Taskforce on Climate-related Financial Disclosure

> Kinergy Advancement Berhad (KAB) TCFD Report 2022







Sustainability isn't just an obligation, it is an opportunity.



Now that ESG and sustainability are not just a box to check off, it has become a strategic advantage for our Group's growth and has integrated as a crucial part of our corporate strategy. As we strive towards a more sustainable future, the power of sustainable practices will unlock us to new opportunities, address ESG risks and shape us into a more purpose-driven and socially responsible organisation. I am excited to unleash our full potential and create a ripple effect that generates long-term value for both our shareholders and stakeholders, as well as impacts our industry and beyond.

Our commitment to ESG and sustainability remain steadfast as we continue to empower other businesses towards guaranteed sustainable growth through our innovative Sustainable Energy Solutions. Last year we urged ourselves to take the first step towards building a Net Zero World. As a result, we have earned a coveted spot on the prestigious FTSE EMAS Index and an impressive ESG rating 3 out of 4 stars in the FTSE Russell in two (2) consecutive years, in 2021 and 2022 respectively. These achievements reflect our tireless efforts to create a more sustainable future for all and serve as a testament to our dedication to responsible business practices. I am filled with excitement for the meaningful difference we will achieve this year.

Dato' Lai Keng Onn, Group Managing Director of KAB Group of Companies



The Company

Kinergy Advancement Berhad (KAB) is a Group that aspires to be a leading provider in responsible and sustainable energy and engineering solutions, with operations expanding across ASEAN. Since 1997, the Group has established ourselves (formerly Kejuruteraan Asastera) as a reputable and experienced engineering solutions provider for a wide range of projects spanning commercial, industrial, and residential developments. At present, KAB has ventured into various segments. On 17 November 2022, KAB diversified its SES segment, which includes the provision of Energy Efficient Solutions, Clean Energy Generation, and Renewable Energy Generation. The Group succeeded in its transformation into a One-Stop Engineering and Energy Solutions Provider in the industry.



This TCFD Report

is in accordance with the 4 core elements and 11 disclosures of the Taskforce on Climate-related Financial Disclosures Recommendations, to provide better disclosure of the financial impacts of climate-related risks and opportunities on KAB.

GOVERNANCE

Disclose KAB's
governance around
climate-related
risks and
opportunities

STRATEGY

Disclose the actual and potential impacts of climate-related risks and opportunities on KAB's businesses, strategy, and financial planning

RISK MANAGEMENT

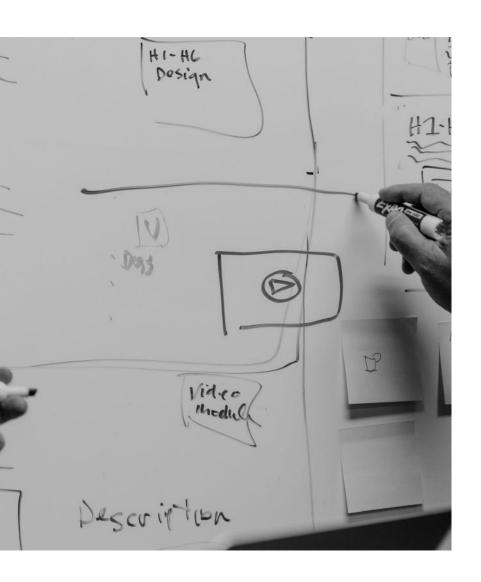
Disclose the processes used by KAB to identify, assess, and manage climate-related risks

METRICS AND TARGETS

Disclose the metrics and targets used to assess and manage relevant climaterelated risks and opportunities

This 2nd Edition of KAB's annual TCFD Report seeks to provide clarity to the Group's Stakeholders including regulators, investors, business partners and financial insitutions on its continual efforts to climate-related risks and opportunities in its business. The reporting period for this report is FY2022; however, it's coverage is also extended to H1 of FY2023.

OUR GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES



THE BOARD OF DIRECTORS V

Determines the Group's overall Sustainability and Climate strategy, quantitative and qualitative targets for the year.

THE SUSTAINABILITY COMMITTEE V//

Comprising three board members and chaired by an independent director who is not the Chairman of the Board, assists the Board of Directors in discharging its statutory duties and oversight responsibilities relating to supporting and monitoring the Climate-related strategy of the Group's businesses.

THE SUSTAINABILITY TEAM /

Delegated to assist the Committee, responsible for realising the Group's Sustainability strategy, and to implement and policies and procedures related to Sustainability objectives across the Group's business operations and with all business relation

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OUR GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES

2019-2021

Our Board of Directors has since 2019 increased its emphasis on Sustainability matters, with a special focus on Climate-related issues. From complying with the basic requirements of having a Sustainability statement incorporated in the company's Annual Report in 2019, we have taken a step forward to produce its inaugural standalone Sustainability Report in 2020 with more detailed focus on Environmental, Social and Governance (ESG) or Sustainability matters that relate to the non-financial performance of the company

2022

In 2022, the Group formally established its **Board Sustainability Committee** to provide more exact and robust oversight and governance on Sustainability matters. The roles, responsibilities and scope of the Sustainability Committee is defined clearly in the Terms of Reference (TOR) that is approved by the Group's Board.

The principal objectives of the Sustainability Committee are to assist the Board of Directors in discharging its statutory duties and oversight responsibilities relating to supporting and monitoring the sustainable development strategy of the Group's businesses covering economic, environmental and social aspects, including contribution to sustainability-related impacts in the course of the Group's operations, and to oversee the integrity of the Group's Sustainability reporting and associated statements on matters within its Scope.

Climate-related risks and opportunities are core elements in the governance Scope of the Board Sustainability Committee, whereby other Board Committees also refer to deliberations and decisions of the Sustainability Committee to manage Climate-related risks and opportunities.

OUR GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES



The Board established the Group's Sustainability Team. The Sustainability Team (ST) is the officially designated management team that is delegated to assist the Board and the Board's Sustainability Committee in managing Sustainability matters relating to the Company.

The Sustainability Team is chaired by the General Manager of Corporate and Human Resources. The Sustainability Team comprises of executive management positions from finance and accounts, strategic planning and performance, corporate affairs, quality management and safety, energy, engineering, and operational and administration divisions.

The Sustainability Team under the Board Sustainability Committee tracks the effectiveness of all actions, taken in line with the policies and commitments established by the Group. The Sustainability Team provides periodical reports to the Sustainability Committee on matters including the setting of Climate-related goals and targets such as those pertaining to Net-Zero, regulatory compliances that various goals and targets have to align with, the activities and business relations that are impacted by the goals and targets, the baseline for goals and targets such as having 2021 as the baseyear for the Group's Net Zero journey, and the timeline for the goals and targets such as Net Zero Scope 1 and Scope Emissions by 2050.

OUR GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES

Environmental Management Policy

Climate change poses serious risks to the global economy and will have an impact across communities and many economic sectors. Environmental dimension of sustainability concerns an organisation's impacts on living and non-living natural systems, including land, air, water, and ecosystems.

As part of its commitment to Sustainability, the Group commits to having a holistic approach on its environmental management towards contributing to climate action, climate change adaption and sustainable development goals. It is also crucial for all our relevant stakeholders to understand that the Group has taken steps to identify, manage and prepare itself with regards to the risks and opportunities of climate change in its business strategies, practices and processes. Hence the Group has established its Environmental Policy in 2022.

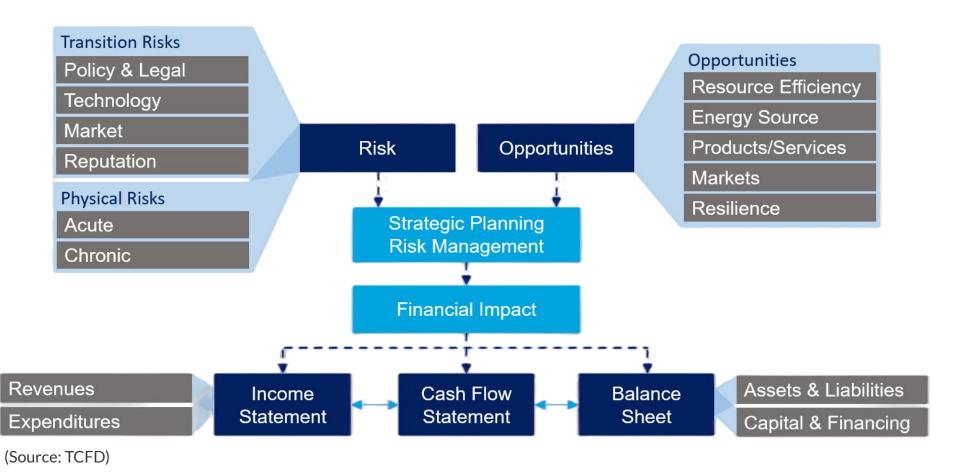
The Board (and its Committees), assisted by the management, is responsible for developing strategies to meet the objectives of the Environmental Management Policy, as well as monitoring the progress of achieving the objectives.





KAB has mantained its own Enterprise Risk Management framework to manage overall business risks. For climate-related purposes, the Group's strategic planning and risk management is driven by the classifications of Risks and Opportunities that are recommended by the TCFD.







IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING: REFERENCES ARE MADE TO THE SYNTHESIS REPORT (SYR) CONCLUDES THE SIXTH ASSESSMENT REPORT (AR6) OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC).

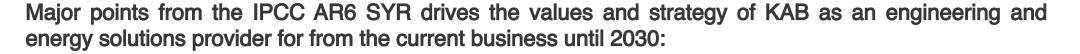
"The AR6 SYR confirms that unsustainable and unequal energy and land use as well as more than a century of burning fossil fuels have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. This has led to widespread adverse impacts and related losses and damages to nature and people. The nationally determined contributions (NDCs) committed by 2030 show the temperature will increase by 1.5°C in the first half of the 2030s, and will make it very difficult to control temperature increase by 2.0°C towards the end of 21st century. Every increment of global warming will intensify multiple and concurrent hazards in all regions of the world."

Petteri Taalas

Secretary-General of the World Meteorological Organization Inger Andersen

Under-Secretary-General of the United Nations and Executive Director of the UN Environment Programme

IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING

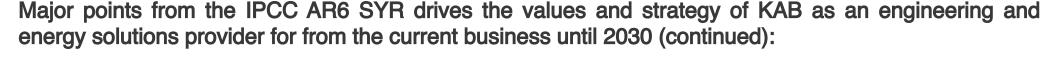


Rapid and deep reductions in GHG emissions require major energy system transitions. Adaptation options can help reduce climate-related risks to the energy system.

- Net zero CO2 energy systems entail: a substantial reduction in overall fossil fuel use, minimal use of unabated fossil fuels153, and use of Carbon Capture and Storage in the remaining fossil fuel systems; electricity systems that emit no net CO2; widespread electrification; alternative energy carriers in applications less amenable to electrification; energy conservation and efficiency; and greater integration across the energy system
- Climate change and related extreme events will affect future energy systems, including hydropower production, bioenergy yields, thermal power plant efficiencies, and demands for heating and cooling
- The most feasible energy system adaptation options support infrastructure resilience, reliable power systems and efficient water use for existing and new energy generation systems
- <u>Energy generation diversification</u> (e.g., wind, solar, smallscale hydroelectric) and demand side management (e.g., storage and energy efficiency improvements) can increase energy reliability and reduce vulnerabilities to climate change, especially in rural populations



IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING



Urban systems are critical for achieving deep emissions reductions and advancing climate resilient development, particularly when this involves integrated planning that incorporates physical, natural and social infrastructure.

- Considering climate change impacts and risks (e.g., through climate services) in the design and planning of urban and rural settlements and infrastructure is critical for resilience and enhancing human well-being. Effective mitigation can be advanced at each of the design, construction, retrofit, use and disposal stages for buildings.
- Mitigation interventions for buildings include: at the construction phase, low-emission construction materials, highly efficient building envelope and the <u>integration of renewable energy solutions</u>; at the use phase, highly efficient appliances/equipment, the optimisation of the use of buildings and their supply with <u>low-emission energy sources</u>; and at the disposal phase, recycling and re-using construction materials.



IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING

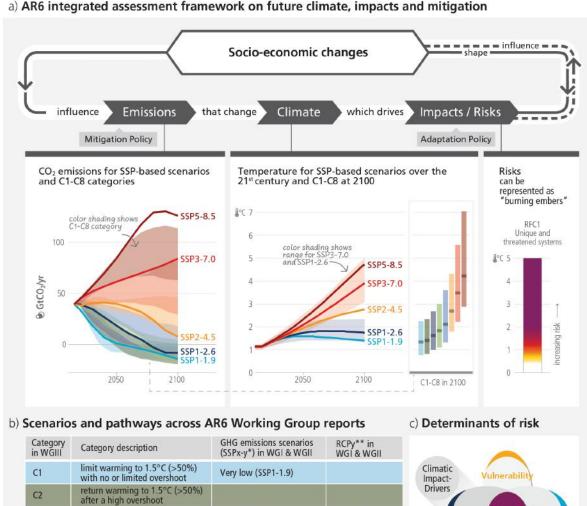
The overall governance and strategy of climate-related risk and opportunities refers to the IPCC AR6 SYR:

Schematic of the AR6 framework for assessing future greenhouse gas emissions, climate change, risks, impacts and mitigation.

beginning it's journey in climate-related strategy, reference scenarios and pathways include, and focus on, scenarios to limit warming to 2°C global warming (>67% and >50%) SSP1-2.6, RCP2.6. Additionally, the Group also refers to the Nationally Determined Contribution (NDC) of Malaysia and other policies that align to the national NDC updated in 2021 - to reduce its economywide carbon intensity (against GDP) of 45% in 2030 compared to 2005 level (unconditional).

Scenarios and warming levels structure our understanding across the cause-effect chain from emissions to climate change and risks

a) AR6 integrated assessment framework on future climate, impacts and mitigation



RCP 4.5

RCP 8.5

Intermediate (SSP2-4.5)

High (SSP3-7.0)

Very high (SSP5-8.5)

(Source: IPCC AR6 SYR)

ing to 2.5°C (>50%

limit warming to 4°C (>50%)

exceed warming of 4°C (>50%)

C3

C4 C5

Transition Risk: Policy and Legal (Malaysia)

IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING: CLIMATE-RELATED RISKS AND OPPORTUNITIES

Bank Negara Malaysia (BNM) has issued its Climate Change and Principle-based Taxonomy (CCPT) to guide financial institutions in identifying and classifying activities that could contribute to climate change mitigation and adaptation since 2021. BNM would also be mandating a minimum percentage of Sustainable Finance (supporting objectives in the CCPT) in the banking sector. This means that financial institutions and investors would be putting in place policy measures to limit their exposure to Financed Emissions and exit portfolios that have higher emissions while focusing on green and transitioning activities, which will translate to higher cost of funding for KAB. KAB has Scope 1 emissions due to its energy (natural gas) segment but would be seeking carbon offset opportunities from its other sustainable energy solutions business segment to reduce carbon policy risk is.



Transition Risk: Policy and Legal (Thailand and Indonesia) The Group's second largest business footprint is in Thailand and Indonesia. Both Thailand and Indonesia has established their respective national Taxonomonies which are significantly different from the Principle-based Taxonomy of Malaysia, whereby both the Thai and Indonesian Taxonomies uses a a traffic-light (green, amber, red) system to classify activities that meet the national climate objectives. Financial insitutions are in the immediate next few years required to tag and label whether the portfolios of the customers are green, amber or red. These taxonomies also have a "do no significant harm" aspect whereby even though projects may be considered "green" on the surface, they do not meet taxonomy requirements if other harm is done to the environment or communities (such as negative effects of hydroelectric power projects). Hence the Group will also align with non-Malaysian taxonomies as well, when expanding to other jurisdictions.



Transition Risk: Technology

KAB's Mechanical & Electrical Engineering Services, Extra Low Voltage (ELV) Electrical Installation & ICT Solutions, and Chiller Optimization businesses are positioned in very competitive markets segments, not only in terms of commercial competitiveness but also technological competitiveness. Better energy efficient and/or low carbon technological options are continually introduced into the market whereby there remains a significant cost for these innivations and transition technologies that will create margin pressures. KAB mitigates this risk by identifying projects that provide ample maneuverability and also exploring government incentives and grants such as Industry 4.0 related funds, grants and incentives that are applicable to public listedd companies.



Transition Risk: Market

Market movements in terms of response to climate-related concerns, expectations and demands would affect the trajectory of KAB's business in the Sustainable Energy Solutions segment, especially when the market transitions further away from cogeneration that has emissions from burning natural gas to energy production that meets climate mitigation activities that refer to CCPT or other Taxonomies.

Additionally, as a player in the Mechanical & Electrical Engineering Services, and ELV Electrical Installation & ICT Solutions business segments, increased costs due to changing input prices in the market (such as raw material and logitisics costs) and output requirements (such as waste management) as a result of climate-related dimensions will also affect operational cost and financial performance.



Medium Term



IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING

Transition Risk: Policy and Legal

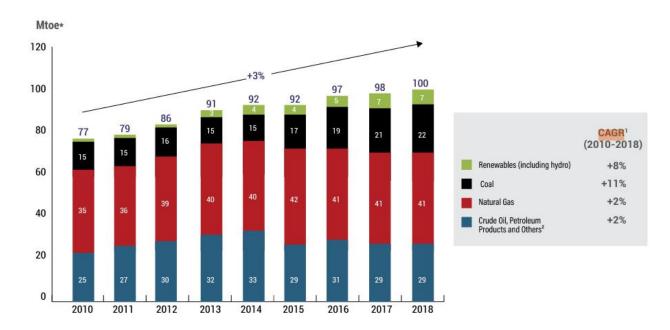
The Malaysian he Ministry of Finance (MoF) has said that the government does not intend to implement a carbon tax in the near future, but it will be a need for it in the medium to long term in order to meet the country's NDC. Thailand's Excise Department is also planning to impose a carbon tax on three sectors, including the energy sector. For reference, Singapore's carbon tax rate up until 2023 is priced at RM15.38/tCO2e. The International Energy Agency (IEA) it its study of potential carbon pricing for Thailand's power sector has suggested USD30-USD40/tCO2e to move the market to variable renewable energy. In Malaysia, the Penang Institue has proposed carbon tax at a starting rate of RM35/tCO2e. With different carbon tax pricing being studied at the current stage, the Group has to limit it's business activities especially energy generation that emits high Scope 1, because any revenues generated from high Scope 1 energy emitting activities will be impacted due to cost incurred on carbon tax or purchases involving carbon credits and carbon offsets solutions.

GOVERNANCE I STRATEGY I RISK MANAGEMENT I METRICS AND TARGETS

IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON OUR BUSINESSES, STRATEGY, AND FINANCIAL PLANNING

Opportunities: Markets

In Malaysia's National Energy Policy 2022-2040, the country has tracked that the CAGR for renewable energy has hit +8% in 2018 and would continue to grow for the next decades.



- 1. Compound Annual Growth Rate
- 2. Others refer to non-crude energy forms which consist of imported light diesel, slop reprocess, crude residuum and residue used as refinery intake *The data are rounded up to nearest decimal point.

(Source: Suruhanjaya Tenaga)

The Group is continuing to expand it is Sustainable Energy Solutions to capitalize on the growing market trend for renewable energy. Even though there are may new entrants coming into the market., the Group believes that coupled with KAB's long history in engineering, customers will be more inclined to a long-established player.





Physical Risk: Acute and Chronic Risk

Acute physical risks refer to event-driven climate occurences, including severity of extreme weather events such as wildfires or floods. Acute risks become more significant in the longer term when global efforts to not meet IPCC and Paris Agreement targets.

Chronic physical risks refer to shifts in climate patterns such as sustained higher temperatures that causes sea level rise and heat waves. 2°C warming will cause 37% of population being exposed to severe heat at least once every 5 years, and a 0.46m sea level rise.

Factors that will affect the business that would require adaptaion include:

- recurring major flood events and precipitation induced landslide events
- potential increase in incidences of precipitation
- future water stress affecting hydroelectric projects
- change in solar radiation affecting solar power potential



Long Term



HOW WE IDENTIFY, ASSESS, AND MANAGE CLIMATE-RELATED RISKS

KAB has established and developed an Enterprise Management ("ERM") framework, and in particular has adopted the COSO framework. The approach applied annually includes, interalia, risk identification, risk assessment, risk definition, and risk documentation. The Sustainability Team is delegated ti identify and manage climate-related risks along with other Sustainability risks. Key risks and mitigating controls are then deliberated in periodic risk management meetings. Risks identified are prioritised in terms of likelihood of occurrence and its impact on the achievement of our business objectives. Significant risks affecting KAB's strategic and business plans are then escalated to the Executive Risk Management Committee (ERMC) at their scheduled meetings. The Risk Management Committee of the Board has ultimate oversight of this process.





HOW WE IDENTIFY, ASSESS, AND MANAGE CLIMATE-RELATED RISKS

Climate-related (environmental) topics that are material to us in the Risk Universe of KAB will be integrated into our overall Risk Register.

Overall Risk Parameters of the company are presented here:

- 1. Insignificant Financial impact <RM100,000
- 2. Minor Financial impact >RM100,001 to RM500,000
- 3. Moderate Financial impact >RM500,001 to RM1,000,000
- 4. Major Financial impact >RM1,000,001 to RM5,000,000
- 5. Catastrophic >RM5,000,000





1. Chiller Optimisation

Chiller Optimisation is a process that optimises chiller plant and HVAC system through a data driven approach. In this technology, the system connects existing mechanical equipment such as chiller plant, ventilators, AHU, FCU and light control. The system collects data from a network of on-site sensors and external data points such as the weather. Thereafter the system will perform calculations based on the data gathered by the sensors and then derive heat/cooling load.

- There are currently four (4) projects in operations throughout Malaysia by 2022
- The of energy saved for these four (4) projects in 2022 comes to a total of 1,234,511 kWh.
- This means that there is an estimated avoidance of 722.19 tCO2e avoided emissions in 2022 from the reduction of energy consumption in the chiller operations of the buildings in these projects.

Chiller Optimisation Savings	2021	2022 1,234,511 kWh	
Energy Saved (Electricity)	1,768,570 kWh		



2. Co-generation

Co-generation means simultaneously producing electricity and steam from a single fuel source. Co-generation is relevant for all facilities that requires energy, hot water, cold water or steam. In conventional generation systems, coal is used to move the turbines that causes the generator to generate electricity, while natural gas is used as fuel for the heating unit that produces heat. Co-generation system uses only natural gas to feed into the co-generation unit to directly produce electricity while at the same time fueling the heating unit for heat energy.

Co-generation	2021	2022	
Energy Produced (Electricity)	3,328,891 kWh	7,784,290.54 kWh	



3. Waste Heat Recovery

What is known as waste heat recovery or more specifically organic Rankine cycle (ORC) power generation uses a carbon-based working fluid with a low boiling point, to capture low-grade heat and convert it into electricity. This technology is similar to traditional steam turbine but the crucial difference is that rather than using water vapour, the system vaporises a high-molecule-mass organic fluid, for excellent electric performance.

- The Group's ORC waste heat recovery facility started operations since July 2020.
- For the year 2022, the project generated a total of 9,909,942.00 kWh, whereby an equivalent of 5,797.32 tCO2e was avoided compared to fossil-fuel generation.

Waste Heat Recovery	2021	2022
Energy Produced (Electricity)	7,254,829 kWh	9,909,942 kWh



Solar PV systems harness the power of the sun to generate electricity. In 2022, we have a total of 4 awarded projects with a total capacity of 5,978.4 kWp output. We will continue to pursue aggressively solar projects that has been proven to be one of the cleanest energy generation technologies to-date.

The Group is proud to have increased solar photovoltaic energy generation by more than twenty (20) times from 2021 to 2022. In 2022, the Group has avoided the total of 2,955 tCO2e through its renewable energy generation.

Solar PV System	2021	2022	
Energy Produced (Electricity)	214,572 kWh	5,051,779 kWh	





While managing our energy mix and energy balance, the Group is also focusing on reducing our emissions. For the initial stages, we have begun focusing on energy and Scope 1 and Scope 2 emissions throughout the Group, in line with our Environmental Policy and our Net Zero Commitments. *The Group is aspiring to achieve its Scope 1 and Scope 2 emission Net Zero goals by 2050*. In the later stages of our planning, a more comprehensive list of Scope 3 emissions would be identified for upstream and downstream activities, whereby our Net Zero goals would include our Scope 3 emissions.

We base all our management and calculation of emissions data based on the GRI Standards and also the GHG Protocol Corporate Accounting and Reporting Standard (Revised Edition). For more in depth qualitative and quantitative information, please refer to KAB's Sustainability Report 2022.

Total Scope 1 of the Group			2021	2022
Emissions (tCO ₂ e)			1,756	4,018.56
Energy indirect – Purchased Electricity	2019	2020	2021	2022
Emissions (tCO ₂ e)	55.8	49.0	59.3	63
Total Scope 1 and Scope 2 of the Group			2021	2022
Emissions (tCO ₂ e)			1,815.3	4,081.56



Since 2021, the Group has begun to track air travel in our business which is a part of Category 6: Business Travel in accordance with GHG Protocol. This category includes emissions from the transportation of employees for businessrelated activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars. However due to the pandemic, business travel is increasingly limited not to mention severe restrictions on air travel.

For business travel (air travel) calculations, 2021 has been set as the base-year moving forward, as reported in the previous year's Sustainability Report. Estimation is based on airport-to-airport flight distance estimations. From 2022, emissions factor of the Group refers to the Carbon Trust's Energy and Carbon Conversion 2022 Update for short haul flights based on passenger kilometres (pkm). A total number of 12,568.00 pkm was estimated for the year 2022.

In 2022 the Group continues to track significant Scope 3 emissions that come from our employee commuting (Category 7: Employee Commuting), whereby 2021 has been set as the base-year. The average data method in accordance to GHG Protocol is used as the base for calculations, with parameters including two hundred sixty-one (261) working days (average five (5) working days a week) in Malaysia in 2021 and assumption that employees use private passenger cars, and an average of 20km round-trip per day for commuting to work.

Total Scope 3 Emissions (Category 6 and 7)	2021	2022
Emissions (tCO ₂ e)	20.65	21.48



PLEASE REFER TO KAB'S
SUSTAINABILITY REPORT 2022 FOR
MORE INFORMATION OF THE GROUP'S
OVERALL ECONOMIC, ENVIRONMENTAL
AND SOCIAL (EES) DISCLOSURES

For enquiries, please contact us:

Kinergy Advancement Berhad
Formerly known as Kejuruteraan Asastera Berhad
No. 18, Jalan Radin Bagus 9, Bandar Baru Sri
Petaling, 57000 Kuala Lumpur, Malaysia.

kab@kinergyadvancement.com kabinvestor@kinergyadvancement.com

