety and health, entrepreneurship, human resource management, heavy machinery operation, painting and metal blasting, as well as rigging and slinging.

The youths have completed a six-month Welding Technology (3G Plus) training course at the Centre of Technical Excellence Sarawak (CENTEXS) and are currently undergoing the advanced Welding Technology (6G) training course. In the year under review, eight of the youths graduated after successfully completing a three-month scaffolding training course at CENTEXS, and another four youths enrolled in a 28-month diploma course at Fajar International College, Miri.

The trainees were among 20 selected local youths under the youth skill training programme to have enrolled for a full-time diploma course since 2017. The first batch consisting of seven trainees completed the training in December 2019 and is now ready for employment. This is the fourth and last batch of youths who will undergo the Diploma in OSH, and they are expected to graduate by the end of 2022.

Supporting Belaga and Murum Communities

Sarawak Energy Supports UPSR 2019 Students from Belaga

Sarawak Energy rewarded 18 UPSR 2019 top-scoring students from Belaga with incentives at a ceremony held in Bintulu. Recipients were students from SK Abun Matu (4), SK Batu Keling (8), SK Long Gang (4), SK Punan Ba (1) and SK Uma Sambop (1). The incentives aim to encourage the students to continue to excel in their education at the secondary level. This ceremony marked our third year of presenting academic incentives to schools in the Belaga district to support the community's educational development.



● UPSR top-scoring students from Belaga district receiving academic incentives at the ceremony held in Bintulu.

SOCIAL INCLUSION

Health and Safety Awareness Programme at SK Lusong Laku in Belaga District

Sarawak Energy conducted a health and safety awareness programme at SK Lusong Laku in Belaga and contributed amenities to the school. The school received mattresses, pillows, bedsheets, sports equipment and stationery, as well as thermometers, hand sanitisers and face masks to adhere to the COVID-19 SOPs.

Sarawak Energy also delivered educational and HSE awareness talks while staff from the Murum Hydroelectric Plant conducted internal wiring inspections and replaced switches and bulbs. The programme benefitted 156 students from the Penan community and 13 teachers in the school.

Murum Students Receive Annual Schooling Aid

In line with our continuous support of project-affected communities in Murum, Sarawak Energy delivered school uniforms, bags, sports equipment, stationery, exercise books and shoes to 188 students at SK Tegulang and 197 students at SK Metalun.



● Handing over school aid at SK Tegulang.

ENVIRONMENTAL MANAGEMENT AND CONSERVATION

CSR's Empurau Fish Conservation Project Launched for the Murum Community

In line with our Social Investment Pillar of 'Environmental Management & Conservation', the *Empurau* Fish Conservation Project was launched at Sungai Murum on 4 December 2020. The event saw the release of 2,000 *Empurau* fish fry into a newly constructed floating fish cage that would then be released into the main Murum river. This pilot project aims to protect, restore and promote the sustainable use of freshwater ecosystems with the primary aim of conserving the *Empurau* along Sungai Murum. This social investment initiative involves the resettled Murum community in the maintenance and monitoring of the project.

CULTURE AND HERITAGE

Murum and Baleh Artisans Participate in Hari Kraf Kebangsaan Kuala Lumpur

Sarawak Energy continued its efforts in preserving and promoting the cultural practices of the state's native communities. In 2020, our cultural heritage partners comprising artisans from Murum and Baleh participated at the Hari Kraf Kebangsaan Kuala Lumpur from 26 February to 9 March.

The artisans recorded their highest sales since participating in the exhibition in 2016 with a total of RM54,000 worth of indigenous Penan and Iban handicraft being sold. Among the most popular items sold were *pua' kumbu* (traditional Iban handwoven textile), *selampai*, kain burie, rattan mats, beaded accessories, rattan baskets and bags.

During the event, the artisans also demonstrated their craft-making skills and invited craft enthusiasts to try out rattan weaving and beading. They were also able to engage in knowledge exchange and share ideas with other craft exhibitors to inspire new designs and techniques. The artisans who participated were from Long Malim and Long Wat in Murum, and from Rumah Nabao, Rumah Laso, Rumah Tajai and Rumah Langga in Baleh.



● Artisans from Baleh under the Handicraft Development Programme at the National Craft Day in Kuala Lumpur.

SOCIAL INCLUSION

COMMUNITY DEVELOPMENT AND ENTREPRENEURSHIP

Relief Assistance: Delivering Essential Items During the Pandemic to Murum, Belaga, Baleh, Batang Ai, Balingian and Mukah Communities

In 2020, Sarawak Energy delivered food aid and essential items to communities who were affected by the COVID-19 Movement Control Order (MCO). In cooperation with the Sarawak Disaster Management Committee and relevant stakeholders, this initiative complemented the State Government's efforts to help stakeholder communities adjacent to our power plants, projects and operations. The relief assistance was provided to:

No	Area	Total Beneficiaries (Households)
1	Murum Resettlement Scheme	343
2	Murum Host Community	174
3	Bakun Resettlement Scheme	1,543
4	Belaga Downstream	157
5	Belaga District	2,243
6	Baleh PAC (Project Affected Communities)	273
7	Bukit Mabong	3,148
8	Batang Ai PAC	706
9	Batang Ai Host Community	205
10	Balingian	256
11	Mukah	98
12	Kuching	1,900
Total		11,046



● Sarawak Energy delivering Immediate Relief Assistance to our Bakun community.

Longhouse Adoption Programme and Land-Levelling Projects for Bakun Resettlement Community (BRS)

Sarawak Energy remains committed to aiding resettled communities and in 2020 we continued with our longhouse adoption programme for the Bakun community. Now in its second year, we moved on to adopting Uma Lesong, Uma Badeng and Uma Bawang following the adoption of Uma Ukit, Uma Penan Talun and Uma Lahanan in 2019.

This five-year community development project focuses on improving the longhouse environment through beautification on a *gotong-royong* basis while improving basic facilities and infrastructure, which also provides local contractors from the Belaga area with the opportunity to participate in our procurement activities. A total of RM4.5 million has been allocated to benefit all 15 longhouses that are part of the BRS.

In addition, we also implemented land-levelling for Uma Kulit to expand its grounds following an increase in its population. This was carried out in tandem with land-levelling to increase the space available for Uma Ukit and its communal cemetery.



● Longhouse Adoption Programme site visit together with Bakun Resettlement Scheme stakeholders.

Relief Assistance for Victims of Rumah Naga Fire

Sarawak Energy delivered relief assistance to victims of a fire incident at Rumah Naga, Rasau, in Engkilili on 17 September, a longhouse located about 12 km away from the Batang Ai HEP. Staff from Batang Ai HEP delivered food and essential supplies, zinc roofing for their temporary shelter, school uniforms, shoes and other school supplies.

SOCIAL INCLUSION

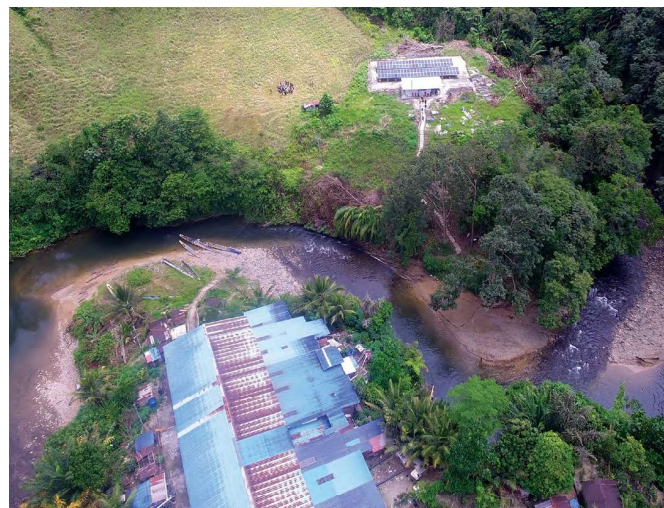
AWARDS AND RECOGNITION

Two Platinum Awards from the 12th Global CSR Summit & Awards and the Global Good Governance Awards 2020

Sarawak Energy's efforts in sustainability and community development earned us two platinum awards at the 12th Annual Global Corporate Social Responsibility (CSR) Awards and Good Governance Awards 2020. Our Belaga Penan Education Fund initiative was awarded platinum in the 'Excellence in Provision for Literacy & Education Award' category at the Global CSR Summit & Awards. Under the Global Good Governance Award for 'The Best Chief Executive Officer' category, Group CEO Datu Haji Sharbini Suhaili was the platinum award recipient.

Sarawak Energy's Batang Ai Solar Project Receives Sustainability & CSR Malaysia Award

A corporate social responsibility project carried out in 2019 that successfully supplied 31 households of Rumah Bada, Nanga Talong, at Batang Ai with 24-hour renewable solar power won Sarawak Energy the Sustainability & CSR Malaysia Award in December 2020. As the winning entry under the 'Utilities and Energy' category, it reflects our innovative efforts to provide electricity to the most remote communities in Sarawak, which are also virtually impossible to connect to the main grid.



● Aerial shot of CSR Solar Home Project at Rh. Bada, Nanga Talong, at Batang Ai.

Rumah Bada, with a population of 250 residents, is located 40 km away from the Batang Ai jetty at the end of the Engkari River on the Batang Ai HEP lake and can only be reached by boat, with the journey taking up to five hours.

Prior to the completion of the solar project, electricity was generated through individually owned diesel generators with high operating costs. Residents paid an average of RM260 to RM300 every month for fuel stocks. Coupled with logistical challenges, not all households were able to maintain regular electricity supply.

Since 2014, nine longhouses with a total of 172 households comprising a population of 873 in the Batang Ai area have benefitted from Sarawak Energy's CSR solar projects. The other longhouses are Rumah Manggat at Menyang Taih, Rumah Kino at Menyang Sedi, Rumah Griffin at Nanga Jengin, Rumah Jangong at Pala Taong, Rumah Ninting at Nanga Jambu, Rumah Brown at Nanga Stapang, Rumah Simon at Nanga Tutong and Rumah Andah at Nanga Jambu.



● Successful testing & commissioning of solar system at Rh Bada.

INDEPENDENT THIRD PARTY ASSURANCE STATEMENT



LR Independent Assurance Statement

Relating to Sarawak Energy Berhad's Mandatory Key Performance Indicators for Sustainability Reporting in 2019 and 2020

This Assurance Statement has been prepared for SEB (Sarawak Energy Berhad) in accordance with our contract.

Terms of Engagement

Lloyd's Register Quality Assurance (LR) was commissioned by Sarawak Energy Berhad (SEB) to provide independent assurance of its Sustainability Report Mandatory Key Performance Indicators (KPIs) ("the Report") for the 2019 and 2020 reporting periods against the assurance criteria below to a limited level of assurance and materiality of the professional judgement of the verifier using ISO 14064 - Part 3 for greenhouse gas emissions and LR's verification procedure for non-GHG data. LR'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 Sarawak during the 2019 and 2020 calendar years, and specifically 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. i, ii., v.; 403-9b. i., 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 (tCO₂eq/MWh)
 - Fuel Consumption (Tonne, Litre, MMBtu)
 - Main Grid Net Energy Generated (MWh)
 - Net Calorific Value (KJ/kg, MJ/Litre, MJ/Nm³)
 - b. Northern Grid Emission Intensity (tCO₂eq/MWh)
 - Fuel Consumption (Litre)
 - Northern Grid Net Energy Generated (MWh)
 - Net Calorific Value (MJ/Litre)
 - c. Scheduled Waste Generation Intensity (Tonne/GWh)
 - Volume of Waste Generated (Tonne)
 - Gross Electricity Generated (GWh)
 - d. Total Water Withdrawal by Source from Main Grid Connected Power Plants (m³)
 - Municipal Water (m³)
 - Natural Water (m³)
 - Operating Hours
 - e. Annual Water Volume for Electricity Generation from Main Grid Connected Hydropower Plants (million m³)
 - Operating Hours for Annual Water Volume for Electricity Generation
 - f. Economic Value Retained (Million RM)

INDEPENDENT THIRD PARTY ASSURANCE STATEMENT



- 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)¹
 - Total Lost Time Injury Cases³
 - Total Man Hours
- i. Sarawak Electrification Coverage (%)
 - Rural Electrification Coverage (%)
- j. Scope 2 Emissions from Buildings and Office (tCO₂eq)
- k. Scope 3 Emissions from Business Air Travel (tCO₂)

LR's responsibility is only to SEB. LR 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.

LR's Opinion

Based on LR's approach, except for the effect of the matters described in the Basis for Qualified Opinion, 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 Tables 1 and 2 below.

The opinion expressed is formed on the basis of a limited level of assurance² and at the materiality of the professional judgement of the verifier.

Basis for Qualified Opinion

- Mill and feeder issues at Mukah Power Generation resulted in minor inaccuracies in coal consumption data in March 2019. This is not material to the calculations of the Main Grid emission intensity metrics for 2019.
- SEB is missing data for water withdrawals at Balingian Power Generation for January – June 2020. This issue does not have a material impact on water withdrawals for 2020.
- In its calculation of the lost time injury frequency rate for 2020, SEB included vacation and holiday hours in its estimate of man-hours for employees in Operations. This does not have a material impact on the lost time injury frequency rate for 2020.

¹ Excludes fatalities

² 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.

INDEPENDENT THIRD PARTY ASSURANCE STATEMENT



Table 1. Summary of SEB Key Data for Calendar Year 2019:

Key Performance Indicators and Sub-Indicators	Value	Units
a. Main Grid Emission Intensity	0.222	tCO ₂ eq/MWh
• Fuel Consumption		
• Coal	3,064,826	Tonne
• Diesel	12,585,000	Litres
• Natural Gas	36,756,370	MMBtu
• Net Energy Generated	28,551,509	MWh
• Net Calorific Value		
• Coal	16,391.51	KJ/Kg
• Diesel	35.89	MJ/Litre
• Natural Gas	39.30	MJ/Nm ³
b. Northern Grid Emission Intensity	0.670	tCO ₂ eq/MWh
• Fuel Consumption of Diesel	40,959,417	Litres
• Net Energy Generated	155,893	MWh
• Net Calorific Value of Diesel	35.10	MJ/Litre
i. Sarawak Electrification Coverage	97.00%	%
• Rural electrification coverage	92.96%	%

Table 2. Summary of SEB Key Data for Calendar Year 2020:

Key Performance Indicators and Sub-Indicators	Value	Units
a. Main Grid Emission Intensity	0.203	tCO ₂ eq/MWh
• Fuel Consumption		
• Coal	2,684,066	Tonne
• Diesel	24,301,620	Litres
• Natural Gas	33,066,288	MMBtu
• Net Energy Generated	27,535,129	MWh
• Net Calorific Value		
• Coal	16,201.46	KJ/Kg
• Diesel	35.90	MJ/Litre
• Natural Gas	38.88	MJ/Nm ³
b. Northern Grid Emission Intensity	0.607	tCO ₂ eq/MWh
• Fuel Consumption of Diesel	38,353,272	Litres
• Net Energy Generated	161,045	MWh
• Net Calorific Value of Diesel	35.10	MJ/Litre
c. Scheduled Waste Generation Intensity	9.69	Tonne/GWh
• Volume of Waste Generated	272,918	Tonne
• Gross Electricity Generated	28,176	GWh

INDEPENDENT THIRD PARTY ASSURANCE STATEMENT



Key Performance Indicators and Sub-Indicators	Value	Units
d. Total Water Withdrawal by Source from Main Grid Connected Power Plants		
• Municipal Water (3 rd Party Water)	2,289,209	m ³
• Seawater	672,085,880	m ³
• Surface Water (River Water)	1,650,000	m ³
• Operating Hours	48,362	Hours (for all units)
e. Annual Water Volume for Electricity Generation from Main Grid Connected Hydropower Plants	49,489	million m ³
• Operating Hours	135,104	Hours (for all units)
f. Economic Value Retained	2,162.20	Million RM
g. Total Value of Tenders Awarded to Local Sarawakian Companies	1,151,800,210.86	RM
• Operations	1,037,245,113.37	RM
• Capital Works	114,555,097.49	RM
h. Lost Time Injury Frequency Rate (LTIFR) (excluding fatalities)	0.362	LTIs/million man hrs
Employees Only	0.000	LTIs/million man hrs
Contractors Only	0.621	LTIs/million man hrs
• Total Lost Time Injury Cases (excluding fatalities)	10	Number of injuries
Employees Only	0	Number of injuries
Contractors Only	10	Number of injuries
• Total Man Hours	27,640,459	Man hours
Employees Only	11,535,353	Man hours
Contractors Only	16,105,106	Man hours
i. Sarawak Electrification Coverage (%)	98.02%	%
• Rural Electrification Coverage (%)	95.28%	%
j. Scope 2 – Buildings & Offices	13,447	tCO ₂ eq
k. Scope 3 – Business Air Travel	565.13	tCO ₂

LR's Approach

LR'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 2019 and 2020 data and records at an aggregated level.
- interviewing relevant employees of the organization responsible for managing GHG emissions data and records.
- 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.
- Reviewing a small sample of original data for KPIs identified as highest risk during the risk assessment.

INDEPENDENT THIRD PARTY ASSURANCE STATEMENT



Observations

Further observations and findings, made during the assurance engagement, are:

- For stakeholder transparency, make sure it is clear in the 2020 Sustainability Report for Main Grid and Northern Grid intensity Metrics that:
 - metrics are in units of tonne of CO₂eq/MWh (not tonne CO₂/MWh)
 - emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄, and N₂O
 - MWh include generation from both thermal and non-thermal (hydropower) facilities.
- Consider calculating the net calorific value of coal as a weighted rather than unweighted average.
- Due to limited data, the Sarawak Electrification Coverage estimations for 2019 and 2020 rely on numerous assumptions that cannot be verified. SEB should review estimates against 2020 census data when available. Additionally, SEB should examine why the Ministry of Utilities (MOU)-approved estimation methodology yielded a number of un electrified households for 2019 that differed by 26.6% from the surveyed number. If appropriate, the estimation methodology, assumptions, and values should be updated with MOU approval to be more accurate.
- To more accurately report total water withdrawal, consider installing water flow meters at the two plants that withdraw the largest volumes of seawater (Sejingkat Power Corp + PPLS and Mukah Power Generation).

LR's Standards, Competence and Independence

LR 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.

LR 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.

Signed

Dated: October 06, 2021

Rachel Pelc
LR Lead Verifier
On behalf of Lloyd's Register of Shipping (M) Bhd.
Level 28, Tower A, Naza Tower Platinum Park
No. 10, Persiaran KLCC, 50088 Kuala Lumpur, Malaysia

LR reference: KLR00000592

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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 101: Foundation 2016								
General Disclosures								
GRI 102: General Disclosures 2016								
Organizational Profile								
102-1	Name of the organization	Sarawak Energy Berhad (Sarawak Energy or the Company)						
102-2	Activities, brands, products, and services	About Sarawak Energy, p. 2; Energy for Sarawak, p. 8 - 11; 2020 Year in Review, p. 13; Chairman’s Statement, p. 14 - 17; Group Chief Executive Officer’s Statement, p. 18 - 24; Our Corporate Structure, p. 32; Delivering Sustainable Growth, p. 71 - 72						
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. 32						
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. 2; Renewable Energy for Sarawak & Beyond, p. 6						
102-7	Scale of the organisation	About Sarawak Energy, p. 2 - 3; Our Corporate Structure, p. 32; Our People, p. 58; Internalising the Global Agenda (UN SDGs), p. 96; Social Inclusion, p. 149 - 150						
102-8	Information on employees and other workers	Total number of permanent and contract employees by employment type and gender		No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all				
		Year	2019			2020		
		Gender	Male			Female	Male	Female
		Permanent	3,947			1,132	3,961	1,156
		Contract	105			23	220	44
102-9	Supply chain	About Sarawak Energy, p. 2; Renewable Energy for Sarawak & Beyond, p. 6 - 7; Group Chief Executive Officer’s Statement, p. 20						
102-10	Significant changes to the organization and its supply chain	Our Corporate Structure, p. 32						



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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
102-11	Precautionary Principle or approach	Chairman's Statement, p. 14 - 17; Group Chief Executive Officer's Statement, p. 18 - 24;			
102-12	External initiatives	<p>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:</p> <ul style="list-style-type: none"> • 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 <p>Chairman's Statement, p. 16 - 17; Delivering Sustainable Growth, p. 69</p>			
102-13	Membership of associations	<p>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.</p> <p>Sarawak Energy is a GRI Community Member and also on the Board of Advisory for the UN Global Compact Network Malaysia.</p> <p>About Sarawak Energy, p. 2</p>			
Strategy					
102-14	Statement from the most senior decision-maker	Chairman's Statement, p. 14 - 17			
102-15	Key impacts, risks, and opportunities	<p>Group Chief Executive Officer's Statement, p. 18 - 24; Management Discussion and Analysis, p. 25 - 26; Statement on Risk Management and Internal Control, p. 48 - 51; Board Audit and Risk Committee Report, p. 52; Our Strategic Roadmap, p. 53 - 54; COVID-19 & Our Response, p. 57; Climate Action at the Forefront, p. 108, 111 - 119</p>			

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Ethics And Integrity					
102-16	Values, principles, standards, and norms of behavior	Vision, Mission and Living Our Values, p. 4 - 5; 2020 Year in Review, p. 13; Chairman's Statement, p. 14; Group Chief Executive Officer's Statement, p. 18 - 24; Statement of Corporate Governance, p. 42 & 47; Our People, p. 58 & 61; A Safe and Healthy Workplace, p. 63; Delivering Sustainable Growth, p. 69		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. 33; Climate Action at the Forefront, p. 109 - 110			
Stakeholder Engagement					
102-40	List of stakeholder groups	About This Report, p. 1			
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. 1; Materiality Issues, p. 93			
102-43	Approach to stakeholder engagement	2020 Year in Review, p. 13; Group Chief Executive Officer's Statement, p. 23; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 56; Our People, p. 61; Delivering Sustainable Growth, p. 70; Corporate Highlights, p. 76; Materiality Issues, p. 93; Social Inclusion, p. 157 - 158			
102-44	Key topics and concerns raised	Materiality Issues, p. 93			



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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. 32			
102-46	Defining report content and topic Boundaries	About This Report, p. 1			
102-47	List of material topics	Materiality Issues, p. 93			
102-48	Restatements of information	No restatements have been made.			
102-49	Changes in reporting	Materiality Issues, p. 93			
102-50	Reporting period	From 1 January 2020 until 31 December 2020. About This Report, p. 1			
102-51	Date of most recent report	The Company's 2019 Sustainability Report published on 8 June 2021.			
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 Department at: Menara Sarawak Energy, Level 8, No. 1, The Isthmus, 93050 Kuching, Sarawak. Tel: 082-388 388 (ext. 8164/ 8165)			
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. 1			
102-55	GRI content index	See p. 170 - 218			
102-56	External assurance	Disclosures within this year's edition of the Sarawak Energy Sustainability Report that are subjected to external assurance are: (p. 165 - 169) <ul style="list-style-type: none"> • Main Grid CO₂ Emission Intensity • Northern Grid CO₂ 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		

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	Driving Sustainable Growth, p. 121 & 124 - 125																																							
103-2	The management approach and its components	Delivering Sustainable Growth, p. 69 - 72; Driving Sustainable Growth, p. 121, 124 - 125, 129, 131 - 132 & 134																																							
103-3	Evaluation of the management approach	Driving Sustainable Growth, p. 121, 124 - 125, 129, 132 & 134																																							
GRI 201: Economic Performance 2016																																									
201-1	Direct economic value generated and distributed	Driving Sustainable Growth, p. 120 - 122	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. 6 - 7; Energy for Sarawak, p. 8 - 11; Social Inclusion, p. 160																																							
103-2	The management approach and its components	Energy for Sarawak, p. 8 - 11; Management Discussion and Analysis, p. 31; Powering our Community, p. 73 - 75; Social Inclusion, p. 149, 160 - 164																																							
103-3	Evaluation of the management approach	Renewable Energy for Sarawak & Beyond, p. 6 - 7; Social Inclusion, p. 149, 160 - 164																																							
GRI 203: Indirect Economic Impacts 2016																																									
203-1	Infrastructure investments and services supported	Average Tariff (cent/kWh) (Year 2016 – 2020) by Customer Type <table border="1"> <thead> <tr> <th></th><th>Year 2016</th><th>Year 2017</th><th>Year 2018</th><th>Year 2019</th><th>Year 2020</th></tr> </thead> <tbody> <tr> <td>Average Organic</td><td>28.20</td><td>28.04</td><td>27.96</td><td>28.22</td><td>28.22</td></tr> <tr> <td>Domestic</td><td>28.30</td><td>28.21</td><td>28.27</td><td>28.47</td><td>28.81</td></tr> <tr> <td>Commercial</td><td>30.53</td><td>30.54</td><td>30.50</td><td>30.65</td><td>30.70</td></tr> <tr> <td>Public Lighting</td><td>47.12</td><td>47.18</td><td>47.17</td><td>47.20</td><td>47.27</td></tr> <tr> <td>Industrial</td><td>24.15</td><td>23.86</td><td>23.69</td><td>24.16</td><td>23.89</td></tr> </tbody> </table> Renewable Energy for Sarawak & Beyond, p. 6 - 7; Energy for Sarawak, p. 8 - 11; Powering our Community, p. 75; Social Inclusion, p. 149, 160 - 164		Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Average Organic	28.20	28.04	27.96	28.22	28.22	Domestic	28.30	28.21	28.27	28.47	28.81	Commercial	30.53	30.54	30.50	30.65	30.70	Public Lighting	47.12	47.18	47.17	47.20	47.27	Industrial	24.15	23.86	23.69	24.16	23.89		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	
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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
203-2	Significant indirect economic impacts	Powering Our Community, p. 73 - 75; Social Inclusion, p. 149, 160 - 164		<p>No 1 - End poverty in all its forms everywhere</p> <p>No 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p> <p>No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> <p>No 10 - Reduce inequality within and among countries</p> <p>No 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development</p>	
Procurement Practices					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Driving Sustainable Growth, p. 124			
103-2	The management approach and its components	Driving Sustainable Growth, p. 124			
103-3	Evaluation of the management approach	Creating Long-Term Value, p. 99; Driving Sustainable Growth, p. 124			

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD																																																		
GRI 204: Procurement Practices 2016																																																							
204-1	Proportion of spending on local suppliers	Sustainability Key Highlights, p. 92; Internalising the Global Agenda (UN SDGs), p. 96; Creating Long-Term Value, p. 99; Driving Sustainable Growth, p. 124	Yes	No 12 - Ensure sustainable consumption and production patterns																																																			
<table><tr><th rowspan="2">Tenders Awarded</th><th rowspan="2">Year</th><th colspan="3">Status</th></tr><tr><th>Sarawakian</th><th>Malaysia (Non-Sarawakian)</th><th>International</th></tr><tr><td rowspan="5">Capital Works</td><td>2020</td><td>114,555,097.49[*]</td><td>44,542,098.60</td><td>117,782,423.00</td></tr><tr><td>2019</td><td>416,366,166.99¹</td><td>274,575,584.00</td><td>299,412,243.00</td></tr><tr><td>2018</td><td>625,917,773.91²</td><td>266,245,214.38</td><td>1,095,210,392.28</td></tr><tr><td>2017</td><td>1,620,376,421.35³</td><td>501,190,506.73</td><td>2,884,065,817.05</td></tr><tr><td>2016</td><td>445,710,032.50</td><td>138,620,455.11</td><td>1,565,861,871.58</td></tr><tr><td rowspan="5">Operations and Maintenance</td><td>2020</td><td>1,037,245,113.37[*]</td><td>68,301,534.66</td><td>38,580,626.30</td></tr><tr><td>2019</td><td>822,335,735.58¹</td><td>54,243,444.92</td><td>52,732,516.13</td></tr><tr><td>2018</td><td>564,066,169.62²</td><td>26,039,763.67</td><td>30,992,905.85</td></tr><tr><td>2017</td><td>424,381,685.99³</td><td>60,255,353.33</td><td>67,673,539.04</td></tr><tr><td>2016</td><td>576,656,517.32</td><td>83,265,176.00</td><td>86,858,228.00</td></tr></table>						Tenders Awarded	Year	Status			Sarawakian	Malaysia (Non-Sarawakian)	International	Capital Works	2020	114,555,097.49 [*]	44,542,098.60	117,782,423.00	2019	416,366,166.99 ¹	274,575,584.00	299,412,243.00	2018	625,917,773.91 ²	266,245,214.38	1,095,210,392.28	2017	1,620,376,421.35 ³	501,190,506.73	2,884,065,817.05	2016	445,710,032.50	138,620,455.11	1,565,861,871.58	Operations and Maintenance	2020	1,037,245,113.37 [*]	68,301,534.66	38,580,626.30	2019	822,335,735.58 ¹	54,243,444.92	52,732,516.13	2018	564,066,169.62 ²	26,039,763.67	30,992,905.85	2017	424,381,685.99 ³	60,255,353.33	67,673,539.04	2016	576,656,517.32	83,265,176.00	86,858,228.00
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103-2	The management approach and its components	Creating Long-Term Value, p. 98; Climate Action at the Forefront, p. 117 - 119; Managing Our Business Footprint, p. 140																																																					
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GRI 301: Materials 2016																																																																																																						
301-1	Materials used by weight or volume	Internalising the Global Agenda (UN SDGs), p. 97 Creating Long-Term Value, p. 98; Climate Action at the Forefront, p. 118 - 119; Managing Our Business Footprint, p. 135 & 140	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																																																																																																	
<div><div>Category: Non-Renewable Materials Used in 2020</div><table><tr><th>Plant Type</th><th>Volume (Year 2016)</th><th>Volume (Year 2017)</th><th>Volume (Year 2018)</th><th>Volume (Year 2019)</th><th>Volume (Year 2020)</th><th>Unit</th></tr><tr><td>Coal</td><td>2,136,639.32</td><td>2,228,768.01</td><td>2,038,842.21²</td><td>3,064,825.62¹</td><td>2,684,065.69[*]</td><td>Tonne</td></tr><tr><td>Diesel³</td><td>23,425,847.71</td><td>15,675,168.40</td><td>20,393,035.80²</td><td>12,584,999.55¹</td><td>24,301,619.57[*]</td><td>Litre</td></tr><tr><td>Natural Gas</td><td>34,622,745.43</td><td>34,262,495.10</td><td>35,891,301.46²</td><td>36,756,369.74¹</td><td>33,066,287.95[*]</td><td>MMBtu</td></tr></table><div><div>Note:</div><div>³ Diesel – excluding Limbang & Lawas</div></div></div> <div><div>Category: Renewable Materials</div><table><tr><th>Major Plant</th><th>Year</th><th>Annual Inflow (million m³) (annual inflow from catchment)</th><th>Annual water volume for energy generation (million m³)</th><th>Annual energy generated (GWh)</th><th>Annual water consumption (million m³) (Spillway discharge)</th></tr><tr><td rowspan="4">Batang Ai</td><td>2020</td><td>4,255</td><td>3,974[*]</td><td>518</td><td>-</td></tr><tr><td>2019</td><td>2,852</td><td>2,844¹</td><td>391</td><td>-</td></tr><tr><td>2018</td><td>3,576</td><td>3,647²</td><td>481</td><td>-</td></tr><tr><td>2017</td><td>3,658</td><td>3,397³</td><td>442</td><td>-</td></tr><tr><td rowspan="4">Murum</td><td>2020</td><td>9,993</td><td>8,549[*]</td><td>6,415</td><td>1,446</td></tr><tr><td>2019</td><td>8,183</td><td>7,532¹</td><td>5,714</td><td>-</td></tr><tr><td>2018</td><td>7,737</td><td>8,022²</td><td>6,094</td><td>432</td></tr><tr><td>2017</td><td>10,933</td><td>7,567³</td><td>5,717</td><td>3,588</td></tr><tr><td rowspan="4">Bakun</td><td>2020</td><td>55,730</td><td>36,966[*]</td><td>14,803</td><td>15,589</td></tr><tr><td>2019</td><td>40,373</td><td>38,827¹</td><td>15,544</td><td>-</td></tr><tr><td>2018</td><td>40,481</td><td>36,148²</td><td>14,482</td><td>4,761</td></tr><tr><td>2017</td><td>49,794</td><td>32,962³</td><td>13,078</td><td>16,948</td></tr></table><div><div>Notes:</div><div><div>¹ This annual water volume for electricity generation data and fuel consumption have been assured by a third party for Sustainability Report 2019.</div><div>² This annual water volume for electricity generation data and fuel consumption have been assured by a third party for Sustainability Report 2018.</div><div>³ This annual water volume for electricity generation data has been assured by a third party for Sustainability Report 2017.</div><div>[*] 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 165 – 169.</div></div></div></div>						Plant Type	Volume (Year 2016)	Volume (Year 2017)	Volume (Year 2018)	Volume (Year 2019)	Volume (Year 2020)	Unit	Coal	2,136,639.32	2,228,768.01	2,038,842.21 ²	3,064,825.62 ¹	2,684,065.69 [*]	Tonne	Diesel ³	23,425,847.71	15,675,168.40	20,393,035.80 ²	12,584,999.55 ¹	24,301,619.57 [*]	Litre	Natural Gas	34,622,745.43	34,262,495.10	35,891,301.46 ²	36,756,369.74 ¹	33,066,287.95 [*]	MMBtu	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	2020	4,255	3,974 [*]	518	-	2019	2,852	2,844 ¹	391	-	2018	3,576	3,647 ²	481	-	2017	3,658	3,397 ³	442	-	Murum	2020	9,993	8,549 [*]	6,415	1,446	2019	8,183	7,532 ¹	5,714	-	2018	7,737	8,022 ²	6,094	432	2017	10,933	7,567 ³	5,717	3,588	Bakun	2020	55,730	36,966 [*]	14,803	15,589	2019	40,373	38,827 ¹	15,544	-	2018	40,481	36,148 ²	14,482	4,761	2017	49,794	32,962 ³	13,078	16,948
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GRI 103: Management Approach 2016																																																																																																						
103-1	Explanation of the material topic and its Boundary	Managing Our Business Footprint, p. 138																																																																																																				
103-2	The management approach and its components	Creating Long-Term Value, p. 98; Climate Action at the Forefront, p. 117 - 119; Managing Our Business Footprint, p. 137 - 138																																																																																																				
103-3	Evaluation of the management approach	Climate Action at the Forefront, p. 117 - 119; Managing Our Business Footprint, p. 137 - 138																																																																																																				

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

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	Climate Action Through Renewable Energy, p. 104; Managing Our Business Footprint, p. 137 - 140		No 6 - Ensure availability and sustainable management of water and sanitation for all																																																																																																																																							
303-2	Management of water discharge-related impacts	Managing Our Business Footprint, p. 140		No 6 - Ensure availability and sustainable management of water and sanitation for all																																																																																																																																							
303-3	Water withdrawal	Creating Long-Term Value, p. 98 Climate Action at the Forefront, p. 118 - 119; Managing Our Business Footprint, p. 135, 137 - 138	Yes	No 6 - Ensure availability and sustainable management of water and sanitation for all																																																																																																																																							
<table><tr><th colspan="7">Plant Type: Coal</th></tr><tr><th>Major Plant</th><th>Source</th><th>2020</th><th>2019</th><th>2018</th><th>2017</th><th>2016</th></tr><tr><th colspan="7">meter cubic (m³)</th></tr><tr><td rowspan="2">Sejingkat Power Corp + PPLS</td><td>Municipal</td><td>1,265,838.00¹</td><td>1,140,932.00¹</td><td>1,386,373.00²</td><td>1,603,264.00³</td><td>1,750,284.00</td></tr><tr><td>Seawater or other natural water source</td><td>348,383,088.00¹</td><td>331,568,280.00¹</td><td>353,454,413.18²</td><td>366,695,496.00³</td><td>416,275,200.00</td></tr><tr><td rowspan="2">Mukah Power Generation</td><td>Municipal</td><td>741,874.00¹</td><td>1,063,097.00¹</td><td>803,362.00²</td><td>854,666.00³</td><td>775,245.00</td></tr><tr><td>Seawater or other natural water source</td><td>219,655,670.40¹</td><td>392,610,711.74¹</td><td>410,793,379.20²</td><td>454,118,400.00³</td><td>396,509,120.00</td></tr><tr><td rowspan="2">Balingian Power Generation</td><td>Municipal</td><td>N/A¹</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Seawater or other natural water source</td><td>1,650,000.00¹</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><th colspan="7">Plant Type: Combined Cycle - Natural Gas</th></tr><tr><td rowspan="2">SPG + Bintulu SESCO</td><td>Municipal</td><td>250,223.00¹</td><td>329,516.00¹</td><td>220,611.00²</td><td>145,623.00³</td><td>122,406.00</td></tr><tr><td>Seawater or other natural water source</td><td>104,047,121.52¹</td><td>241,935,030.72¹</td><td>227,489,565.60²</td><td>212,876,380.80³</td><td>249,789,230.68</td></tr><tr><th colspan="7">Plant Type: Open Cycle - Natural Gas</th></tr><tr><td rowspan="2">Miri SESCO</td><td>Municipal</td><td>29,542.00¹</td><td>23,803.00¹</td><td>9,225.00²</td><td>12,154.00³</td><td>10,036.00</td></tr><tr><td>Seawater or other natural water source</td><td>N/A¹</td><td>N/A¹</td><td>N/A²</td><td>N/A³</td><td>N/A</td></tr><tr><th colspan="7">Plant Type: Diesel</th></tr><tr><td rowspan="2">Sg Biawak SESCO</td><td>Municipal</td><td>1,731.51¹</td><td>6,896.13¹</td><td>13,952.50²</td><td>21,192.00³</td><td>22,402.14</td></tr><tr><td>Seawater or other natural water source</td><td>-¹</td><td>-¹</td><td>69,650.00²</td><td>1,171,360.00³</td><td>2,143,090.00</td></tr><tr><td>Non Grid - Limbang</td><td>Municipal</td><td>41,251.00</td><td>40,859.00</td><td>22,992.00</td><td>19.44</td><td>30.52</td></tr><tr><td>Non Grid - Lawas</td><td>Municipal</td><td>3,700.00</td><td>2,837.00</td><td>656.00</td><td>299.00</td><td>239.00</td></tr></table>						Plant Type: Coal							Major Plant	Source	2020	2019	2018	2017	2016	meter cubic (m³)							Sejingkat Power Corp + PPLS	Municipal	1,265,838.00 ¹	1,140,932.00 ¹	1,386,373.00 ²	1,603,264.00 ³	1,750,284.00	Seawater or other natural water source	348,383,088.00 ¹	331,568,280.00 ¹	353,454,413.18 ²	366,695,496.00 ³	416,275,200.00	Mukah Power Generation	Municipal	741,874.00 ¹	1,063,097.00 ¹	803,362.00 ²	854,666.00 ³	775,245.00	Seawater or other natural water source	219,655,670.40 ¹	392,610,711.74 ¹	410,793,379.20 ²	454,118,400.00 ³	396,509,120.00	Balingian Power Generation	Municipal	N/A ¹	-	-	-	-	Seawater or other natural water source	1,650,000.00 ¹	-	-	-	-	Plant Type: Combined Cycle - Natural Gas							SPG + Bintulu SESCO	Municipal	250,223.00 ¹	329,516.00 ¹	220,611.00 ²	145,623.00 ³	122,406.00	Seawater or other natural water source	104,047,121.52 ¹	241,935,030.72 ¹	227,489,565.60 ²	212,876,380.80 ³	249,789,230.68	Plant Type: Open Cycle - Natural Gas							Miri SESCO	Municipal	29,542.00 ¹	23,803.00 ¹	9,225.00 ²	12,154.00 ³	10,036.00	Seawater or other natural water source	N/A ¹	N/A ¹	N/A ²	N/A ³	N/A	Plant Type: Diesel							Sg Biawak SESCO	Municipal	1,731.51 ¹	6,896.13 ¹	13,952.50 ²	21,192.00 ³	22,402.14	Seawater or other natural water source	- ¹	- ¹	69,650.00 ²	1,171,360.00 ³	2,143,090.00	Non Grid - Limbang	Municipal	41,251.00	40,859.00	22,992.00	19.44	30.52	Non Grid - Lawas	Municipal	3,700.00	2,837.00	656.00	299.00	239.00
Plant Type: Coal																																																																																																																																											
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Notes: ¹ This total water withdrawal by source data has been assured by a third party for Sustainability Report 2019. ² This total water withdrawal by source data has been assured by a third party for Sustainability Report 2018. ³ This total water withdrawal by source data has been assured by a third party for Sustainability Report 2017. ⁴ This total water withdrawal by source data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.																																																																																																																																											



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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	Managing Our Business Footprint, p. 138 & 144			
103-2	The management approach and its components	Managing Our Business Footprint, p. 138 - 140, 144 - 146			
103-3	Evaluation of the management approach	Managing Our Business Footprint, p. 138 & 144 - 146			
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 Agenda (UN SDGs), p. 97; Managing Our Business Footprint, p. 138 - 140, 144 - 146		<p>No 6 - Ensure availability and sustainable management of water and sanitation for all</p> <p>No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p> <p>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</p>	

102-55

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
304-2	Significant impacts of activities, products, and services on biodiversity	Internalising the Global Agenda (UN SDGs), p. 97; Managing Our Business Footprint, p. 138 - 140, 144 - 146		<p>No 6 - Ensure availability and sustainable management of water and sanitation for all</p> <p>No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p> <p>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</p>	
Emissions					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Climate Action Through Renewable Energy, p. 104 - 106; Climate Action at the Forefront, p. 112; Managing Our Business Footprint, p. 136			
103-2	The management approach and its components	Climate Action Through Renewable Energy, p. 101, 103 - 106; Climate Action at the Forefront, p. 108, 111 - 119			
103-3	Evaluation of the management approach	Climate Action Through Renewable Energy, p. 101 - 102; Climate Action at the Forefront, p. 108, 111 - 119			

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
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GRI 305: Emissions 2016

305-1	Direct (Scope 1) GHG emissions	Climate Action Through Renewable Energy, p. 100, 102 & 105; Climate Action at the Forefront, p. 107, 116 - 119	Yes	No 3 - Ensure healthy lives and promote wellbeing for all at all ages	TCFD
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Gross direct (Scope 1) GHG emissions in metric tonne of CO₂ equivalent

Grid	Total Emissions (tCO ₂) (2016)	Total Emissions (tCO ₂) (2017)	Total Emissions (tCO ₂) (2018)	Total Emissions (tCO ₂ eq) (2019)	Total Emissions (tCO ₂ eq) (2020)
Main	5,203,104.32	5,325,836.68	5,151,395.75	6,348,254.39*	5,600,892.97*
Northern	103,730.92	98,042.77	102,837.43	104,477.64*	97,829.99*
Stand-Alone	11,285.76	11,033.58	13,812.44	14,453.34*	9,176.85*
Company-owned Vehicles	4,114.95	4,947.31	5,189.96	5,353.45	4,167.74
Total tCO₂eq Emission	5,322,235.95	5,439,860.34	5,273,235.58	6,472,538.82	5,712,067.55

Total CO₂ Emissions (Main Grid)

POWER STATION (MAIN GRID)	2016 (tCO ₂)	2017 (tCO ₂)	2018 (tCO ₂)	2019 (tCO ₂ eq)	2020 (tCO ₂ eq)
PPLS Power Generation	828,257.76	848,625.75	707,251.87	697,347.40	650,276.32
Sejingkat Power Corp.	889,123.60	916,769.06	854,293.99	679,890.56	671,849.96
Mukah Power Sdn. Bhd.	1,572,390.67	1,658,355.86	1,609,253.91	1,585,818.75	871,167.29
Balingian Power Generation	-	-	-	1,423,412.27	1,605,680.74
Sarawak Power Generation	928,015.97	825,960.98	950,543.09	950,462.21	749,873.97
Kidurong Power Generation	-	-	-	-	103,455.03
Bintulu PS	407,590.29	526,667.34	545,729.43	520,329.19	520,956.75
Miri PS	547,229.20	533,748.96	483,172.32	488,542.53	427,168.65
Sg Biawak PS	30,496.82	15,708.73	1,151.14	2,451.47	464.25
Total tCO₂eq Emission (Main Grid)	5,203,104.31	5,325,836.68	5,151,395.75	6,348,254.39	5,600,892.97

Total CO₂ Emissions (Northern Grid)

POWER STATION (NORTHERN GRID)	2016 (tCO ₂)	2017 (tCO ₂)	2018 (tCO ₂)	2019 (tCO ₂ eq)	2020 (tCO ₂ eq)
Limbang PS	63,859.92	61,989.99	64,433.37	63,744.59	64,646.28
Lawas PS	39,870.99	36,052.77	38,404.06	40,733.05	33,183.71
Total tCO₂eq Emission (Northern Grid)	103,730.91	98,042.76	102,837.43	104,477.64	97,829.99

Note:

1. Emissions in CO₂eq include Direct Scope 1 emissions from CO₂, CH₄ and N₂O.
 * 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 165 – 169.

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD		
	Total Net Energy Generated for Stand-Alone Grids			Yes	TCFD		
	POWER STATION (STAND-ALONE GRID)	2016 (tCO ₂)	2017 (tCO ₂)	2018 (tCO ₂)	2019 (tCO ₂ ,eq)	2020 (tCO ₂ ,eq)	
	Kapit PS	55.35	30.09	119.98	0.00	0.00	
	Belaga PS	3,700.47	3,505.23	3,632.72	3,700.81	3,859.01	
	Song PS	0.00	0.00	3,066.06	4,742.08	0.00	
	Ng Mujong PS	220.55	218.59	221.73	157.66	0.00	
	Ng Ngungun PS	1,095.53	1,118.42	748.49	0.00	0.00	
	Ng Jagau PS	214.01	226.73	233.08	236.12	253.84	
	Ng Entawau PS	293.29	295.67	303.40	280.15	289.32	
	Mulu PS	2,111.50	2,033.42	1,671.70	1,524.01	1,005.82	
	Long Lama PS	2,721.80	2,762.67	2,933.86	2,927.26	2,848.51	
	Banting PS	246.50	264.05	288.33	298.80	297.26	
	Paloh PS	570.85	578.71	593.11	586.46	623.10	
	Kg Bruit PS	8.92	0.00	0.00	0.00	0.00	
	Kg Saai PS	1.82	0.00	0.00	0.00	0.00	
	Bakun - Sg Asap PS	45.18	0.00	0.00	0.00	0.00	
	Total tCO ₂ ,eq Emission (Stand-Alone Grid)	11,285.77	11,033.58	13,812.44	14,453.34	9,176.85	
	Total Net Energy Generated for Main Grids						
	Plant Type	POWER STATION	2016	2017	2018	2019	2020
	Coal	PPLS Power Generation	722,881.10	673,687.00	614,127.50 ²	518,672.85 ¹	516,329.80 [*]
	Coal	Sejingskat Power Corp.	720,113.20	684,111.00	593,489.90 ²	505,914.49 ¹	494,902.10 [*]
	Coal	Mukah Power Sdn. Bhd.	1,328,886.32	1,494,404.00	1,401,963.65 ²	1,343,966.90 ¹	770,626.40 [*]
	Coal	Balingian Power Generation	-	-	-	1,421,724.40 ¹	1,263,976.37 [*]
	BTU-Combined Cycle	Sarawak Power Generation	2,088,595.82	1,738,199.00	2,023,026.02 ²	2,106,253.75 ¹	1,594,561.40 [*]
	BTU-Combined Cycle	Kidurong Power Generation	-	-	-	-	212,114.57 [*]
	BTU-Open Cycle	Bintulu PS	405,355.13	614,311.00	661,306.76 ²	615,465.59 ¹	608,672.49 [*]
	Miri-Open Cycle	Miri PS	562,562.83	516,563.00	487,506.50 ²	535,371.43 ¹	468,368.98 [*]
	Diesel-Standby	Sg Biawak PS	33,584.08	16,183.00	-567.91 ²	887.78 ¹	-787.57 [*]
	Total MWh		5,861,978.48	5,737,458.00	5,780,852.42 ²	7,048,257.18 ¹	5,928,764.54 [*]
	Plant Type	Plant	2016	2017	2018	2019	2020
	Hydropower	Batang Ai	444,514.18	442,324.00	480,586.75 ²	386,993.39 ¹	517,434.53 [*]
	Hydropower	Bakun	12,161,263.00	13,078,267.00	14,351,890.00 ²	15,424,402.00 ¹	14,680,879.00 [*]
	Hydropower	Murum	3,437,479.87	5,717,385.00	6,053,056.70 ²	5,688,832.30 ¹	6,406,413.20 [*]
	Hydropower	Lundu PS	3,236.00	2,618.21	2,852.54 ²	3,024.10 ¹	1,637.74 [*]
	Total MWh		16,046,493.05	19,240,594.21	20,888,385.98 ²	21,503,251.79 ¹	21,606,364.48 [*]
	Notes:						
	¹ This net energy generated data has been assured by a third party for Sustainability Report 2019.						
	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 165 – 169.						

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Total Net Energy Generated for Stand-Alone Grids

Yes

TCFD

Plant Type	Plant	2016	2017	2018	2019	2020
Diesel	Kapit PS	-	-	96.78	-	-
Diesel	Belaga PS	4,144.13	3,969.62	4,238.20	4,256.13	4,519.19
Diesel	Song PS	-	-	3,816.98	6,222.96	-
Diesel	Ng Mujong PS	243.70	244.37	250.40	177.63	-
Diesel	Ng Ngungun PS	1,262.96	1,292.73	858.68	-	-
Diesel	Ng Jagau PS	155.97	210.12	210.37	218.24	232.60
Diesel	Ng Entawau PS	330.61	319.70	343.93	328.64	340.59
Diesel	Mulu PS	2,262.76	2,110.91	1,877.34	1,641.00	1,056.89
Diesel	Long Lama PS	3,301.29	3,283.94	3,519.90	3,628.99	3,778.73
Diesel	Banting PS	263.54	293.73	319.15	342.47	335.12
Diesel	Paloh PS	641.65	633.83	662.52	699.00	735.61
Diesel	Kg Bruit PS	5.56	-	-	-	-
Diesel	Kg Saai PS	-	-	-	-	-
Diesel	Bakun - Sg Asap PS	-	-	-	-	-
Total MWh		12,612.17	12,358.95	16,194.25	17,515.05	10,998.73

Total Net Energy Generated (Northern Grids)

Plant Type	Plant	2016	2017	2018	2019	2020
Diesel	Limbang PS	86,650.77	84,837.18	87,494.23 ²	90,569.93 ¹	91,660.87 [*]
Diesel	Lawas PS	53,624.09	48,472.29	52,043.58 ²	57,466.64 ¹	46,662.14 [*]
Total MWh		140,274.86	133,309.47	139,537.81²	148,036.58¹	138,323.01[*]
Plant Type	Plant	2016	2017	2018	2019	2020
Mini Hydro	Lawas M/H (Kalamuku)	2,388.01	2,378.72	2,549.86 ²	2,012.81 ¹	1,603.95 [*]
Mini Hydro	Lawas M/H (Sg. Kota)	4,698.30	8,916.80	8,508.60 ²	5,843.57 ¹	21,118.39 [*]
Mini Hydro	Sg. Kejin	0.02	-	-	-	-
Total MWh		7,086.33	11,295.52	11,058.46²	7,856.38¹	22,722.34[*]

Notes:

- ¹ This net energy generated data has been assured by a third party for Sustainability Report 2019.
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 165 – 169.

Data assumptions:

1. Fuel consumption, fuel Calorific Value & fuel Specific Density (for CO₂ emission 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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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
305-2	Energy indirect (Scope 2) GHG emissions	Climate Action at the Forefront, p. 107, 116 - 119	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	Climate Action at the Forefront, p. 107, 116 - 119	Yes	<p>No 3 - Ensure healthy lives and promote wellbeing for all at all ages</p> <p>No 12 - Ensure sustainable consumption and production patterns</p> <p>No 13 - Take urgent action to combat climate change and its Impacts</p> <p>No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p> <p>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</p>	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
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305-4 GHG emissions intensity

Renewable Energy for Sarawak & Beyond, p. 6;
Sustainability Key Highlights, p. 92;
Internalising the Global Agenda (UN SDGs), p. 95;
Creating Long-Term Value, p. 99;
Climate Action Through Renewable Energy, p. 100 - 102, 105;
Climate Action at the Forefront, p. 119

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

Scope 1 Emissions Intensity	Unit	2016	2017	2018	2019	2020
Normalised by Gross Energy	tCO ₂ eq/MWh	0.236	0.212	0.193	0.220 ¹	0.201
Normalised by Net Energy	tCO ₂ eq/MWh	0.241	0.216	0.196	0.225 ¹	0.206

Notes:

1. Scope 1 emissions intensity normalised by gross and net energy include main, northern and stand-alone grid and company-owned vehicles.

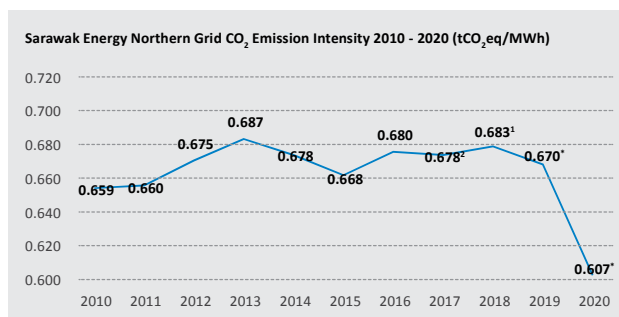
¹ This Scope 1 emissions intensity (normalised by gross and net energy) for year 2019 figure has been corrected from the Sarawak Energy Sustainability Report 2019.

Scope 2 Emissions Intensity	Unit	2019	2020
Normalised by Gross Energy	tCO ₂ eq/MWh	0.000466	0.000474
Normalised by Net Energy	tCO ₂ eq/MWh	0.000477	0.000485

Note:

Scope 2 emissions intensity normalised by gross and net energy include buildings and offices.

Sarawak Energy Northern Grid CO₂ Emission Intensity 2010 - 2020

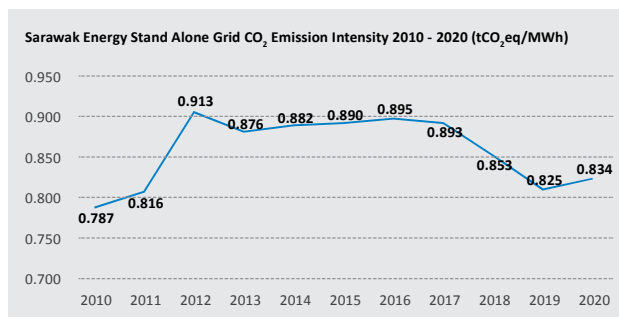


Notes:

¹ This northern grid CO₂ emission intensity data has been assured by a third party for Sustainability Report 2018.

² This northern grid CO₂ emission intensity data has been assured by a third party for Sustainability Report 2017.

^{*} This northern grid CO₂ emission intensity data has been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.





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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
	Plants CO₂ Intensity (tCO₂eq /MWh) - Main Grid		Yes		TCFD
Year	Plant (Main Grid)	Total CO ₂ Emission (tCO ₂ eq)	Gross Energy Generated from Thermal (MWh)	CO ₂ Intensity (tCO ₂ eq/ MWh)	
2017	Sejngkat 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	Sejngkat 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	Sejngkat 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	
2020	Sg Biawak SESCO	2,451.47	2,127.20	1.152	
	Sejngkat 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	

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Emissions					
GRI 305: Emissions 2016					
305-5	Reduction of GHG emissions	Internalising the Global Agenda (UN SDGs), p. 95; Climate Action Through Renewable Energy, p. 100		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	

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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	Managing Our Business Footprint, p. 135 - 136		No 3 - Ensure healthy lives and promote wellbeing for all at all ages																																																																																																																																																																																																	
		<table><tr><th>Year</th><th>Plant (Main Grid)</th><th>Gross Energy Generated from Thermal (kWh)</th><th>Total SO_x Emission (kg)</th><th>Total NO_x Emission (kg)</th><th>SO_x Intensity (kgSO_x/kWh)</th><th>NO_x Intensity (kgNO_x/wkWh)</th></tr><tr><td rowspan="6">2017</td><td>Sejngkat Power Corp</td><td>727,761,852.00</td><td>1,267,457.84</td><td>250.19</td><td>1.74 x 10⁻³</td><td>3.44 x 10⁻⁷</td></tr><tr><td>PPLS</td><td>767,523,858.00</td><td>763,044.42</td><td>225.21</td><td>9.94 x 10⁻⁴</td><td>2.93 x 10⁻⁷</td></tr><tr><td>MPG</td><td>1,666,942,336.00</td><td>1,528,744.32</td><td>641.9</td><td>9.17 x 10⁻⁴</td><td>3.85 x 10⁻⁷</td></tr><tr><td>SPG</td><td>1,772,772,000.00</td><td>3,299.93</td><td>1,841,892.01</td><td>1.86 x 10⁻⁶</td><td>1.04 x 10⁻³</td></tr><tr><td>Bintulu SESCO</td><td>621,355,600.00</td><td>152,755.93</td><td>858.34</td><td>2.46 x 10⁻⁴</td><td>1.38 x 10⁻⁶</td></tr><tr><td>Miri SESCO</td><td>523,907,270.00</td><td>4,446.65</td><td>49,716.17</td><td>8.49 x 10⁻⁶</td><td>9.49 x 10⁻⁵</td></tr><tr><td>Sg Biawak SESCO</td><td>18,255,470.00</td><td>417.42</td><td>2.54</td><td>2.29 x 10⁻⁵</td><td>1.39 x 10⁻⁷</td><td rowspan="6">No 12 - Ensure sustainable consumption and production patterns</td></tr><tr><td rowspan="6">2018</td><td>Sejngkat Power Corp</td><td>673,672,500.00</td><td>614,470.31</td><td>259.67</td><td>9.12 x 10⁻⁴</td><td>3.85 x 10⁻⁷</td><td rowspan="6">No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development</td></tr><tr><td>PPLS</td><td>675,296,000.00</td><td>479,441.87</td><td>234.42</td><td>7.10 x 10⁻⁴</td><td>3.47 x 10⁻⁷</td></tr><tr><td>MPG</td><td>1,573,521,047.00</td><td>495,377.29</td><td>402.41</td><td>3.15 x 10⁻⁴</td><td>2.56 x 10⁻⁷</td></tr><tr><td>SPG</td><td>2,059,519,800.00</td><td>35,473.30</td><td>1,036,442.01</td><td>1.72 x 10⁻⁵</td><td>5.03 x 10⁻⁴</td></tr><tr><td>Bintulu SESCO</td><td>670,339,060.00</td><td>31,551.82</td><td>979.77</td><td>4.71 x 10⁻⁵</td><td>1.46 x 10⁻⁶</td></tr><tr><td>Miri SESCO</td><td>493,843,860.00</td><td>306.44</td><td>8,190.26</td><td>6.21 x 10⁻⁷</td><td>1.66 x 10⁻⁵</td></tr><tr><td>Sg Biawak SESCO</td><td>1,044,310.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td rowspan="6">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</td></tr><tr><td rowspan="6">2019</td><td>Sejngkat Power Corp</td><td>553,289,860.00</td><td>89,848.99</td><td>16.423</td><td>1.62 x 10⁻⁴</td><td>2.97 x 10⁻⁸</td><td rowspan="6"></td></tr><tr><td>PPLS</td><td>637,196,850.00</td><td>91,591.63</td><td>440.51</td><td>1.44 x 10⁻⁴</td><td>6.91 x 10⁻⁷</td></tr><tr><td>MPG</td><td>1,515,106,278.00</td><td>251,154.40</td><td>669.96</td><td>1.66 x 10⁻⁴</td><td>4.42 x 10⁻⁷</td></tr><tr><td>SPG</td><td>2,145,919,000.00</td><td>8,765.45</td><td>2,305,925.09</td><td>4.08 x 10⁻⁶</td><td>1.07 x 10⁻³</td></tr><tr><td>Bintulu SESCO</td><td>625,274,140.00</td><td>12,003.51</td><td>130.25</td><td>1.92 x 10⁻⁵</td><td>2.08 x 10⁻⁷</td></tr><tr><td>Miri SESCO</td><td>541,988,300.00</td><td>965.92</td><td>83.38</td><td>1.78 x 10⁻⁶</td><td>1.54 x 10⁻⁷</td></tr><tr><td>Sg Biawak SESCO</td><td>2,127,200.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td rowspan="6">2020</td></tr><tr><td>Sejngkat Power Corp</td><td>505,307,390.00</td><td>378,491.95</td><td>359,136.25</td><td>7.49 x 10⁻⁴</td><td>7.11 x 10⁻⁴</td><td rowspan="6"></td></tr><tr><td>PPLS</td><td>634,529,000.00</td><td>735,016.78</td><td>904,654.39</td><td>1.16 x 10⁻³</td><td>1.43 x 10⁻³</td></tr><tr><td>MPG</td><td>858,735,070.00</td><td>1,021,298.63</td><td>1,134,177.51</td><td>1.19 x 10⁻³</td><td>1.32 x 10⁻³</td></tr><tr><td>BPG</td><td>1,532,546,582.00</td><td>416,981.70</td><td>363,580.35</td><td>2.72 x 10⁻⁴</td><td>2.37 x 10⁻⁴</td></tr><tr><td>SPG</td><td>1,628,610,510.00</td><td>14,055.59</td><td>1,178,960.42</td><td>8.63 x 10⁻⁶</td><td>7.24 x 10⁻⁴</td></tr><tr><td>Bintulu SESCO</td><td>616,612,830.00</td><td>1,023,678.72</td><td>1,384,977.34</td><td>1.66 x 10⁻³</td><td>2.25 x 10⁻³</td></tr><tr><td>Miri SESCO</td><td>474,195,110.00</td><td>0.00</td><td>107,678.46</td><td>0.00</td><td>2.27 x 10⁻⁴</td><td></td></tr><tr><td>Sg Biawak SESCO</td><td>330,200.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td></tr></table>	Year	Plant (Main Grid)	Gross Energy Generated from Thermal (kWh)	Total SO _x Emission (kg)	Total NO _x Emission (kg)	SO _x Intensity (kgSO _x /kWh)	NO _x Intensity (kgNO _x /wkWh)	2017	Sejngkat Power Corp	727,761,852.00	1,267,457.84	250.19	1.74 x 10 ⁻³	3.44 x 10 ⁻⁷	PPLS	767,523,858.00	763,044.42	225.21	9.94 x 10 ⁻⁴	2.93 x 10 ⁻⁷	MPG	1,666,942,336.00	1,528,744.32	641.9	9.17 x 10 ⁻⁴	3.85 x 10 ⁻⁷	SPG	1,772,772,000.00	3,299.93	1,841,892.01	1.86 x 10 ⁻⁶	1.04 x 10 ⁻³	Bintulu SESCO	621,355,600.00	152,755.93	858.34	2.46 x 10 ⁻⁴	1.38 x 10 ⁻⁶	Miri SESCO	523,907,270.00	4,446.65	49,716.17	8.49 x 10 ⁻⁶	9.49 x 10 ⁻⁵	Sg Biawak SESCO	18,255,470.00	417.42	2.54	2.29 x 10 ⁻⁵	1.39 x 10 ⁻⁷	No 12 - Ensure sustainable consumption and production patterns	2018	Sejngkat Power Corp	673,672,500.00	614,470.31	259.67	9.12 x 10 ⁻⁴	3.85 x 10 ⁻⁷	No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development	PPLS	675,296,000.00	479,441.87	234.42	7.10 x 10 ⁻⁴	3.47 x 10 ⁻⁷	MPG	1,573,521,047.00	495,377.29	402.41	3.15 x 10 ⁻⁴	2.56 x 10 ⁻⁷	SPG	2,059,519,800.00	35,473.30	1,036,442.01	1.72 x 10 ⁻⁵	5.03 x 10 ⁻⁴	Bintulu SESCO	670,339,060.00	31,551.82	979.77	4.71 x 10 ⁻⁵	1.46 x 10 ⁻⁶	Miri SESCO	493,843,860.00	306.44	8,190.26	6.21 x 10 ⁻⁷	1.66 x 10 ⁻⁵	Sg Biawak SESCO	1,044,310.00	0.00	0.00	0.00	0.00	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	2019	Sejngkat Power Corp	553,289,860.00	89,848.99	16.423	1.62 x 10 ⁻⁴	2.97 x 10 ⁻⁸		PPLS	637,196,850.00	91,591.63	440.51	1.44 x 10 ⁻⁴	6.91 x 10 ⁻⁷	MPG	1,515,106,278.00	251,154.40	669.96	1.66 x 10 ⁻⁴	4.42 x 10 ⁻⁷	SPG	2,145,919,000.00	8,765.45	2,305,925.09	4.08 x 10 ⁻⁶	1.07 x 10 ⁻³	Bintulu SESCO	625,274,140.00	12,003.51	130.25	1.92 x 10 ⁻⁵	2.08 x 10 ⁻⁷	Miri SESCO	541,988,300.00	965.92	83.38	1.78 x 10 ⁻⁶	1.54 x 10 ⁻⁷	Sg Biawak SESCO	2,127,200.00	0.00	0.00	0.00	0.00	2020	Sejngkat Power Corp	505,307,390.00	378,491.95	359,136.25	7.49 x 10 ⁻⁴	7.11 x 10 ⁻⁴		PPLS	634,529,000.00	735,016.78	904,654.39	1.16 x 10 ⁻³	1.43 x 10 ⁻³	MPG	858,735,070.00	1,021,298.63	1,134,177.51	1.19 x 10 ⁻³	1.32 x 10 ⁻³	BPG	1,532,546,582.00	416,981.70	363,580.35	2.72 x 10 ⁻⁴	2.37 x 10 ⁻⁴	SPG	1,628,610,510.00	14,055.59	1,178,960.42	8.63 x 10 ⁻⁶	7.24 x 10 ⁻⁴	Bintulu SESCO	616,612,830.00	1,023,678.72	1,384,977.34	1.66 x 10 ⁻³	2.25 x 10 ⁻³	Miri SESCO	474,195,110.00	0.00	107,678.46	0.00	2.27 x 10 ⁻⁴		Sg Biawak SESCO	330,200.00	0.00	0.00	0.00	0.00				
Year	Plant (Main Grid)	Gross Energy Generated from Thermal (kWh)	Total SO _x Emission (kg)	Total NO _x Emission (kg)	SO _x Intensity (kgSO _x /kWh)	NO _x Intensity (kgNO _x /wkWh)																																																																																																																																																																																															
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SPG	1,628,610,510.00	14,055.59	1,178,960.42	8.63 x 10 ⁻⁶	7.24 x 10 ⁻⁴																																																																																																																																																																																																
Bintulu SESCO	616,612,830.00	1,023,678.72	1,384,977.34	1.66 x 10 ⁻³	2.25 x 10 ⁻³																																																																																																																																																																																																
Miri SESCO	474,195,110.00	0.00	107,678.46	0.00	2.27 x 10 ⁻⁴																																																																																																																																																																																																
Sg Biawak SESCO	330,200.00	0.00	0.00	0.00	0.00																																																																																																																																																																																																

Waste

GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	Climate Action at the Forefront, p. 112
103-2	The management approach and its components	Climate Action at the Forefront, p. 117 - 119; Managing Our Business Footprint, p. 141
103-3	Evaluation of the management approach	Climate Action at the Forefront, p. 117 - 119; Managing Our Business Footprint, p. 141

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD						
GRI 306: Waste 2020											
306-1	Waste generation and significant waste-related impacts	Climate Action at the Forefront, p. 118 – 119; Managing Our Business Footprint, p. 141		No 12 - Ensure sustainable consumption and production patterns							
306-2	Management of significant waste-related impacts	Managing Our Business Footprint, p. 141		No 12 - Ensure sustainable consumption and production patterns							
306-3	Waste generated	Climate Action at the Forefront, p. 118 - 119; Managing Our Business Footprint, p. 141	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	2016	2017	2018	2019 ¹	2020 [*]
Waste Quantity by Year (Tonne)											
				Used lubricating oil	SW 305	Turbine bearing and crane motor	1.30	8.20	1.40	19.80	0.20
				Used hyraulic oil	SW 306	Power intake and governor	0.00	0.00	37.60	28.40	12.60
				Spent mineral oil -water emulsion	SW 307	Dewatering pit - oil spill due to excursion from unit	0.20	3.80	6.00	11.80	1.38
				SUM			1.50	12.00	45.00	60.00	14.18
				Contaminated rags	SW 410	Maintenance activities	0.00	0.00	0.03	0.30	0.74
				Contaminated oil filter	SW 410	Maintenance activities	0.00	0.00	0.00	0.01	0.00
				Empty contaminated container	SW 409	Maintenance activities	0.00	0.00	0.00	0.02	0.36
				SUM			0.00	0.00	0.03	0.33	1.10
Hydro	Bakun HEP			Used florescent tube and bulbs	SW 109	Powerhouse and residential area	0.00	0.08	0.01	0.22	0.04
				Waste of batteries containing cadmium and nickel or mercury or lithium	SW 103	Battery room / UPS room	0.00	0.00	0.00	0.34	0.00
				Electrical and electronic waste	SW 110	Powerhouse and residential area	0.00	0.00	0.00	0.82	0.28
				SUM			0.00	0.08	0.01	1.38	0.31
				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
				Chemical that are discarded or off-specification	SW 429	Chemical store	0.00	0.00	0.01	0.38	0.91
				Spent inorganic acids	SW 206	Battery room / UPS room	0.00	0.00	0.00	0.32	0.00
				SUM			0.00	0.00	0.01	0.71	0.91



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 Hydro Power Plants by Waste Category (Tonne)			Yes						
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ¹
		Waste Quantity by Year (Tonne)									
				Used lubricating oil	SW 305	Diesel genset	1.21	0.80	0.33	1.12	0.22
				Used hyraulic oil	SW 306	For hydraulic system, e.g., intake gate	2.13	1.00	2.30	31.69	25.00
				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)	0.00	0.20	0.37	3.58	9.20
				Dirty diesel	SW 311	Cleaning of bolts and nuts and parts of the turbine	0.00	0.70	0.00	0.03	0.00
				Used transformer oil	SW 327	-	0.19	0.00	0.00	0.00	0.00
						SUM	3.53	2.70	3.00	36.42	34.42
				Discarded Oxidant Media	SW 104	-	7.00	3.00	2.29	0.24	0.00
				Discarded media of air circulation unit (carb)	SW 104	-	0.00	0.00	0.56	0.00	0.00
				Discarded paint cans	SW 409	-	0.03	0.00	0.03	0.00	0.09
				Container contaminated with SW	SW 409	-	0.00	0.10	0.31	0.74	0.05
				Used oil filter	SW 410	-	0.04	0.08	0.08	0.11	0.05
				Empty spray can	SW409	-	0.00	0.00	0.00	0.01	0.01
				Contaminated rags	SW 410	-	0.29	0.05	0.49	1.15	0.56
						SUM	7.36	3.23	3.76	2.26	0.77
				Discarded Light Bulb/ Tube	SW 109	Building maintenance	0.00	0.00	0.08	0.04	0.00
				E-Waste	SW 110	Electrical device	0.00	0.00	0.08	0.02	0.02
				Discarded of Battery	SW103	From DC supply	0.00	0.00	0.05	0.04	0.00
						SUM	0.00	0.00	0.21	0.09	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
				Spent sodium hydroxide	SW 206	-	0.00	0.00	0.05	0.00	0.00
				Spent of hydrochloric acid	SW 206	-	0.00	0.00	0.04	0.00	0.00
				Mixture of SW and non-SW (Paints, plant maintainence)	SW 422	-	0.00	0.05	0.00	0.03	0.00
				Obsolete labolatory chemical	SW 430	-	0.00	0.00	0.03	0.00	0.00
						SUM	0.00	0.05	0.13	0.03	0.00

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 Hydro Power Plants by Waste Category (Tonne)			Yes						
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ²
		Waste Quantity by Year (Tonne)									
				Used lubricating oil	SW 305	Maintenance activities	1.78	1.08	7.74	8.60	5.23
				Used transformer oil	SW 327	Transformer oil maintenance	3.01	0.28	0.79	22.11	23.00
				SUM			4.78	1.36	8.53	30.71	28.23
				Disposed drums contaminated with chemicals	SW 409	-	0.00	0.00	0.40	0.00	0.24
				Disposed containers contaminated with chemicals	SW 409	-	0.00	0.00	0.32	2.13	0.12
	Hydro		Btg Ai HEP	Contaminated rags	SW410	Maintenance activities	0.37	0.40	0.83	3.62	0.55
				SUM			0.37	0.40	1.54	5.75	0.91
				Discarded bulb	SW 109	-	0.00	0.00	0.17	0.30	0.56
				SUM			0.00	0.00	0.17	0.30	0.56
				Contaminated soil	SW 408	-	0.00	0.00	0.58	0.00	0.35
				SUM			0.00	0.00	0.58	0.00	0.35
				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

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							
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ²
		Waste Quantity by Year (Tonne)									
				Used lubricating oil	SW 305	Machinery maintenance	6.05	13.04	14.54	24.19	4.39
				Used hydraulic oil	SW 306	Machinery maintenance	19.27	20.84	34.31	9.65	6.28
						SUM	25.32	33.88	48.85	33.83	10.67
				Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes	SW 409	-	3.26	3.86	3.59	4.00	2.41
				Contaminated rags	SW 410	Items used for maintenance work	2.74	12.55	20.68	18.05	14.79
						SUM	6.00	16.41	24.27	22.05	17.20
				Waste of lead acid batteries in whole or crushed form	SW 102	Machinery maintenance	0.19	0.76	0.26	0.27	0.21
				Waste of batteries containing cadmium and nickel or mercury or lithium	SW 103	Machinery maintenance	0.02	0.11	0.01	0.02	0.01
				E-waste	SW 110	Electrical & electronic maintenance	0.29	0.41	0.58	0.51	0.13
						SUM	0.50	1.29	0.85	0.80	0.35
				Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes	SW 408	-	3.45	2.99	2.68	3.73	3.70
						SUM	3.45	2.99	2.68	3.73	3.70
				Chemicals that are discarded or off-specification	SW 429	-	0.00	0.00	0.25	1.74	1.72
						SUM	0.00	0.00	0.25	1.74	1.72
				Fly Ash (Dry/fly ash is last produced in July 2017. Thus, smaller amount than 2016 total generation)	SW 104	Plant operation	2,782.00	1,391.00	0.00	0.00	3,529.47
				Bottom Ash (Wet/bottom)	SW 104	Plant operation	84,521.06	86,340.52	0.00	0.00	63,652.00
				Wet Ash (Wet and dry ashes stored in ash pond)	SW 104	Plant operation	0.00	0.00	79,264.08	70,589.01	-
					Fly Ash	SUM	2,782.00	1,391.00	0.00	0.00	3,529.47
					Bottom Ash	SUM	84,521.06	86,340.52	79,264.08	70,589.01	63,652.00

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																																																																																																																																																																																															
		<table><tr><th>Plant Type</th><th>Plant Name</th><th>Types of Waste</th><th>Waste Code</th><th>Source/Remark</th><th>2016</th><th>2017</th><th>2018</th><th>2019¹</th><th>2020²</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td colspan="5">Waste Quantity by Year (Tonne)</td></tr><tr><td></td><td></td><td>Used lubricating oil</td><td>SW 305</td><td>From machine/ equipment during shutdown</td><td>28.76</td><td>16.53</td><td>39.79</td><td>11.44</td><td>21.18</td></tr><tr><td></td><td></td><td>Used hydraulic oil</td><td>SW 306</td><td>Hydraulic system (e.g., for the torch system)</td><td>0.00</td><td>0.00</td><td>0.52</td><td>0.52</td><td>0.35</td></tr><tr><td></td><td></td><td></td><td></td><td>SUM</td><td>28.76</td><td>16.53</td><td>40.31</td><td>11.95</td><td>21.53</td></tr><tr><td></td><td></td><td>Contaminated empty drum</td><td>SW 409</td><td>From machine/ equipment during shutdown & service</td><td>3.42</td><td>1.17</td><td>2.76</td><td>0.00</td><td>0.78</td></tr><tr><td></td><td></td><td>Contaminated rags</td><td>SW 410</td><td>Service & cleaning oil spillage</td><td>5.11</td><td>1.98</td><td>0.48</td><td>0.14</td><td>0.43</td></tr><tr><td></td><td></td><td></td><td></td><td>SUM</td><td>8.53</td><td>3.15</td><td>3.24</td><td>0.14</td><td>1.21</td></tr><tr><td></td><td></td><td>Used batteries</td><td>SW 102</td><td>From equipment,electrical & electronic part, for genset, double AA, torchlight, for testing equipment, auxiliary equipment</td><td>0.30</td><td>0.00</td><td>0.29</td><td>0.00</td><td>0.00</td></tr><tr><td>Coal</td><td>MPG</td><td>E-waste</td><td>SW 110</td><td>From machine/ equipment, lap top part, part of electrical (panel)</td><td>0.07</td><td>0.09</td><td>0.03</td><td>0.51</td><td>0.15</td></tr><tr><td></td><td></td><td></td><td></td><td>SUM</td><td>0.37</td><td>0.09</td><td>0.33</td><td>0.51</td><td>0.15</td></tr><tr><td></td><td></td><td>Contaminated soil disposed (if applicable)</td><td>-</td><td>-</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr><tr><td></td><td></td><td></td><td></td><td>SUM</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr><tr><td></td><td></td><td>Discarded Chemical Waste</td><td>SW 429</td><td>Analysis and sampling, from lab</td><td>0.13</td><td>0.00</td><td>0.05</td><td>0.01</td><td>0.08</td></tr><tr><td></td><td></td><td></td><td></td><td>SUM</td><td>0.13</td><td>0.00</td><td>0.05</td><td>0.01</td><td>0.08</td></tr><tr><td></td><td></td><td>Fly Ash</td><td>SW 104</td><td>Plant operation</td><td>60,377.42</td><td>63,761.64</td><td>46,552.92</td><td>80,394.56</td><td>7,686.03</td></tr><tr><td></td><td></td><td>Boiler Bottom Ash Hopper</td><td>SW 204</td><td>Plant operation</td><td>6,093.77</td><td>6,382.54</td><td>7,989.88</td><td>8,047.50</td><td>5,099.19</td></tr><tr><td></td><td></td><td></td><td>Fly Ash</td><td>SUM</td><td>60,377.42</td><td>63,761.64</td><td>46,552.92</td><td>80,394.56</td><td>7,686.03</td></tr><tr><td></td><td></td><td></td><td>Bottom Ash</td><td>SUM</td><td>6,093.77</td><td>6,382.54</td><td>7,989.88</td><td>8,047.50</td><td>5,099.19</td></tr></table>	Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ²						Waste Quantity by Year (Tonne)							Used lubricating oil	SW 305	From machine/ equipment during shutdown	28.76	16.53	39.79	11.44	21.18			Used hydraulic oil	SW 306	Hydraulic system (e.g., for the torch system)	0.00	0.00	0.52	0.52	0.35					SUM	28.76	16.53	40.31	11.95	21.53			Contaminated empty drum	SW 409	From machine/ equipment during shutdown & service	3.42	1.17	2.76	0.00	0.78			Contaminated rags	SW 410	Service & cleaning oil spillage	5.11	1.98	0.48	0.14	0.43					SUM	8.53	3.15	3.24	0.14	1.21			Used batteries	SW 102	From equipment,electrical & electronic part, for genset, double AA, torchlight, for testing equipment, auxiliary equipment	0.30	0.00	0.29	0.00	0.00	Coal	MPG	E-waste	SW 110	From machine/ equipment, lap top part, part of electrical (panel)	0.07	0.09	0.03	0.51	0.15					SUM	0.37	0.09	0.33	0.51	0.15			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	0.13	0.00	0.05	0.01	0.08					SUM	0.13	0.00	0.05	0.01	0.08			Fly Ash	SW 104	Plant operation	60,377.42	63,761.64	46,552.92	80,394.56	7,686.03			Boiler Bottom Ash Hopper	SW 204	Plant operation	6,093.77	6,382.54	7,989.88	8,047.50	5,099.19				Fly Ash	SUM	60,377.42	63,761.64	46,552.92	80,394.56	7,686.03				Bottom Ash	SUM	6,093.77	6,382.54	7,989.88	8,047.50	5,099.19		
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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								
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ¹	
							Waste Quantity by Year (Tonne)					
				Used lubricating oil	SW305	Machinery maintenance	-	-	-	-	1.90	
				Used hydraulic oil	SW306	Machinery maintenance	-	-	-	-	0.00	
				Oily residue from automotive workshop, service station, oil or grease interceptor	SW312	Machinery maintenance & operation	-	-	-	-	0.07	
						SUM	-	-	-	-	1.97	
				Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes	SW409	-	-	-	-	-	2.70	
				Contaminated rags	SW410	Items used for maintenance work	-	-	-	-	0.54	
						SUM	-	-	-	-	3.24	
				Waste of lead acid batteries in whole or crushed form	SW102	Machinery maintenance	-	-	-	-	0.00	
				Waste of batteries containing cadmium and nickel or mercury or lithium	SW103	Machinery maintenance	-	-	-	-	0.00	
		Coal	BPG	E-waste	SW110	Electrical & electronic maintenance	-	-	-	-	0.00	
						SUM	-	-	-	-	0.00	
				Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes	SW408	-	-	-	-	-	7.00	
						SUM	-	-	-	-	7.00	
				Chemicals that are discarded or off-specification	SW429	-	-	-	-	-	0.00	
						SUM	-	-	-	-	0.00	
				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	
				Bottom Ash (Wet/ bottom)	SW 104	Plant operation	-	-	-	-	11,817.83	
				Wet Ash (Wet and dry ashes stored in ash pond)	SW 104	Plant operation	-	-	-	-	113,845.11	
					Fly Ash	SUM	-	-	-	-	66,967.71	
					Bottom Ash	SUM	-	-	-	-	125,662.94	

102-55

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							
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019¹	2020²
							Waste Quantity by Year (Tonne)				
				Used lubricating oil	SW 305	Maintenance	0.00	28.20	32.90	28.20	35.20
				Dirty Diesel	SW 421	Diesel engine, sometimes used for engine cleaning.	1.20	1.40	2.60	2.60	3.97
						SUM	1.20	29.60	35.50	30.80	39.17
				Used Paint Can	SW 409	Maintenance	0.00	0.00	0.20	0.80	0.46
				Used Chemical Bottle	SW 409	Maintenance	0.00	0.00	0.10	0.80	0.08
				Contaminated rags	SW 410	Maintenance	0.60	0.50	2.60	4.21	0.20
				Used oil filter	SW 410	Maintenance	1.10	0.80	3.60	5.40	3.28
				Spent Silica Gel	SW 429	Maintenance	0.00	0.00	1.70	2.10	1.43
						SUM	1.70	1.30	8.20	13.31	5.45
				Used Cadmium Batteries	SW 103	From control system in MCR, gas turbine	0.00	8.50	5.09	0.00	0.00
	Natural Gas	Bintulu PS		Chemical waste containing mercury	SW 109	Maintenance	0.01	0.00	0.00	0.00	0.00
				Used Bulbs	SW 110	Building Maintenance	0.01	0.00	0.00	0.11	0.21
				E-waste	SW 110	Building Maintenance	0.00	0.00	0.00	0.00	0.36
						SUM	0.02	8.50	5.09	0.11	0.57
				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
				Mixed Chemicals	SW 429	Maintenance	0.00	0.00	0.00	0.20	0.06
				Sludge containing lead	SW 204	Maintenance	0.00	0.00	0.00	3.00	0.00
						SUM	0.00	0.00	0.00	3.20	0.06
				Gas condensate	SW 421	-	N/A	4.35	9.83	0.00	0.00
						SUM	0.00	4.35	9.83	0.00	0.00



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							
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019 ¹	2020 ²
		Waste Quantity by Year (Tonne)									
Natural Gas	Miri PS		Used lubricating oil	SW 305	-		3.60	2.80	10.60	2.20	2.20
			Used transformer oil	SW 306	-		0.20	26.00	8.80	0.40	2.60
			Oil-water emulsion (dirty diesel, cleaning of engine, operation of gen set)	SW 307	-		2.00	0.00	0.00	0.00	0.00
			Sludge from mineral oil storage tank (sludge from the diesel storage tank)	SW 310	-		0.20	0.00	0.00	0.00	0.00
			Mixture scheduled waste (cleaning of gen set, collected by product)	SW 421	-		1.60	1.00	1.00	0.60	0.40
			SUM				7.60	29.80	20.40	3.20	5.20
			Contaminated drum	SW 409	-		0.32	0.36	0.20	0.04	0.03
			Contaminated rags	SW 410	-		0.90	1.60	1.30	0.70	0.80
			Used oil filter	SW 410	-		0.80	0.40	0.30	0.60	0.40
			SUM				2.02	2.36	1.80	1.34	1.23
			Used battery (gen set, acid battery)	SW 103	-		0.05	0.00	1.95	1.90	0.00
			Fluorescent tube lighting	SW 109	-		0.00	0.00	0.01	0.20	0.00
			SUM				0.05	0.00	1.96	2.10	0.00
			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	-		2.20	4.00	5.80	3.40	2.40
			SUM				2.20	4.00	5.80	3.40	2.40

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						
		Plant Type	Plant Name	Types of Waste	Waste Code	Source/Remark	2016	2017	2018	2019¹	2020²
		Waste Quantity by Year (Tonne)									
Diesel	Sg Biawak PS		Used lubricating oil	SW 305	From diesel engine (flushing of lube separators)	48.72	53.63	17.40	88.95	2.22	
			Used hydraulic oil	SW 306	From transformer	0.00	0.00	0.00	17.81	0.00	
			SUM			48.72	53.63	17.40	106.75	2.22	
			Uncured Resin waste	SW 325	Termination insulation of transformer	0.27	0.00	0.10	0.00	0.00	
			Contaminated empty drum	SW 409	-	1.20	1.54	1.00	0.18	0.00	
			Discarded chemical bottles	SW 409	Laboratory	0.02	0.00	0.01	0.00	0.04	
			Contaminated rags	SW 410	Cleaning of Diesel engine	0.10	0.30	0.05	0.01	0.03	
			Used oil filter	SW 410	Diesel engine lube oil filter	0.01	0.02	0.00	0.00	0.00	
			SUM			1.59	1.86	1.16	0.19	0.07	
			Used battery acid plumbum	SW 102	From diesel fire pump (for starting)	0.47	0.14	0.08	0.00	0.00	
			Waste containing mercury or its compound	SW 109	Flourescent tubes	0.03	0.00	0.05	0.04	0.00	
			SUM			0.50	0.14	0.13	0.04	0.00	
			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	0.05	0.00	0.08	0.02	0.02	
			SUM			0.05	0.00	0.08	0.02	0.02	
Diesel	Limbang PS		Used lubricating oil	SW 305	Machinery maintenance	30.60	30.60	54.60	42.60	56.80	
			Dirty Diesel	SW 421	Machinery maintenance	24.20	24.20	32.60	22.80	30.40	
			SUM			54.80	54.80	87.20	65.40	87.20	
			Contaminated Used Drum	SW 409	Machinery maintainance	3.18	1.06	4.42	2.24	1.84	
			Contaminated Used Paint Can	SW 409	Machinery maintainance	0.00	0.05	0.40	0.40	0.15	
			Contaminated rags	SW 410	Machinery maintainance	0.90	0.90	1.50	1.30	1.80	
			Used oil filter	SW 410	Machinery maintainance	0.00	0.60	0.20	0.10	0.07	
			SUM			4.08	2.61	6.52	4.04	3.86	
			Lead Acid Battery	SW 102	From machine/ equipment (Fork lift, dari fire hydrant pump)	0.00	0.00	0.50	0.00	0.00	
			Unused Air Conditioner (e-waste)	SW 110	From machine/ equipment	0.00	0.02	0.20	0.00	0.00	
			SUM			0.00	0.02	0.70	0.00	0.00	
			Contaminated Soil	SW 408	Machinery maintainance	0.00	0.00	0.10	0.00	0.00	
			SUM			0.00	0.00	0.10	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	

Notes:

¹ These volume of waste generated and scheduled waste generation intensity data have been assured by a third party for Sustainability Report 2019.

^{*} These volume of waste generated and scheduled waste generation intensity data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.

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	A Safe and Healthy Workplace, p. 65			
103-2	The management approach and its components	2020 Year in Review, p. 12; A Safe and Healthy Workplace, p. 68; Managing Our Business Footprint, p. 142 - 143			
103-3	Evaluation of the management approach	2020 Year in Review, p. 12; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; A Safe and Healthy Workplace, p. 68; Managing Our Business Footprint, p. 142 - 143			
GRI 307: Environmental Compliance 2016					
307-1	Non-compliance with environmental laws and regulations	2020 Year in Review, p. 12; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; A Safe and Healthy Workplace, p. 68 1. The company was fined RM 4,000 for 2 violations under Environmental Quality (Scheduled Wastes) Regulation 2005 in Sri Aman Regional Office 2. The company was fined RM 2,000 for violating Environmental Quality (Scheduled Wastes) Regulation 2005 in Long Lama Power Station 3. The company received a Notice for violating Environmental Quality (Scheduled Wastes) Regulation 2005 in Sri Aman Regional 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	



GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Employment					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Our People, p. 58; Social Inclusion, p. 150			
103-2	The management approach and its components	Management Discussion and Analysis, p. 30; Our People, p. 58; Social Inclusion, p. 149			
103-3	Evaluation of the management approach	Management Discussion and Analysis, p. 30; Social Inclusion, p. 149			
GRI 401: Employment 2016					
401-1	New employee hires and employee turnover	Creating Long-Term Value, p. 99; Social Inclusion, p. 150		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 and Turnover by Gender and Age

New Hires (by Gender)	2016			2017			2018			2019			2020		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	190	68	258	278	70	348	227	77	304	258	110	368	275	75	350
By age, in numbers															
Up to 30 years old	167	56	223	244	59	303	158	58	216	159	67	226	222	53	275
Between 31 and 50 years old	20	12	32	20	10	30	51	17	68	99	43	142	45	22	67
Over 50 years old	3	0	3	14	1	15	18	2	20				8	0	8
Staff Turnover (by Gender)	2016			2017			2018			2019			2020		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	86	28	114	95	42	137	128	32	160	147	26	173	146	30	176
By age, in numbers															
Up to 30 years old	25	16	41	28	21	49	18	19	37	76	23	99	18	10	28
Between 31 and 50 years old	34	10	44	19	8	27	21	7	28				22	6	28
Over 50 years old	27	2	29	48	13	61	89	6	95	71	3	74	106	14	120

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 Company															
New Hires (by Company)	2016			2017			2018			2019			2020		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	190	68	258	278	70	348	227	77	304	258	110	368	275	75	350
By company, in numbers															
Sarawak Energy Berhad	82	37		254	61		227	77	304	258	110	368	275	75	350
Sejingkat Power	-	-		-	-										
Mukah Power	-	-		-	-										
SESCO Headquarters	51	21		1	4										
SESCO Kuching	3	4		10	1										
SESCO Sri Aman	1	0		0	2										
SESCO Sarikei	1	0		2	1										
SESCO Sibul	16	1		2	2										
SESCO Bintulu	23	1		-	-										
SESCO Miri	8	3		3	2										
Balingian Power Generation	5	1		1	2										
SarawakHidro Sdn Bhd	-	-		0	0										
Staff Turnover (by Company)	2016			2017			2018			2019			2020		
	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL	Men	Women	TOTAL
Total number	86	28	114	95	42	137	128	32	160	147	26	173	146	30	176
By company, in numbers															
Sarawak Energy Berhad	6	1		13	8		16	15		34	12	46	35	11	46
Sejingkat Power	3	1		2	0		3			11		11			
Mukah Power	4	0		2	0		2			3		3			
SESCO Headquarters	37	17		45	17		52	8		37	10	47	37	8	45
SESCO Kuching	13	3		11	9		18	2		14	1	15	36	4	40
SESCO Sri Aman	1	0		0	0		6			3		3			
SESCO Sarikei	3	1		2	0		2	1		11		11	4	1	5
SESCO Sibul	9	1		7	4		12	2		14		14	9	1	10
SESCO Bintulu	5	0		4	0		7	2		7	1	8	5	0	5
SESCO Miri	3	4		8	4		10	2		12	1	13	14	4	18
Balingian Power Generation	2	0		1	0		-	-			1	1			
SarawakHidro Power Sdn. Bhd.	-	-		0	0		40	15		1		1	2	0	2
Bakun Hydro Power Generation													4	1	5
% Turnover rate 2016 = 2.55%															
% Turnover rate 2017 = 2.77%															
% Turnover rate 2018 = 3.19%															
% Turnover rate 2019 = 3.32%															
% Turnover rate 2020 = 3.27%															



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	<table><tr><th>Types of Leave</th><th>Description</th><th>Remarks</th></tr><tr><td>Annual</td><td>Service below 10 years = 20 days per annum Service 10 years and above = 25 days per annum</td><td>All employees received same entitlement irrespective of salary grade</td></tr><tr><td>Maternity</td><td>90 calendar days</td><td>Limited to 5 surviving children</td></tr><tr><td>Nursing</td><td>Maximum 60 calendar days</td><td>Unpaid</td></tr><tr><td>Paternity</td><td>7 continuous calendar days</td><td>Limited to 5 occasions</td></tr><tr><td>Hajj</td><td>40 days</td><td>Granted only once; should serve for not less than 5 continuous years</td></tr><tr><td>Unrecorded</td><td>30 working days per annum - maximum</td><td>For the purpose of:<ul style="list-style-type: none">• Armed Forces Training• Sporting & Cultural Activities• Koperasi SESCO• Examination• Deepavali – 1 day• Charity• Pilgrimage</td></tr><tr><td>Study</td><td>Subject to terms and conditions as determined by the Company</td><td></td></tr><tr><td>Compassionate</td><td>Up to 4 working days</td><td>For purpose of attending the funeral of any one of the following relatives:<ul style="list-style-type: none">• Spouse• Children who are natural, lawfully adopted or stepchildren• Parents• Parents in-law• Children's Spouse</td></tr><tr><td>Overtime</td><td>Maximum of 15 working days or 120 hours per year</td><td>For executive group E1-E4 only and valid per current year</td></tr><tr><td>Sick</td><td>Non-hospitalized = 22 days Hospitalized = 60 days</td><td>Aggregate 60 days paid leave per annum</td></tr><tr><td>Prolonged Illness</td><td><ul style="list-style-type: none">• 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</td><td></td></tr><tr><td>Blood donors privilege</td><td>1 day</td><td></td></tr></table> Benefits <table><tr><th>Type of Loan & Subsidies</th><th>Entitlement (RM)</th><th>Remarks</th></tr><tr><td>Housing (Interest Subsidy)</td><td>400,000.00</td><td>Same entitlement irrespective of salary grade</td></tr><tr><td>Car (Interest Subsidy)</td><td>170,000.00</td><td>Top Management (SG1 - SG5-B)</td></tr><tr><td></td><td>130,000.00</td><td>Managers (E5 - E8)</td></tr><tr><td></td><td>80,000.00</td><td>Executives (E1 - E4)</td></tr><tr><td></td><td>50,000.00</td><td>Non-Executives (NE1 - NE6)</td></tr><tr><td>Motorcycle Loan</td><td>7,000.00</td><td>All Staff</td></tr><tr><td>Computer Loan</td><td>3,000.00</td><td>All Staff</td></tr><tr><td>House Moving Expenses Subsidy</td><td>1,500.00</td><td>Same entitlement irrespective of salary grade</td></tr></table>	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 days	Granted only once; should serve for not less than 5 continuous years	Unrecorded	30 working days per annum - maximum	For the purpose of: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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		Type of Loan & Subsidies	Entitlement (RM)	Remarks	Housing (Interest Subsidy)	400,000.00	Same entitlement irrespective of salary grade	Car (Interest Subsidy)	170,000.00	Top Management (SG1 - SG5-B)		130,000.00	Managers (E5 - E8)		80,000.00	Executives (E1 - E4)		50,000.00	Non-Executives (NE1 - NE6)	Motorcycle Loan	7,000.00	All Staff	Computer Loan	3,000.00	All Staff	House Moving Expenses Subsidy	1,500.00	Same entitlement irrespective of salary grade		No 8 - Promote inclusive and sustainable economic growth, 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																					
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Welfare Funeral Financial Assistance <table><tr><th>Deceased Person</th><th>Rate (RM)</th><th>Remarks</th></tr><tr><td>Serving Employee</td><td>3,000.00</td><td></td></tr><tr><td>Spouse & Children < 21 years old</td><td>3,000.00</td><td></td></tr><tr><td>Parents</td><td>3,000.00</td><td></td></tr><tr><td>Retiree</td><td>3,000.00</td><td>Employees joined employment on or after 1 September 2019 are not entitled</td></tr></table> New Benefits <table><tr><th>Reimbursement</th><th>Subsidy Rate (RM)</th></tr><tr><td>Dental & Optical</td><td>750.00 per year and per family</td></tr><tr><td>Healthy Living</td><td>500.00 per year and per family</td></tr></table>	Deceased Person	Rate (RM)	Remarks	Serving Employee	3,000.00		Spouse & Children < 21 years old	3,000.00		Parents	3,000.00		Retiree	3,000.00	Employees joined employment on or after 1 September 2019 are not entitled	Reimbursement	Subsidy Rate (RM)	Dental & Optical	750.00 per year and per family	Healthy Living	500.00 per year and per family			
Deceased Person	Rate (RM)	Remarks																								
Serving Employee	3,000.00																									
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Retiree	3,000.00	Employees joined employment on or after 1 September 2019 are not entitled																								
Reimbursement	Subsidy Rate (RM)																									
Dental & Optical	750.00 per year and per family																									
Healthy Living	500.00 per year and per family																									
Occupational Health and Safety																										
GRI 103: Management Approach 2016																										
103-1	Explanation of the material topic and its Boundary	A Safe and Healthy Workplace, p. 63 - 65; Social Inclusion, p. 153 - 155																								
103-2	The management approach and its components	Chairman’s Statement, p. 14 - 17; Group Chief Executive Officer’s Statement, p. 18 - 24; Management Discussion and Analysis, p. 26; COVID-19 & Our Response, p. 57; Our People, p. 60 - 61; A Safe and Healthy Workplace, p. 63 - 65, 67 - 68; Social Inclusion, p. 153 - 159																								
103-3	Evaluation of the management approach	Management Discussion and Analysis, p. 26; COVID-19 & Our Response, p. 57; Our People, p. 61; A Safe and Healthy Workplace, p. 65 - 68; Social Inclusion, p. 156 - 159																								
GRI 403: Occupational Health and Safety 2018																										
403-1	Occupational health and safety management system	Social Inclusion, p. 153 - 154		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all																						



GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD															
403-2	Hazard identification, risk assessment, and incident investigation	A Safe and Healthy Workplace, p. 64 - 65; Social Inclusion, p. 156 - 159		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all																
403-3	Occupational health services	A Safe and Healthy Workplace, p. 64; Social Inclusion, p. 158		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all																
403-4	Worker participation, consultation, and communication on occupational health and safety	Social Inclusion, p. 153 - 154 & 156 - 159 Environment & Occupational Health & Safety (EOSH) Members in 2019 & 2020: <table><tr><th>Members</th><th>Year 2019</th><th>Year 2020</th></tr><tr><td>Chairman</td><td>21</td><td>22</td></tr><tr><td>Secretary</td><td>21</td><td>22</td></tr><tr><td>Employer Representative</td><td>133</td><td>211</td></tr><tr><td>Employees Representative</td><td>213</td><td>301</td></tr></table>	Members	Year 2019	Year 2020	Chairman	21	22	Secretary	21	22	Employer Representative	133	211	Employees Representative	213	301		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all	
Members	Year 2019	Year 2020																		
Chairman	21	22																		
Secretary	21	22																		
Employer Representative	133	211																		
Employees Representative	213	301																		
403-5	Worker training on occupational health and safety	A Safe and Healthy Workplace, p. 64; Social Inclusion, p. 157		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all																
403-6	Promotion of worker health	A Safe and Healthy Workplace, p. 64 - 65; Social Inclusion, p. 157 - 158		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all																

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	A Safe and Healthy Workplace, p. 64 - 65; Social Inclusion, p. 157 - 158		No 3 - Ensure healthy lives and promote wellbeing for all at all ages No 8 - Promote inclusive and sustainable economic growth, employment and decent work for all	
403-9	Work-related injuries	Management Discussion and Analysis, p. 26; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; Social Inclusion, p. 149 & 155	Yes	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	A Safe and Healthy Workplace, p. 64; Social Inclusion, p. 156 - 159		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	Social Inclusion, p. 150 - 152			
103-2	The management approach and its components	2020 Year in Review, p. 13; Our People, p. 59 & 62; Social Inclusion, p. 152			
103-3	Evaluation of the management approach	2020 Year in Review, p. 13; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 56; Our People, p. 62; Social Inclusion, p. 151			



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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	Social Inclusion, p. 151 Total and Average of Hours of Training Recorded by Category and Gender for 2016 - 2020 <table><tr><th>Year</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr><tr><td rowspan="3">Total Number of Employees by Category</td><td>Management</td><td>222</td><td>477</td><td>145</td><td>298</td></tr><tr><td>Executive</td><td>2,554</td><td>2,139</td><td>1,538</td><td>1,219</td></tr><tr><td>Non-executive</td><td>5,129</td><td>5,425</td><td>3,338</td><td>3,864</td></tr><tr><td rowspan="3">Total Hours of Training by Category</td><td>Management</td><td>956</td><td>7,994</td><td>3,269</td><td>6,403</td></tr><tr><td>Executive</td><td>29,554</td><td>31,473</td><td>28,932</td><td>22,993</td></tr><tr><td>Non-executive</td><td>70,680</td><td>73,864</td><td>57,864</td><td>22,912</td></tr><tr><td rowspan="3">Average Hours of Training by Category</td><td>Management</td><td>4.31</td><td>16.76</td><td>22.54</td><td>21.49</td></tr><tr><td>Executive</td><td>11.62</td><td>14.71</td><td>18.81</td><td>18.86</td></tr><tr><td>Non-executive</td><td>13.78</td><td>13.62</td><td>17.33</td><td>5.93</td></tr></table>	Year	2017	2018	2019	2020	Total Number of Employees by Category	Management	222	477	145	298	Executive	2,554	2,139	1,538	1,219	Non-executive	5,129	5,425	3,338	3,864	Total Hours of Training by Category	Management	956	7,994	3,269	6,403	Executive	29,554	31,473	28,932	22,993	Non-executive	70,680	73,864	57,864	22,912	Average Hours of Training by Category	Management	4.31	16.76	22.54	21.49	Executive	11.62	14.71	18.81	18.86	Non-executive	13.78	13.62	17.33	5.93		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	
Year	2017	2018	2019	2020																																																						
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	Executive	11.62	14.71	18.81	18.86																																																					
	Non-executive	13.78	13.62	17.33	5.93																																																					
404-2	Programs for upgrading employee skills and transition assistance programs	Our People, p. 62; Social Inclusion, p. 152		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% Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 56		No 5 - Achieve gender equality and empower all women and girls No 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment																																																						
Indigenous Rights																																																										
GRI 103: Management Approach 2016																																																										
103-1	Explanation of the material topic and its Boundary	Social Inclusion, p. 161																																																								
103-2	The management approach and its components	Social Inclusion (see Building an Inclusive Society), p. 161 (see Culture and Heritage), p. 162																																																								
103-3	Evaluation of the management approach	Social Inclusion (see Building an Inclusive Society), p. 161 (see Culture and Heritage), p. 162																																																								

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 Peoples 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	Social Inclusion, p. 161			
103-2	The management approach and its components	Social Inclusion, p. 161 - 164			
103-3	Evaluation of the management approach	Delivering Sustainable Growth, p. 70; Social Inclusion, p. 161 - 164			
GRI 413: Local Communities 2016					
413-1	Operations with local community engagement, impact assessments, and development programs	Powering Our Community, p. 74 - 75; Social Inclusion, p. 161 - 163 100% 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.		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	
Customer Privacy					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Driving Sustainable Growth, p. 132			
103-2	The management approach and its components	Driving Sustainable Growth, p. 132 & 134			
103-3	Evaluation of the management approach	Driving Sustainable Growth, p. 132 & 134			

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
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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 2020.

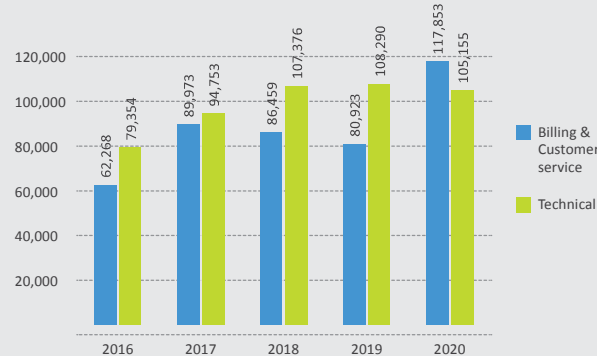
Number of Calls Handled by Sarawak Energy Call Centre and Overall Service Level by Sarawak Energy Call Centre

At Customer Care Centre, we aim to give our customers the optimal services that they may feel valued and fairly treated. In line with that, our executives are trained to handle both billing and technical enquiries that meet the various needs of our customers.

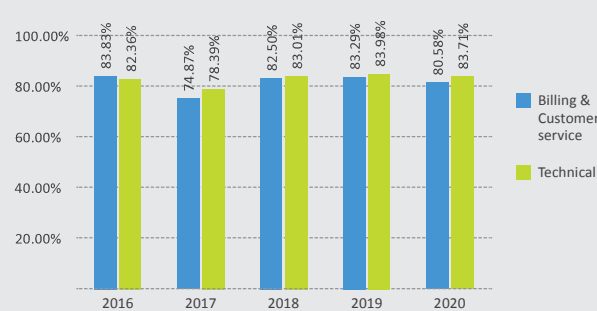
In terms of billing, we offer assistance to customers that covers new applications, billing and meter related issues and general enquiries. Similarly, we also attend to technical enquiries such as outages, faulty streetlights and other technical issues.

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

Customer Service - No. of Calls Handled by Sarawak Energy Call Centre 2016 - 2020



Customer Service - Overall Service Level by Sarawak Energy Call Centre 2016 - 2020



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 enquiries (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.

GRI CONTENT INDEX FOR 'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Socioeconomic Compliance					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	Group Chief Executive Officer's Statement, p. 19			
103-2	The management approach and its components	Group Chief Executive Officer's Statement, p. 19; Statement of Corporate Governance, p. 42 & 47; Statement on Risk Management and Internal Control, p. 48 - 51			
103-3	Evaluation of the management approach	Statement of Corporate Governance, p. 42 & 47; Statement on Risk Management and Internal Control, p. 48 - 51			
GRI 419: Socioeconomic 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: <ul style="list-style-type: none"> 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					
Organizational Profile					
GRI 103: Management Approach 2016					
103-1	Explanation of the material topic and its Boundary	About Sarawak Energy, p. 2			
103-2	The management approach and its components	Energy for Sarawak, p. 8 - 11			
103-3	Evaluation of the management approach	Energy for Sarawak, p. 8			
Sector Disclosure: Organizational Profile					
EU1	Installed Capacity, Broken Down by Primary Energy Source and by Regulatory Regime	Energy for Sarawak, p. 8; Driving Sustainable Growth, p. 127		No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	TCFD

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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD																																																																																																				
EU2	Net Energy Output Broken Down by Primary Energy Source and by Regulatory Regime	<div>Climate Action Through Renewable Energy, p. 103; Climate Action at the Forefront, p. 119; Driving Sustainable Growth, p. 127</div> <table><tr><th colspan="5">Major Grid Generation by Plants (GWh), by Energy Source</th></tr><tr><th></th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr><tr><td colspan="5">Hydro</td></tr><tr><td>Batang Ai HEP</td><td>442.32</td><td>480.59²</td><td>386.99¹</td><td>517.43[*]</td></tr><tr><td>Bakun HEP</td><td>13,078.27</td><td>14,351.89²</td><td>15,424.40¹</td><td>14,680.88[*]</td></tr><tr><td>Murum HEP</td><td>5,717.39</td><td>6,053.06²</td><td>5,688.83¹</td><td>6,406.41[*]</td></tr><tr><td>Lundu PS</td><td>2.62</td><td>2.85²</td><td>3.02¹</td><td>1.64[*]</td></tr><tr><td colspan="5">Coal</td></tr><tr><td>Sejingkat Power Corp.</td><td>684.11</td><td>593.49²</td><td>505.91¹</td><td>494.90[*]</td></tr><tr><td>PPLS Power Generation</td><td>673.69</td><td>614.13²</td><td>518.67¹</td><td>516.33[*]</td></tr><tr><td>Mukah Power Sdn. Bhd.</td><td>1,494.40</td><td>1,401.96²</td><td>1,343.97¹</td><td>770.63[*]</td></tr><tr><td>Balingian Power Generation</td><td>-</td><td>-</td><td>1,421.72¹</td><td>1,263.98[*]</td></tr><tr><td colspan="5">Gas</td></tr><tr><td>Miri PS</td><td>516.56</td><td>487.51²</td><td>535.37¹</td><td>468.37[*]</td></tr><tr><td>Bintulu PS</td><td>614.31</td><td>661.31²</td><td>615.47¹</td><td>608.67[*]</td></tr><tr><td>Sarawak Power Generation</td><td>1,738.20</td><td>2,023.03²</td><td>2,106.25¹</td><td>1,594.56[*]</td></tr><tr><td>Kidurong Power Generation</td><td>-</td><td>-</td><td>-</td><td>212.11[*]</td></tr><tr><td colspan="5">Diesel</td></tr><tr><td>Sg Biawak PS</td><td>16.18</td><td>-0.57²</td><td>0.89¹</td><td>-0.79[*]</td></tr><tr><td>TOTAL ENERGY GENERATED</td><td>24,978.05</td><td>26,669.24²</td><td>28,551.51¹</td><td>27,535.13[*]</td></tr></table> <div>Notes: ¹ This net energy generated data has been assured by a third party for Sustainability Report 2019. 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 165 – 169.</div>	Major Grid Generation by Plants (GWh), by Energy Source						2017	2018	2019	2020	Hydro					Batang Ai HEP	442.32	480.59 ²	386.99 ¹	517.43 [*]	Bakun HEP	13,078.27	14,351.89 ²	15,424.40 ¹	14,680.88 [*]	Murum HEP	5,717.39	6,053.06 ²	5,688.83 ¹	6,406.41 [*]	Lundu PS	2.62	2.85 ²	3.02 ¹	1.64 [*]	Coal					Sejingkat Power Corp.	684.11	593.49 ²	505.91 ¹	494.90 [*]	PPLS Power Generation	673.69	614.13 ²	518.67 ¹	516.33 [*]	Mukah Power Sdn. Bhd.	1,494.40	1,401.96 ²	1,343.97 ¹	770.63 [*]	Balingian Power Generation	-	-	1,421.72 ¹	1,263.98 [*]	Gas					Miri PS	516.56	487.51 ²	535.37 ¹	468.37 [*]	Bintulu PS	614.31	661.31 ²	615.47 ¹	608.67 [*]	Sarawak Power Generation	1,738.20	2,023.03 ²	2,106.25 ¹	1,594.56 [*]	Kidurong Power Generation	-	-	-	212.11 [*]	Diesel					Sg Biawak PS	16.18	-0.57 ²	0.89 ¹	-0.79 [*]	TOTAL ENERGY GENERATED	24,978.05	26,669.24 ²	28,551.51 ¹	27,535.13 [*]	Yes	<div>No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all</div> <div>No 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development</div>	TCFD
Major Grid Generation by Plants (GWh), by Energy Source																																																																																																									
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EU3	Number of Residential, Industrial, Institutional and Commercial Customer Accounts	<div>Renewable Energy for Sarawak & Beyond, p. 6</div> <table><tr><th colspan="4">Grid / Non Grid No. of Customers Ending 2020</th></tr><tr><th>Grid</th><th>Tariff</th><th>No. of Active Customers' Account</th><th>Total No. of Customers' Account</th></tr><tr><td>Grid</td><td>C1</td><td>97,409</td><td>104,376</td></tr><tr><td>Grid</td><td>C2</td><td>19</td><td>20</td></tr><tr><td>Grid</td><td>C3</td><td>37</td><td>39</td></tr><tr><td>Grid</td><td>DOM</td><td>577,997</td><td>600,887</td></tr><tr><td>Grid</td><td>I1</td><td>911</td><td>935</td></tr><tr><td>Grid</td><td>I2</td><td>35</td><td>39</td></tr><tr><td>Grid</td><td>I3</td><td>83</td><td>86</td></tr><tr><td>Grid</td><td>I4</td><td>15</td><td>15</td></tr><tr><td>Grid</td><td>PL</td><td>11,191</td><td>11,470</td></tr><tr><td>Non Grid</td><td>C1</td><td>3,988</td><td>4,226</td></tr><tr><td>Non Grid</td><td>DOM</td><td>20,109</td><td>21,102</td></tr><tr><td>Non Grid</td><td>I1</td><td>23</td><td>23</td></tr><tr><td>Non Grid</td><td>PL</td><td>293</td><td>296</td></tr><tr><td>Grand Total</td><td></td><td>712,110</td><td>743,514</td></tr></table>	Grid / Non Grid No. of Customers Ending 2020				Grid	Tariff	No. of Active Customers' Account	Total No. of Customers' Account	Grid	C1	97,409	104,376	Grid	C2	19	20	Grid	C3	37	39	Grid	DOM	577,997	600,887	Grid	I1	911	935	Grid	I2	35	39	Grid	I3	83	86	Grid	I4	15	15	Grid	PL	11,191	11,470	Non Grid	C1	3,988	4,226	Non Grid	DOM	20,109	21,102	Non Grid	I1	23	23	Non Grid	PL	293	296	Grand Total		712,110	743,514																																							
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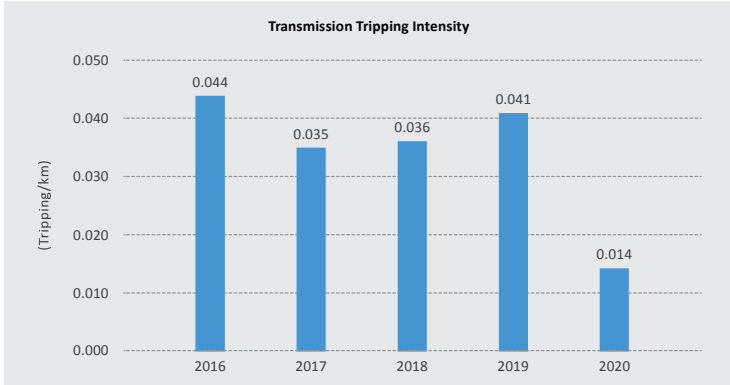
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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD																																																																																																						
EU4	Length of Above and Underground Transmission and Distribution Lines by Regulatory Regime	<p>Internalising the Global Agenda (UN SDGs), p. 94</p> <p>Distribution Lines</p> <table><thead><tr><th rowspan="3">Region</th><th colspan="6">Total Length of Distribution Lines in 2020</th></tr><tr><th colspan="2">33kV Distribution</th><th colspan="2">11kV Distribution</th><th colspan="2">415V Distribution</th></tr><tr><th>O/H (km)</th><th>U/G (km)</th><th>O/H (km)</th><th>U/G (km)</th><th>O/H (km)</th><th>U/G (km)</th></tr></thead><tbody><tr><td>WR Kuching</td><td>1,168.99</td><td>722.78</td><td>2,257.39</td><td>1,923.92</td><td>5,421.58</td><td>1,712.77</td></tr><tr><td>WR Sri Aman</td><td>869.66</td><td>65.76</td><td>1,589.59</td><td>181.75</td><td>1,434.45</td><td>99.96</td></tr><tr><td>CR Sarikei</td><td>304.06</td><td>72.79</td><td>656.28</td><td>103.99</td><td>1,277.10</td><td>122.64</td></tr><tr><td>CR Sibu</td><td>1,127.33</td><td>340.02</td><td>1,429.61</td><td>890.11</td><td>3,110.83</td><td>776.81</td></tr><tr><td>NR Bintulu</td><td>711.08</td><td>209.21</td><td>192.26</td><td>360.22</td><td>601.17</td><td>236.90</td></tr><tr><td>NR Miri</td><td>420.98</td><td>302.15</td><td>783.14</td><td>625.90</td><td>2,900.53</td><td>651.77</td></tr><tr><td>NR Limbang</td><td>109.77</td><td>20.60</td><td>690.09</td><td>80.16</td><td>578.24</td><td>40.04</td></tr><tr><td>Total</td><td>4,711.86</td><td>1,733.31</td><td>7,598.34</td><td>4,166.04</td><td>15,323.90</td><td>3,640.89</td></tr></tbody></table> <p>Transmission Lines</p> <table><thead><tr><th rowspan="2"></th><th colspan="4">Total Length of Transmission Lines in 2020</th></tr><tr><th colspan="2">500kV energized at 275kV</th><th>275kV</th><th>132kV</th><th>Total</th></tr></thead><tbody><tr><td>Overhead (km)</td><td colspan="2">753.00</td><td>3,100.36</td><td>830.63</td><td>4,683.99</td></tr><tr><td>Underground (km)</td><td colspan="2">0</td><td>0</td><td>23.47</td><td>23.47</td></tr><tr><td>Total (km)</td><td colspan="2">753.00</td><td>3,100.36</td><td>854.10</td><td>4,707.46</td></tr></tbody></table>	Region	Total Length of Distribution Lines in 2020						33kV Distribution		11kV Distribution		415V Distribution		O/H (km)	U/G (km)	O/H (km)	U/G (km)	O/H (km)	U/G (km)	WR Kuching	1,168.99	722.78	2,257.39	1,923.92	5,421.58	1,712.77	WR Sri Aman	869.66	65.76	1,589.59	181.75	1,434.45	99.96	CR Sarikei	304.06	72.79	656.28	103.99	1,277.10	122.64	CR Sibu	1,127.33	340.02	1,429.61	890.11	3,110.83	776.81	NR Bintulu	711.08	209.21	192.26	360.22	601.17	236.90	NR Miri	420.98	302.15	783.14	625.90	2,900.53	651.77	NR Limbang	109.77	20.60	690.09	80.16	578.24	40.04	Total	4,711.86	1,733.31	7,598.34	4,166.04	15,323.90	3,640.89		Total Length of Transmission Lines in 2020				500kV energized at 275kV		275kV	132kV	Total	Overhead (km)	753.00		3,100.36	830.63	4,683.99	Underground (km)	0		0	23.47	23.47	Total (km)	753.00		3,100.36	854.10	4,707.46	No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	
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Availability and Reliability																																																																																																											
GRI 103: Management Approach 2016																																																																																																											
103-1	Explanation of the material topic and its Boundary	Renewable Energy for Sarawak & Beyond, p. 7																																																																																																									
103-2	The management approach and its components	About Sarawak Energy, p. 3; Group Chief Executive Officer’s Statement, p. 22; Management Discussion and Analysis, p. 29; Our Strategic Roadmap, p. 53 - 54																																																																																																									
103-3	Evaluation of the management approach	Renewable Energy for Sarawak & Beyond, p. 7; Our Strategic Roadmap, p. 53 - 54																																																																																																									

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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. 7; Driving Sustainable Growth, p. 127		No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all																																																																					
System Efficiency																																																																									
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103-1	Explanation of the material topic and its Boundary	Our Strategic Roadmap, p. 54																																																																							
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103-3	Evaluation of the management approach	Our Strategic Roadmap, p. 54; Climate Action at the Forefront, p. 116																																																																							
Sector Disclosure: System Efficiency																																																																									
EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime	<table><tr><th>Plant Type</th><th>Major Plant</th><th>Total Average Energy Efficiency¹ (%) – Year 2017</th><th>Total Average Energy Efficiency¹ (%) – Year 2018</th><th>Total Average Energy Efficiency¹ (%) – Year 2019</th><th>Total Average Energy Efficiency¹ (%) – Year 2020</th></tr><tr><td>Coal</td><td>Sejangkat Power Corp</td><td>26.42%</td><td>26.39%</td><td>27.25%</td><td>25.11%</td></tr><tr><td>Coal</td><td>PPLS</td><td>30.19%</td><td>31.80%</td><td>30.72%</td><td>32.62%</td></tr><tr><td>Coal</td><td>MPG</td><td>33.49%</td><td>32.70%</td><td>31.90%</td><td>33.01%</td></tr><tr><td>Coal</td><td>BPG</td><td>-</td><td>-</td><td>35.58%</td><td>31.85%</td></tr><tr><td>Combined Cycle - Natural Gas</td><td>SPG</td><td>38.22%</td><td>38.59%</td><td>40.25%</td><td>38.68%</td></tr><tr><td>Open Cycle - Natural Gas</td><td>Bintulu SESCO</td><td>20.94%</td><td>21.70%</td><td>21.22%</td><td>21.03%</td></tr><tr><td>Open Cycle - Natural Gas</td><td>Miri SESCO</td><td>20.89%</td><td>21.89%</td><td>21.28%</td><td>21.44%</td></tr><tr><td>Diesel - Standby</td><td>Sg Biawak SESCO</td><td>31.19%</td><td>24.05%</td><td>22.14%</td><td>17.86%²</td></tr><tr><td>Diesel - Non Grid</td><td>Limbang SESCO</td><td>37.08%</td><td>34.88%</td><td>34.69%</td><td>34.58%</td></tr><tr><td>Diesel - Non Grid</td><td>Lawas SESCO</td><td>36.30%</td><td>34.69%</td><td>34.40%</td><td>34.37%</td></tr></table> <p>Notes: ¹ Total average energy efficiency for Sarawak Energy thermal power plants connected to Main and Northern grids. ² Plant on standby mode.</p>	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	Coal	Sejangkat Power Corp	26.42%	26.39%	27.25%	25.11%	Coal	PPLS	30.19%	31.80%	30.72%	32.62%	Coal	MPG	33.49%	32.70%	31.90%	33.01%	Coal	BPG	-	-	35.58%	31.85%	Combined Cycle - Natural Gas	SPG	38.22%	38.59%	40.25%	38.68%	Open Cycle - Natural Gas	Bintulu SESCO	20.94%	21.70%	21.22%	21.03%	Open Cycle - Natural Gas	Miri SESCO	20.89%	21.89%	21.28%	21.44%	Diesel - Standby	Sg Biawak SESCO	31.19%	24.05%	22.14%	17.86% ²	Diesel - Non Grid	Limbang SESCO	37.08%	34.88%	34.69%	34.58%	Diesel - Non Grid	Lawas SESCO	36.30%	34.69%	34.40%	34.37%	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
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EU12	Transmission and distribution losses as a percentage of total energy	<p>2020 Year in Review, p. 12; Group Chief Executive Officer’s Statement, p. 22; Value Optimisation, p. 28; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; Driving Sustainable Growth, p. 129 - 130</p> <p>Total Number of Transmission Tripping and Tripping Intensity at Transmission (Year 2016 – 2020)</p> <p>Total Distance of Distribution and Transmission lines:</p> <table><tr><th>Total Distance</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr><tr><td>Distribution - 33kV, 11kV, 415kV (km)</td><td>32,802.64</td><td>34,421.06</td><td>35,095.00</td><td>35,948.05</td><td>37,174.33</td></tr><tr><td>Transmission (km)</td><td>1,743.90</td><td>2,187.59</td><td>2,224.80</td><td>2,404.76</td><td>4,707.46</td></tr><tr><td>TOTAL</td><td>34,546.54</td><td>36,608.65</td><td>37,319.80</td><td>38,352.81</td><td>41,881.79</td></tr></table> <p>Total Number of Transmission Tripping and Tripping Intensity at Transmission:</p> <table><tr><th>Total Distance</th><th>Year</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr><tr><td rowspan="3">Number of Transmission Tripping</td><td>Substation</td><td>56</td><td>21</td><td>22</td><td>29</td><td>15</td></tr><tr><td>Transmission</td><td>20</td><td>56</td><td>58</td><td>69</td><td>53</td></tr><tr><td>Total</td><td>76</td><td>77</td><td>80</td><td>98</td><td>68</td></tr><tr><td colspan="2">Transmission Tripping Intensity (Tripping/km)</td><td>0.044</td><td>0.035</td><td>0.036</td><td>0.041</td><td>0.014</td></tr></table> 	Total Distance	2016	2017	2018	2019	2020	Distribution - 33kV, 11kV, 415kV (km)	32,802.64	34,421.06	35,095.00	35,948.05	37,174.33	Transmission (km)	1,743.90	2,187.59	2,224.80	2,404.76	4,707.46	TOTAL	34,546.54	36,608.65	37,319.80	38,352.81	41,881.79	Total Distance	Year	2016	2017	2018	2019	2020	Number of Transmission Tripping	Substation	56	21	22	29	15	Transmission	20	56	58	69	53	Total	76	77	80	98	68	Transmission Tripping Intensity (Tripping/km)		0.044	0.035	0.036	0.041	0.014	No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	
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Access																									
GRI 103: Management Approach 2016																									
103-1	Explanation of the material topic and its Boundary	Social Inclusion (see Advancing Sarawak’s Rural Electrification Agenda), p. 160																							
103-2	The management approach and its components	About Sarawak Energy, p. 3; Management Discussion and Analysis, p. 25; Social Inclusion (see Advancing Sarawak’s Rural Electrification Agenda), p. 160																							
Total Number of DRMS (Distribution Remote Monitoring System) substation installed in 2020 = 195 nos.																									
<table><tr><th>Description</th><th>Total Number Installed</th></tr><tr><td>DRMS Sub</td><td>695</td></tr><tr><td>RTU</td><td>705</td></tr></table>						Description	Total Number Installed	DRMS Sub	695	RTU	705														
Description	Total Number Installed																								
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<table><tr><th>Sensor</th><th>Telemetry Points</th></tr><tr><td>Photobeam</td><td>1</td></tr><tr><td>Street Light Aux. Cont.</td><td>41</td></tr><tr><td>Street Light Supply</td><td>84</td></tr><tr><td>Substation Building</td><td>27</td></tr><tr><td>Pillar Door</td><td>846</td></tr><tr><td>EFI</td><td>561</td></tr><tr><td>Transformer Loss of Supply</td><td>747</td></tr><tr><td>Main Gate</td><td>16</td></tr><tr><td>Total Points</td><td>2,325</td></tr></table>						Sensor	Telemetry Points	Photobeam	1	Street Light Aux. Cont.	41	Street Light Supply	84	Substation Building	27	Pillar Door	846	EFI	561	Transformer Loss of Supply	747	Main Gate	16	Total Points	2,325
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Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD																																				
103-3	Evaluation of the management approach	About Sarawak Energy, p. 3; Group Chief Executive Officer's Statement, p. 20 - 23; Management Discussion and Analysis, p. 25 & 29; Generation Excellence, p. 27; Value Optimisation, p. 28; Delivering Sustainable Growth, p. 72; Social Inclusion (see Advancing Sarawak's Rural Electrification Agenda), p. 160																																							
Sector Disclosure: Access																																									
EU26	Percentage of population unserved in licensed distribution or service areas	About Sarawak Energy, p. 3; Renewable Energy for Sarawak & Beyond, p. 6; 2020 Year in Review, p. 12; Group Chief Executive Officer's Statement, p. 23; Management Discussion and Analysis, p. 25; Delivering Sustainable Growth, p. 72; Internalising the Global Agenda (UN SDGs), p. 94; Social Inclusion, p. 149 & 160 <ul style="list-style-type: none"> State electrification coverage – 98.02% Rural electrification coverage – 95.28% (129,453 of rural households electrified since 2010) <table border="1"> <thead> <tr> <th colspan="6">NEW HOUSEHOLDS CONNECTED</th></tr> <tr> <th>YEAR</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr> </thead> <tbody> <tr> <td>Normal Rural Electrification Scheme (RES)</td><td>12,697</td><td>5,409</td><td>3,990</td><td>5,239</td><td>3,186</td></tr> <tr> <td>Hybrid Programmes</td><td>1,224</td><td>966</td><td>270</td><td>483</td><td>70</td></tr> <tr> <td>SARES</td><td>719</td><td>1,124</td><td>1,448</td><td>3,122</td><td>3,354</td></tr> <tr> <td>TOTAL</td><td>14,640</td><td>7,499</td><td>5,748</td><td>8,844</td><td>6,610</td></tr> </tbody> </table>	NEW HOUSEHOLDS CONNECTED						YEAR	2016	2017	2018	2019	2020	Normal Rural Electrification Scheme (RES)	12,697	5,409	3,990	5,239	3,186	Hybrid Programmes	1,224	966	270	483	70	SARES	719	1,124	1,448	3,122	3,354	TOTAL	14,640	7,499	5,748	8,844	6,610	Yes	No 1 - End poverty in all its forms everywhere No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	
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Note: * These Sarawak electrification coverage and rural electrification coverage data have been assured by a third party. Read the Independent Assurance Report on pages 165 – 169.																																									
EU27	Number of residential disconnections for non-payments, broken down by duration of disconnection and by regulatory regime	Driving Sustainable Growth, p. 130		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	2020 Year in Review, p. 12; Group Chief Executive Officer's Statement, p. 22; Value Optimisation, p. 28; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; Driving Sustainable Growth, p. 128		No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all																																					
EU29	Average power outage duration	About Sarawak Energy, p. 3; Energy for Sarawak, p. 11; 2020 Year in Review, p. 12; Group Chief Executive Officer's Statement, p. 22; Value Optimisation, p. 28; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; Sustainability Key Highlights, p. 92; Internalising the Global Agenda (UN SDGs), p. 94; Driving Sustainable Growth, p. 128 - 129		No 1 - End poverty in all its forms everywhere No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all																																					

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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	Group Chief Executive Officer's Statement, p. 22; Generation Excellence, p. 27; Sarawak Energy Excellence 2022 and Five Key Focus Areas Targets, p. 55; Internalising the Global Agenda (UN SDGs), p. 94; Driving Sustainable Growth, p. 128		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	
Plant Type	Major Plant	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)	Equivalent Availability (%)	Forced Outage (Hours)
Coal	Sejingkat Power Corp	85.91	62.01	88.45	340.77	73.32	3,998.20	82.88	1,187.65
Coal	PPLS	90.48	217.80	88.63	433.95	89.56	1,191.70	90.34	400.93
Coal	MPG	80.63	784.57	79.33	547.42	75.43	519.98	87.73	220.67
Coal	BPG	-	-	-	-	41.48	5.88	97.04	182.72
Combined Cycle – Natural Gas	SPG	71.88	1,050.09	88.61	87.63	88.25	252.24	72.04	282.87
Open Cycle – Natural Gas	Bintulu SESCO	87.58	963.93	91.17	196.93	91.10	642.26	87.04	237.44
Open Cycle – Natural Gas	Miri SESCO	75.47	1,365.65	77.96	712.03	93.48	273.45	88.81	2,108.05
Diesel – Standby	Sg Biawak SESCO	92.24	992.93	87.12	4,106.30	99.06	32.29	98.79	0.00
Diesel – Non Grid	Limbang SESCO	97.87	145.50	95.08	1,336.00	97.05	221.00	97.48	120.00
Diesel – Non Grid	Lawas SESCO	72.30	29.00	76.26	0.00	74.57	1,560.00	95.59	114.00

		Year 2017		Year 2018		Year 2019		Year 2020	
Plant Type	Major Plant	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)	Availability (%)	Forced Outage (Hours)
Hydro	Batang Ai HEP	94.80	35.97	92.10	3.90	83.83	172.22	91.40	122.04
Hydro	Murum HEP	95.19	48.24	96.08	170.94	85.09	1,076.91	94.85	250.51
Hydro	Bakun HEP	93.56	1,662.82	92.23	23.37	97.13	482.17	94.84	284.22

Notes:

- Sarawak Energy Thermal Power Plants is using Equivalent Availability Factor (EAF).
- 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	Social Inclusion, p. 160
103-2	The management approach and its components	Climate Action Through Renewable Energy, p. 104; Managing Our Business Footprint, p. 146; Social Inclusion, p. 160
103-3	Evaluation of the management approach	Managing Our Business Footprint, p. 146; Social Inclusion, p. 160

GRI CONTENT INDEX FOR
'IN ACCORDANCE' – CORE

Disclosure Number	Disclosure Title	Page/Direct Reference	External Assurance	SDG linkage to Disclosure	TCFD
Sector Disclosure: Research & Development					
(Former EU8)	Research and development activity and expenditure aimed at providing reliability electricity and promoting sustainable development	Research and Development Projects for 2020		No 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	

GLOSSARY

ABC	- Anti-Bribery and Corruption	KPP	- PT Kayan Patria Pratama Group
ADD	- Acquire, Develop and Deploy	LTI	- Lost Time Injury
ASEAN	- Association of Southeast Asian Nations	LTIFR	- Lost Time Injury Frequency Rate
ASR	- Annual and Sustainability Report	MACC	- Malaysian Anti-Corruption Commission
BARC	- Board Audit and Risk Committee	MCO	- Movement Control Order
BCM	- Business Continuity Management	MOA	- Manual of Authority
BMI	- Body Mass Index	MoU	- Memorandum of Understanding
BPBC	- Bumiputera Participation Board Committee	NADA	- National Anti-Drug Agency
CCMO	- Cash Conservation and Management Office	NREB	- Natural Resources and Environment Board
CCPP	- Combined Cycle Power Plant	NWA	- New Work Arrangement
CI	- Continuous Improvement	PPA	- Power Purchase Agreement
CoE	- Code of Ethics	PPE	- Personal Protective Equipment
COVID-19	- Coronavirus Disease 2019	PPG	- Policies, Procedures & Guidelines
CSR	- Corporate Social Responsibility	RAM	- RAM Rating Services Berhad
CURIA	- Courage, Utility, Respect, Integrity and Respect	REC	- Renewable Energy Certificate
DOE	- Department of Environment	RES	- Rural Electrification Scheme
EAF	- Equivalent Available Factor	ROA	- Return of Asset
EAP	- Employee Assistance Programme	SAIDI	- System Average Interruption Duration Index
EIA	- Environmental Impact Assessment	SAIFI	- System Average Interruption Frequency Index
ERC	- Executive Risk Committee	SARES	- Sarawak Alternative Rural Electrification Scheme
ERM	- Enterprise Risk Management	SCIENCE	- Sarawak Community Innovation Engineering Competition Exhibition
ESG	- Environmental, Social and Corporate Governance	SCORE	- Sarawak Corridor of Renewable Energy
EV	- Electric Vehicle	SDMC	- State Disaster Management Committee
FOR	- Forced Outage Rate	SEAC	- Sarawak Economic Action Council
GEC	- Group Executive Committee	SEACE	- Sarawak Energy Access, Comply & Empower
GHG	- Greenhouse gas	SEE	- Sarawak Energy Excellence
GIA	- Group Internal Audit	SEES	- Sarawak Energy Employee Survey
GNRC	- Governance, Nomination and Remuneration Committee	SELWN	- Sarawak Energy Leading Women Network
GRI	- Global Reporting Initiative	SEVAA	- Sarawak Energy Vendor Appraisal & Awards
HEP	- Hydroelectric Plant	SLL	- Sustainability-Linked Loan
HESG	- Hydropower Sustainability ESG (Environmental, Social and Corporate Governance) Gap Analysis Tool	SME	- Subject Matter Expert
HRD	- Human Resources Director	SOP	- Standard Operating Procedure
HSAP	- Hydropower Sustainability Assessment Protocol	STEM	- Science, Technology, Engineering and Mathematics
HSSE	- Health, Safety, Security and Environment	TCFD	- Task Force on Climate-related Financial Disclosures
IECA	- Internal Environmental Compliance Audit	TME	- Talent Management Excellence
IHA	- International Hydropower Association	UN	- United Nations
KALTARA	- Northern Province of Kalimantan	UN SDGs	- United Nations' Sustainable Development Goals
KPI	- Key Performance Indicators		

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