





PUBLICATION OF
ECONOMIC PLANNING UNIT SARAWAK
DEPARTMENT OF THE PREMIER OF SARAWAK
WISMA BAPA MALAYSIA

PETRA JAYA, 93502 KUCHING, SARAWAK

MALAYSIA https://premierdept.sarawak.gov.my

TABLE OF CONTENTS

	Page
Introduction	4
Sarawak's Transformation	5
Post Covid-19 Development Strategy 2030	6-12
Digital Economy	13-22
Human Capital Development	23-28
Key Innovative Initiative for Sustainable, Inclusive and Prosperous Sarawak	29-55
Acknowledgement	56-57

INTRODUCTION



2023 marks the 60th anniversary of Sarawak's independence.

Sarawak has made several remarkable achievements — we see how the economy has grown from a traditional agrarian economy into a more diversified and dynamic economy. Sarawak's GDP value increased by 20 times, from a mere RM7 billion in 1963 to RM140 billion in 2022, while Sarawak's total trade value expanded 282 times.

Looking ahead, Sarawak aspires to develop a thriving society driven by data and innovation by 2030. To realise this goal, the Sarawak Government launched the Post COVID-19 Development Strategy (PCDS) 2030 in July 2021, anchored on three pivotal pillars, namely Economic Prosperity, Social Inclusivity and Environmental Sustainability. Embarking on this transformative journey, Sarawak focuses on developing the new economy. Various innovative initiatives have been planned and/or are being implemented such as digital infrastructure, education, human capital development, renewable energy and green initiatives.

As digitalisation and innovation form an essential component of the new economy, the Sarawak Government launched the Sarawak Digital Economy Blueprint (SDE) 2030 during the World Congress on Innovation and Technology | International Digital Economy Conference (WCIT | IDECS) 2023 on 4 October 2023. SDE 2030 outlines how Sarawak will sustainably secure the future as a leading digital economy and society by 2030. This strategic initiative is crucial to foster an environment conducive to both economic development and innovation, ensuring sustainable growth and prosperity for Sarawak.

This publication highlights some of the innovative initiatives that are being implemented towards making Sarawak a more sustainable, competitive and inclusive economy.

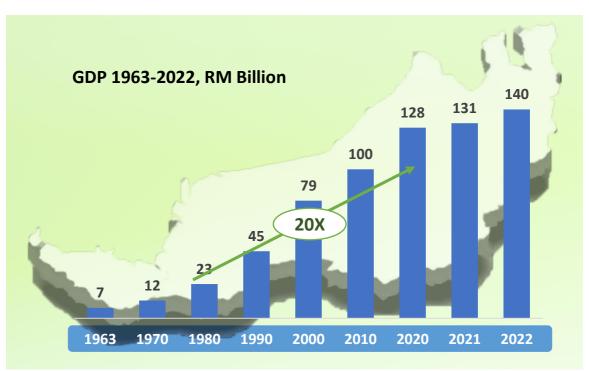


Economic Planning Unit SarawakDepartment of the Premier of Sarawak
November 2023

SARAWAK'S TRANSFORMATION

Over the past 60 years, Sarawak's economy has transformed from subsistence farming to a more diversified and industrialised region – emerging as a major economic player in Southeast Asia.









"By 2030, Sarawak will be a thriving society driven by DATA AND INNOVATION where everyone enjoys economic prosperity, social inclusivity and environmental sustainability."



Launching of PCDS 2030 by YAB Premier Sarawak on 21 July 2021

TOWARDS PROGRESSIVE & PROSPEROUS SARAWAK



"Sarawak aspires to be a **developed** and high-income state by 2030. This entails doubling the size of Sarawak's economy from RM136 billion in 2019 to RM282 billion in 2030 with a targeted annual growth of between six to eight percent through PCDS 2030."



"Big data is the "new oil" in Sarawak that will provide economic value and drive environmental and energy sustainability."

"Sarawak needs more **skilled data analysts** among its locals, as the state moves towards digitalisation."

"...the people should equip themselves with the **knowledge and skills**."

"Leveraging on the natural resources in Sarawak, innovation will focus on developing R&D capabilities and commercial applications aligned to technologies, digital applications, and renewable energy."



SARAWAK'S ASPIRATION BY 2030



Economic Prosperity

Grow GDP at ~6-8% per year and achieve RM282 billion

Social Inclusivity

Increase median monthly household income from estimated RM4,500 in 2019 to RM15,000

Environmental Sustainability

Enjoy clean and healthy environment, supporting Malaysia's commitment to reduce greenhouse gas (GHG) emissions intensity by 45%

KEY ECONOMIC SECTORS TO DRIVE SARAWAK'S GROWTH



- High-Value Downstream Activities
- Modernisation and Commercialisation of Agriculture
- Leading Destination for Eco-tourism and Business Events
- O4 Sustainable Management of Tropical Forests and Biodiversity Conservation
- Exploration of Oil and Non-oil Mineral Resources
- High Living Standard, Healthy and Inclusive Society

KEY ENABLERS TO SUPPORT PCDS 2030



Adoption of Digital Technology to Increase Efficiency & Productivity
Development of New Solutions and Products
Building a Future-Ready Workforce Through Quality Education
Reliable Access to Social and Economic Hubs
Reliable, Economical, Safe and Sustainable Utility Services
Efficient Connectivity Using Low Emission Technology

Affordable, Reliable and Renewable Energy

07

7 STRATEGIC THRUSTS

Economic Structure



Transforming Sarawak into a competitive economy by increasing productivity level, developing more high-value downstream activities and creating new industries

Ease of Doing Business



Improving ease of doing business and making Sarawak an investment destination of choice

Targeted Spending



Spending on areas that yield the most economic, social and environmental impact

Optimise Assets and Human Capital



Optimising the use of assets and government funding and developing human capital to support socioeconomic development

Digital & Execution



Accelerating digital adoption and data utilisation to generate outcomes

Social Inclusivity



Driving economic and social benefits for all Sarawakians, focusing on the impoverished segment of the population

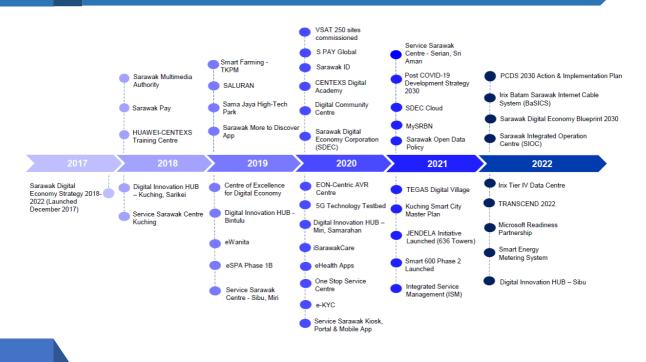
Environmental Sustainability



Balancing economic growth with environmental sustainability



SARAWAK'S JOURNEY



WHAT IS FOR SARAWAK?

Society

Job opportunities and improved social wellbeing



High/semi-skilled jobs



All students & household with access to internet



Increase household income



Lower GINI Index

Business

New business models and access to global market



Contribution to Sarawak GDP & productivity



New high-tech start-ups



Growth in Digital Investment



Digitalised MSMEs

Government

Improved public service delivery



Secure online government services



Digitally literate civil servants



Cashless payment option offered by ministries & agencies



Enhanced data protection, privacy & security

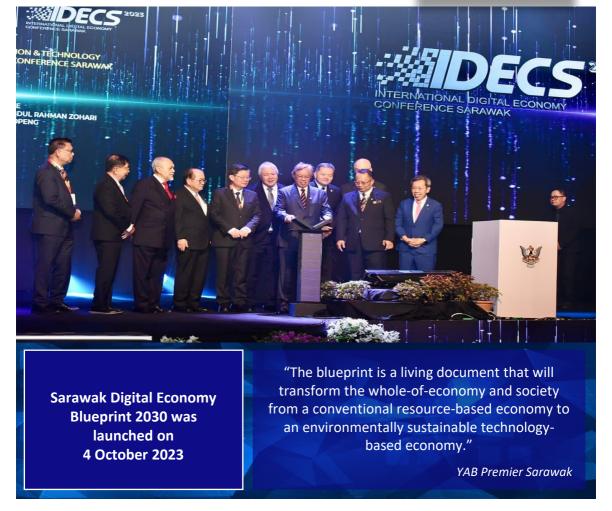
THE FUTURE LIES WITH DIGITALISATION

I Initiatives under S'wak Digital Economy Blueprint to contribute 20 pct to GDP

"The blueprint targets Sarawak to tap a percentage of the global digital economy to flow into Sarawak through strategies to grow cross-border data flow by establishing data centres, digital services delivery and digital foreign direct investments."

YAB Premier Sarawak, 24 May 2023





BRIDGING THE DIGITAL GAP ACROSS SARAWAK



In 2018, Sarawak embarked on a digital economy initiative to drive the State's economy towards achieving high-income and developed status by 2030 through digital transformation. This strategic move aims to ensure that Sarawak will not be left behind, as most developing countries are already at the forefront of the digital economy.



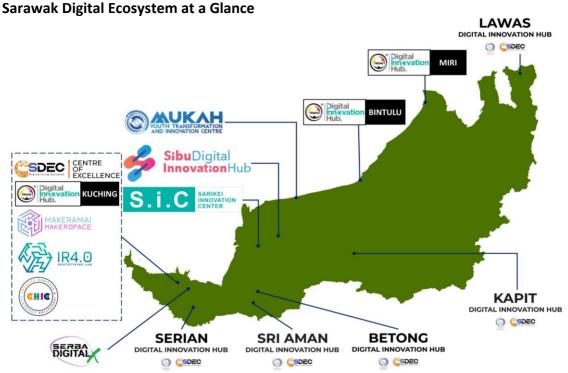


INVESTING IN DIGITAL ECONOMY ENABLERS



"Digital economy will create an entirely new dimension of development and growth for Sarawak, including creating new jobs for young people in urban centres and rural areas, transforming the way we live and do business."

YAB Premier Sarawak, 22 Nov 2022



BUILDING A SMART CITY ECOSYSTEM TOWARDS A DEVELOPED SARAWAK BY 2030



KUCHING SMART CITY MASTER PLAN

2021



A Roadmap to Realise Smart Kuching of the Future



The Sarawak Government is taking a forward-looking approach through Smart City initiatives to improve the ease of doing business and make Sarawak an investment destination of choice. The Sarawak Smart City ecosystem is designed to be a secure, open, and technology-agnostic platform enabling a lower total cost of ownership and faster development and implementation.

Focus Areas

- 1 Physical Infrastructure and Utilities
- Smart City:
 Housing and Urban Development
- Smart City:
 Transport, Logistics and Supply Chain

To create safer road environments for all users - Collect and record data on traffic flow and volume. vehicle colour, classification, model and brand, travelling speeds, vehicle plate registration number and automatically detect record vehicles exceeding the speed limit and record driver offences for effective more enforcement action.



Artificial intelligence (AI) violation detection camera system at the Merbau-Miri-Pujut traffic light intersection

TOWARDS A DIGITAL UTILITY

24-hour real-time data to improve water supply service to customers



Smart Water Supply System Integration

To become a digital utility, Sarawak Energy will be replacing conventional meters with smart meters equipped with advanced metering features to enhance customer experience and provide prompt billing services based on real-time consumption.







TOWARDS SEAMLESS GOVERNMENT SERVICES





The goal of Sarawak Digital Government is to build seamless government services for citizens and businesses through innovative digital technology.



- ✓ Open Government
- ✓ Data-Centric Government
- ✓ Innovative Government
- ✓ Excellent Service Delivery
- ✓ Excellent Digital Governance



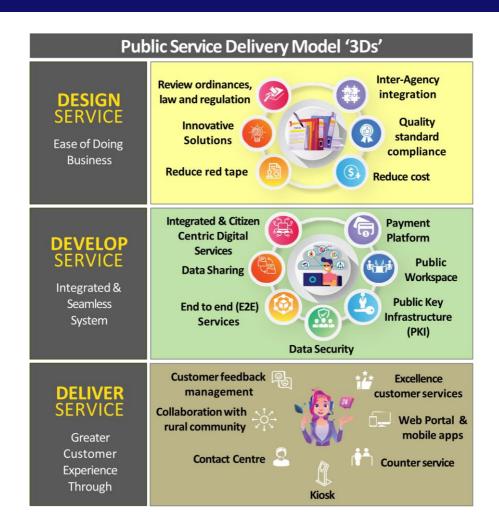




The Sarawak Government has introduced a range of digital services through mobile applications, aiming to enhance convenience for the public.

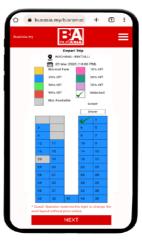


IMPROVE EASE OF DOING BUSINESS



Purchase of Bus Asia etickets to 10 destinations in Sarawak and Pontianak





SARAWAK ID



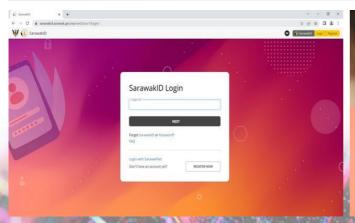
EXCLUSIVE ACCESS TO SARAWAK GOVERNMENT ONLINE SERVICES

Through SARAWAK ID, you are able to perform transactions and submit applications of...

- Bill Payment
- Government Assistance
- Permit
- Job Vacancies
- Scholarship
- Public Feedback
- and many more...



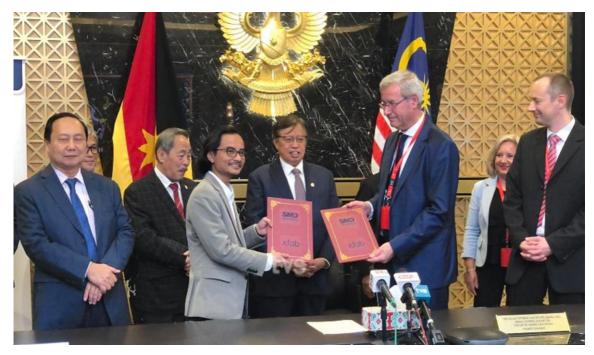
REGISTER YOUR Sarawak ID NOW TO ACCESS ALL STATE GOVERNMENT SERVICE THROUGH DIGITAL CHANNELS ONLINE, ANYTIME ANYWHERE.







SARAWAK TOWARDS A SUSTAINABLE FUTURE



Sarawak Microelectronics Design (SMD) Semiconductor collaborating with the Centre for Technology Excellence Sarawak (CENTEX), Sarawak Skills, Melexis from Belgium, X-Fab (Sarawak) from Germany, Synopsys and Cadence from Silicon Valley, United States of America to develop human capital and foster local talent in the field of semiconductors and chip design.



WELL-TRAINED AND KNOWLEDGEABLE HUMAN CAPITAL

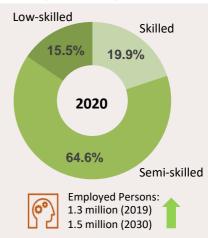


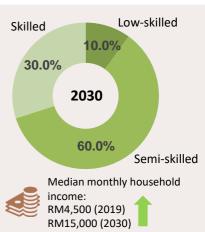
Powering Young Minds to support and encourage the revolution of innovative ideas. STEM Trailblazer is among the many initiatives to showcase the best talents Sarawak has to offer and accelerate innovation and digital skills among young children through the use of Raspberry Pi.





Sarawak prioritises cultivating highly skilled human capital through a world-class education system to achieve high-income developed status by 2030.







PROMOTING SCIENTIFIC LITERACY AMONG SARAWAK RESIDENTS

Sarawak aspires to become a part of the Southeast Asian hub for scientific discoveries



Sarawak Science Centre









Complement STEM syllabus in schools. Fun, hands-on, non-formal learning opportunities to promote scientific literacy among Sarawakians.

DEVELOP DIGITAL TECHNICAL AND CREATIVE TALENTS





Malaysia's first 5G testbed goes online in Sarawak, 14 Aug 2020

Huawei Malaysia in partnership with the Sarawak government supports Sarawak's Digital Economy Transformation Agenda, particularly to develop digital talent and innovate technology.





TEGAS-Shell Malaysia partnership in the implementation of the Shell LiveWIRE programme in Sarawak to empower local entrepreneurs with the knowledge, skills, and network to succeed, especially in this digital era



Centex collaborates with Juma'ani Pavilion, Borneo's first fashion hub to drive the State's creative economy and increase Sarawak fashion products' global presence

STRENGTHENING SKILLS AND TALENT CAPACITY FOR SUSTAINABLE COMMUNITY

Catalyse Community's Socio-Economy through Digital Inclusivity

To provide ICT services platform & support (Digital Infrastructure & Services)



To offer local entrepreneurs with socio-economy development and supply chains (Social Entrepreneurship)

To enhance community digital skills & building talent capacity (Skills-based Economy)





UNIMAS Service Learning



PANDei: GrabFood



Accelerate Program



Makerspace: 3D Pen



Kids e-Learning



Reading Seeds



Digital Literacy: Canva



Children Activity: Art & Craft



KEY INNOVATIVE INITIATIVES FOR SUSTAINABLE, INCLUSIVE AND PROSPEROUS SARAWAK

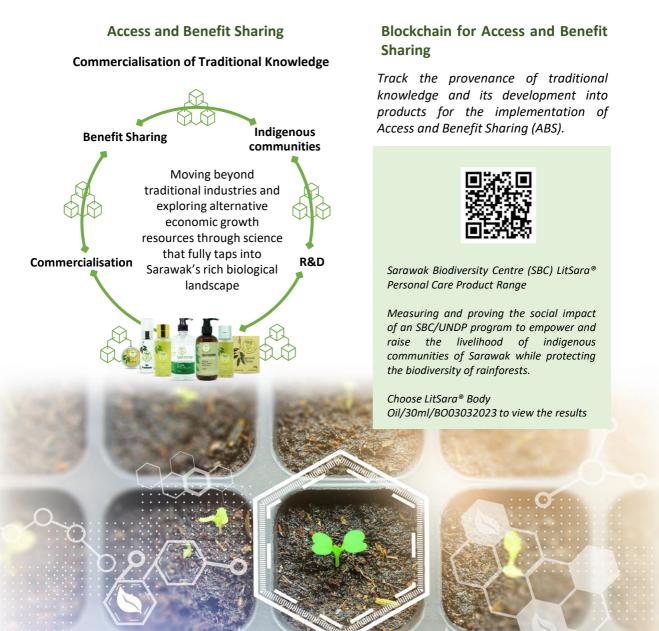
DEVELOP RESEARCH & DEVELOPMENT AND COMMERCIAL CAPABILITIES

Leveraging Locals' Natural Resources Knowledge, Creating Opportunities

"Innovation across the key economic sectors in Sarawak will enhance productivity and develop new solutions and products for domestic and export markets. Leveraging on the natural resources in Sarawak, innovation will focus on developing R&D capabilities and commercial applications aligned to technologies, digital applications, and renewable energy."

YAB Premier Sarawak

30



LEVERAGING LOCALS' NATURAL RESOURCES



Sarawak Bioindustrial Park (SBP), Kota Samarahan

Size area : 100 acres

Objectives: Platform for local & international private bio-industry

players to carry out the production process of bio-based

products

Focus: bioactives, biohealth, biomaterials, bioenergy and

bioenvironmental



SBP can leverage SBC's Traditional Knowledge and Access and Benefit Sharing programs to provide investors with access to sustainable resources through Sarawak's local communities.

These programs aim to transform plants used by local communities into marketable products, generating income through the establishment of community agriculture.

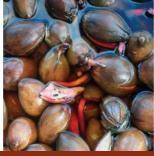
UNLEASH THE POTENTIAL OF BIORESOURCES



Sarawak Biodiversity Collaboration between Centre and UNDP, supported by Sarawak Digital Economy Corporation and Ministry International Trade, Industry and Investment to help Sarawak's community-based sector and Micro, Small and Medium Enterprises (MSMEs) recover from the business crisis affected by COVID-19.















Sekiu oil is extracted from the seed kernel of a sekiu fruit -Traditionally used by the Melanau community as a food flavouring

MICROALGAE AS A GREEN FUEL SOLUTION FOR AVIATION

Current



1st in Malaysia to demonstrate the viable use

of flue gas to enhance the production of algae

The largest facility of its kind in the world

2023

Microalgae as a green fuel solution to produce Sustainable Aviation Fuel (SAF)



MATSURI Consortium:

100 Ha: 7,000 tons of biomass per year 2000 Ha @ 140,000 tons of biomass per year

Job creation: up to 5,000

Decarbonisation: 200,000 tons annually

2030



Biomass per year: 6 tons Living collection: 653 Sarawak

species of Algae

First of its kind in Southeast Asia

2019



Biomass per year: 350 tons

on an industrial scale





Sample of algae collected from the tank at the algae nursery

Sarawak has plans to scale up the cultivation of microalgae to 1,000 acres to produce about 500,000 tonnes per annum of crude algae oil.

This can be equated to about 10,000 barrels of oil per day with about 37 percent extraction rate of crude algae oil from the algae biomass.



Sustainable Aviation Fuel (SAF): A new source of wealth from our biodiversity



APPLICATION OF IOT IN AGRICULTURE

Permanent Food Production Park (TKPM) is implemented to encourage large-scale, commercial and high-technology agriculture projects by the entrepreneurs and the private sectors.





TKPM Rampangi has 40 rain shelter structures and is equipped with IoT







"With the help of IoT, I don't have to be on the farm 24 hours a day. While sitting in a coffee shop, I can manage my farm and plants. Save time, save energy and the result is also high. As long as there is electricity and internet, I can farm from anywhere," says Yuan.

Extracted and translated from Utusan Sarawak





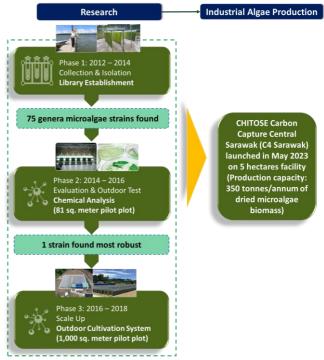
MICROALGAE AS A MODEL FOR ENVIRONMENTAL PRESERVATION

Exploring and Engaging with Innovative New Technologies to Embed Sustainability

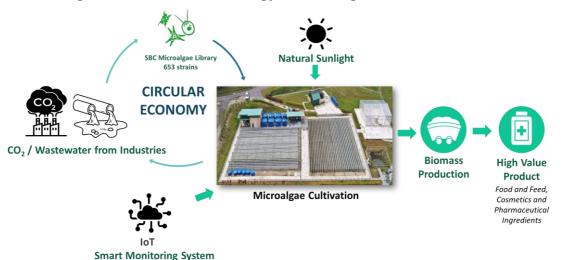
A milestone towards achieving a sustainable green economy for Sarawak, aligned with its Green Energy Agenda







Microalgae cultivation as our strategy in achieving net-zero carbon emission



PROMOTING MODERN AGRICULTURE THROUGH PRECISION FARMING

Realising Sarawak's Goal of Becoming a Net Food Exporter by 2030

Premier: S'wak strongly emphasises food production, agriculture R&D to produce quality food

"As a food producer, we give strong emphasis on R&D on rice and others, like prawns. The world population has increased and is roughly about 7 billion now. Some have predicted that by 2050, the world population could go up to 10 billion and this is possible, and it is feared that there will a shortage of quality food as the world population grows."

Sarawak had to work on reducing its reliance on import so as to enhance its economic performance.



Navigating the Future of Agriculture through Precision Farming

Promoting modern agriculture to improve the socio-economy of local farmers

Targeted farmers' income by 2030: RM6,000.00 per month

Smart and precision farming Yield Productivity Production Efficiency Access to Market







GEOSPATIAL TECHNOLOGY THROUGH ELECTRONIC LAND & SURVEY INFORMATION SYSTEM (e-LASIS)

Land Management

real-time land information is available at your fingertips

Electronic Land and Survey Information System (LASIS)

e-LASIS Web version

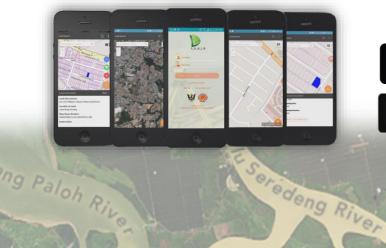


Scan the QR Code below to access the LASIS web version



https://elasis.sarawak.gov.my

e-LASIS Mobile version

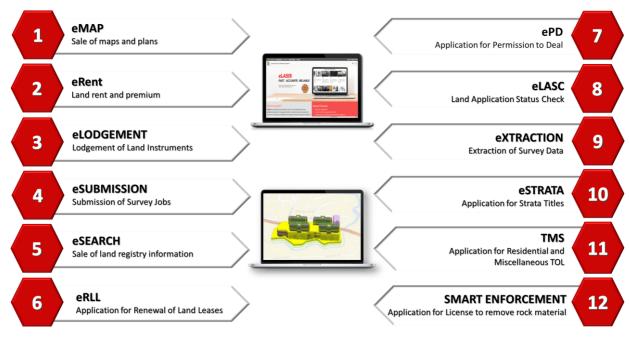


Scan the QR Code below to download the LASIS Mobile App version



DIGITAL REAL-TIME INFORMATION FOR BETTER LAND MANAGEMENT AND ADMINISTRATION

eLASIS Services



Land Search: Location, landmark, title number, selection from screen, latitude and longitude coordinates

- 2 Extract & Full
 Print-out of Land Title
- 3 Extract & Full Print-out of Strata Title
- 4 Map Sales

1

- Outstanding Rent & Premium
- SPayGlobal (e-Wallet)
- Section 47 Check(Land likely to be needed for Public Purposes)
- Section 48
 (Land needed for Public Purposes)

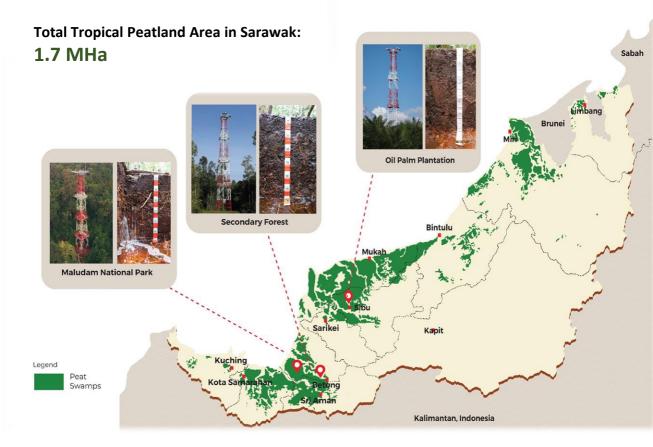




Mobile LASIS is a Global App Accessible within and outside Malaysia

- 9 Application for Renewal of Land Leases (RLL)
- Land Usage Conversion (Agriculture to Residential)
- Distance Measurement & Area Calculation
- 12 My Application Check
- 13 Current Location Marker
- Basemap Option (Esri Here Map)
- 15 Indicative Value for Agriculture Land
- 16 Import KMZ (Keyhole Markup Language) file
- 17 Rock Material License Info

DISTRIBUTION OF TROPICAL PEATLAND IN SARAWAK



Tropical Peatland Research Activities



SARABOM INNOVATION FOR GREENING SARAWAK

Our commitment:

Plant 35 million trees statewide by 2025

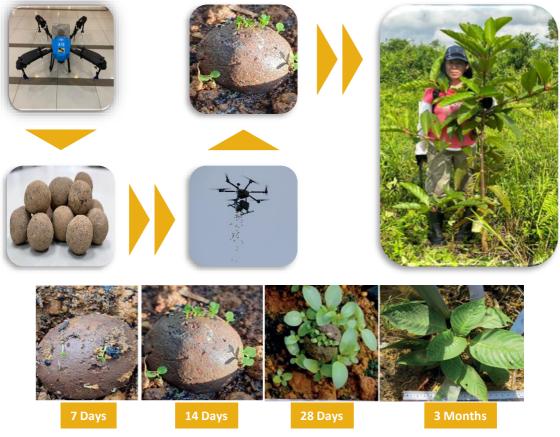
In May 2021, Sarawak's seed-ball @ SaraBom project was initiated to speed up the goal of growing and expanding Sarawak's forest cover.

SaraBom - improved biological capacity resulting in healthy plant growth, increased germination percentage and increased seed resistance to predators and harsh environments.



Throw-and-Grow Approach

300,000 seed balls of six indigenous forest tree species were deployed in 2022 (Neolarmackia cadamba, Nauclea orientalis, Duabanga moluccana, Cratoxylum arborescens, Syzygium grande and Campnosperma coriaceum)



SARABOM INNOVATION

Objectives

- To develop a new planting method in achieving time and cost-saving
 - To fast-track the rehabilitation and reforestation effort especially in inaccessible forest areas
- To generate forestry-related revenue through commercialisation and mass production of seed balls

Initiatives

Creation of Sarawak's designer seedbombs known as SaraBom



Use of drone to manoeuvre precision planting where reach is limited



Engagement of forestry-related industries and local community



Seed Bombing Strategy

- Acquisition of spatial data
- Ground truthing

02

- Selection of tree species & seed collection
- Production of Seedball
- Seed bombing through drone

Benefits

- Plant over 7,000 seed balls at 1 had degraded area within 55 minutes
- 15.9 times faster than traditional planting method
- ❖ 58.4% lower in cost

Impacts



Sarawak Post COVID-19 Development Strategy 2030

 Sarawak value of Timber industry is RM6.31 billion



Cut Carbon Intensity Per Unit of GDP by 45% by 2030



Carbon Trading Potential

- RM140 Million RM230 million by 2025
- 1 million hectares of high-yield forest plantation



Social Inclusivity

Entrepreneurship through commercialisation of Sarabom in support of SDG1 (no poverty) and SDG2 (zero hunger)

REALISING SARAWAK'S CARBON TRADING POTENTIAL



Reduce Greenhouse Gas Emissions by Conserving Forests or Restoring Degraded Forests

Sarawak has the potential to create carbon sinks from its Permanent Forests, promote carbon sequestration and undertake tree planting schemes for carbon credits

62% Sarawak Land under Forest Cover

6 million hectares Permanent Forests

1 million hectare Totally Protected Areas



Putting in place the laws and regulations

Amendment of the Sarawak Land Code and Forests Ordinance, Sarawak made the first region in Malaysia to permit carbon and nature venture businesses.

Forests (Forest Carbon Activity) Rules 2022 took effect on 1 January 2023

Global carbon credit market traded value

2022 : USD978.56 billion

2028f : USD2.68 trillion 2.

2.7X

Carbon credits will provide a new source of revenue for Sarawak ranging from RM315 million to RM1.039 billion annually.



Samling Group obtained a license through its subsidiary, SaraCarbon Sdn Bhd, to conduct a study to start a carbon nature-based project in their industrial tree plantation area in Marudi, near Miri.

EXPLORING BIOMASS ENERGY PRODUCTION

Plant Fast-Growing Trees



First plant cloning laboratory in Sarawak, which cultivates tissue cultures, to produce RT-Paulownia clones

RT-Paulownia







Wood pellets for biomass energy production



WASTE TO ENERGY (WtE) - BIOMASS

Waste to Energy - Biomass

Recovery, treatment and utilisation of sago milling wastes to conserve our environment while at the same time converting waste into wealth for the industry players.

Circular Economy in Agriculture

Commodity: Sago



Application No. PI2021001811

System for Treatment of Agricultural Waste and Process

Filing date: 07 April 2021

Indonesia Patent Application No. P00202203798 Sistem dan Proses Pengolahan Limbah Pertanian

Filing date: 29 March 2022

Phase III: Sago BioCNG Plant & Gas Distribution



Location	Number of Piped Gas Connections
Kpg Teh	93 households (77%) 15 public facilities
Kpg Tabo	37 households (100%) 2 public facilities
TOTAL	147

7 AFFORDABLE AND CLEAN ENERGY













ALIGNING SARAWAK'S COMMITMENT TO CLIMATE ACTION THROUGH CARBON CAPTURE AND STORAGE



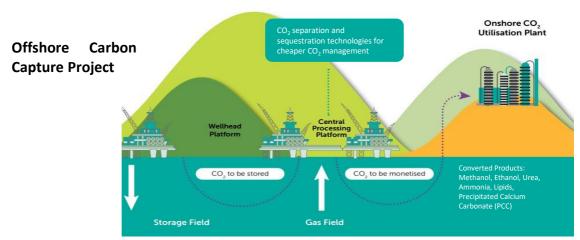
Review of Policies and Ordinances

- ✓ Amendment to Sarawak Land Code enables carbon capture usage and storage
- ✓ The right to capture and store carbon belongs to Sarawak





What is Carbon Capture and Storage? (CCS)



CARBON CAPTURE AND STORAGE (CCUS)

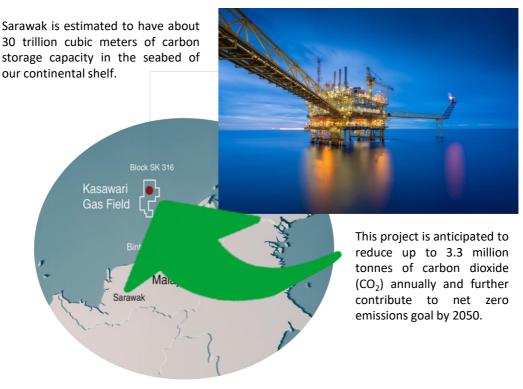
Sarawak owns all Carbon Storage sites located onshore & offshore

Positioning Sarawak to be the CCUS Heartland for the Asia Pacific Region



- Regulations covering the life cycle of CCUS
- · Technical know-how to manage CCUS opportunities and execute CCUS projects and hubs
- · Fit-for purpose business model & favourable fiscal

Carbon Capture and Storage (CCS) project at the Petronas Kasawari Field



CONSERVING AND PROTECTING MARINE ECOSYSTEM

Sarawak Reef Ball Project (SRBP) as part of its marine conservation initiatives

Solution to deter destructive trawling practice while simultaneously restoring degraded marine ecosystem.

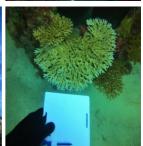
In year 2019, Sarawak Government granted RM70 million fund to deploy 16,800 Reef Ball units along Sarawak coastal waters to conserve and protect the marine ecosystem while enhancing marine resources, protect artisanal fishing community and fishing ground from illegal trawling activities.











Objectives

- Mangrove planting
- Protection of traditional fishing grounds from fishing trawlers
- Anchorage for mooring buoy
- FAD for fisheries resources enhancement
- Wave breaker for erosion control and beach protection
- Critical habitat protection
- * Reef restoration and enhancement
- Memorial Reef
- SCUBA diving site for Eco-Tourism and recreational fishing site
- Protect artisanal fishing ground from trawling vessel



















SARAWAK REEF BALL PROJECT

Sarawak Government committed to protect the marine ecosystem. 600 units of reef ball were deployed in the coastal waters in conjunction of Pesta Belawai.





2018







Reef Ball deployment works were carried out extensively, completing the southern, central and northern corridor of the reef ball line

2021

The reef ball project had begun the monitoring work for places where reef ball deployment were completed.







Over 16,800 units of reef balls have been deployed in the coastal waters of Sarawak. The final drop of the reef ball unit were graced by the YAB Premier of Sarawak, it was laid on the seafloor of Telaga Air.



Total of RM 70 million for Sarawak Reef Ball Project for deployment of a total 16,800 units of artificial reef called Reef Ball along the coastal waters of Sarawak in 2019 to 2022.





In October 2019, 1,200 reef ba units were deployed alo Oya – Mukah coastal strip



Reef ball units are deployed in the Southern Coast despite the pandemic of COVID-











Shift focus to monitor of the impact of the project towards the marine biodiversity and the community livelihood improvement to measure the success of the project.

Way Forward



Develop Sport fishing and SCUBA diving sites for local community



Pilot project for coral mariculture for economic development



To gazette and enforce Sarawak Marine Corridor National Park (400,000 km²)



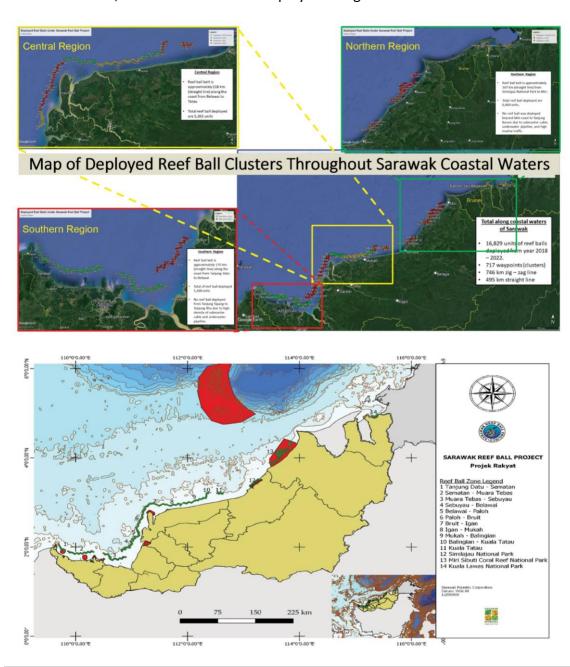
Pilot Project for Blue Carbon Initiative (Nature-Based Solution)



Earth, Sea and Sky Project for conservation of biodiversity

SARAWAK REEF BALL PROJECT

2018-202216,829 units of reef balls deployed along Sarawak's coastal



TRANSITION TO A MORE SUSTAINABLE AND LOW-CARBON ENERGY SYSTEM THROUGH HYDROGEN



Hydrogen as Source of Energy for Sustainable Mobility Choices

Sarawak leverage on water resources to produce carbonfree hydrogen



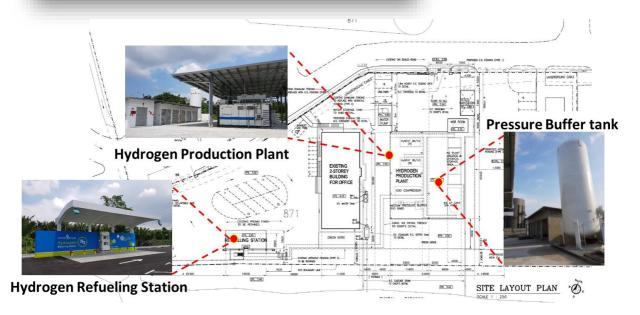
Commissioned on 27 May 2019

Demonstration Pilot Project

Production capacity: 130kg H₂ per day

Hydrogen purity: 99.999%

Supports up to 5 fuel cell buses and 10 fuel cell cars



HYDROGEN PROJECTS IN SARAWAK

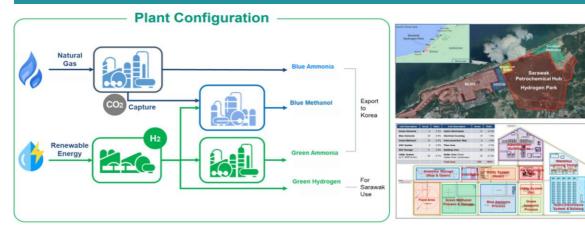
Hydrogen in Bintulu

Bintulu as the hub for the hydrogen economy

Project H2rbill Overseas hydrogen usage Hydropower-derived green hydrogen martiacture Hydropower-derived green mydrogen mydrog

- Collaborative Partners: Sumitomo & Eneos
- Estimated Timeline: 2027/2028
- Key Components: For both local use and Methylcyclohexane (MCH) Facility

Project H2biscus



- Collaborative Partners: Samsung Engineering, Posco & Lotte
- Estimated Timeline: 2027/2028
- Key Components: Exporting Hydrogen as Ammonia (NH3) to Korea

HYDROGEN POWERED-TRANSPORT









First public hydrogen refuelling station for Hydrogen Fuel Cell Vehicles In Sarawak, Malaysia

Hydrogen in Kuching



Hydrogen to support Sarawak's public transportation system

- Kuching City Transportation System (KUTS)
- Automated Rapid Transit (ART)

Hydrogen Production Plant and Refueling Station

- Location: Rembus, Samarahan
- Timeline: 2025
- Key components:
 - Minimum 5 ton of H₂/day capacity at the Hydrogen plant
 - ii. Proton Exchange Membrane/Alkaline Electrolysers
 - iii. Compressed H₂ Mobile Storage
 - iv. Other related equipment (BOP, electrical components, auxiliary systems, etc.
 - v. Distribution systems

TRANSFORMING SARAWAK'S PUBLIC TRANSPORT

Eco-friendly Kuching Urban Transportation System (KUTS)

Autonomous Rapid Transit (ART)



Sarawak's Target:

Carbon footprint from land transport in **Kuching City** by 15% by 2030

Traffic growth of 2% per annum. save 36,000 hours of daily travel time

Timeline

Feb 2018 Sarawak Metro Sdn Bhd incorporated as a wholly-owned subsidiary of SEDC to undertake the KUTS project

Sept 2019

Sarawak Metro Sdn Bhd is operational

2021 Issuance of Letter of Award for Scheme Design Consultant in Q2

Issuance of Letter of Award for Detailed Design Consultant in Q4

2023

ART Proof-of-Concept to begin in Q3

Rembus depot package Package 1 blue line Package 1 red line

O

2025

Revenue Service for Blue Line to begin in Q4

2027

Revenue Service for

June 2018

Feasibility study for KUTS project completed

2020

Environmental, Social, Heritage Impact Assessment for

the KUTS project begins

2022

Issuance of Letter of Award for System Package 1 of KUTS in Q3

Issuance of Letter of Award for System Package 2 of KUTS in Q4

Civil & Structure Works to begin in Q4

П

ı

Green Line to begin in Q4

2026

Revenue Service for Red Line to begin in Q4

Sarawak Metro **Highlights in 2022 & 2023**



18 July 2022

Handover of Letter of Award (LOA) for the Kuching Urban Transportation System (KUTS) Project's System Package 1



23 November 2022

Handover of LOA for the KUTS Project's System Package 2 contract to the winning DOM-EEB Joint bidder, Venture



16 December 2022

The Official Launching of KUTS Project - Phase 1 by the Premier of Sarawak, The Right Honourable Datuk Patinggi Tan Sri (Dr) Abang Haji Abdul Rahman Zohari bin Tun Abang Haji Openg



2024

Package 2 blue line

Package 1 green line

25 January 2023

Sarawak Metro attains three



5 August 2023

Arrival of Prototype ART H2 Vehicle for Stage 2 Proof-of-Concept Exercise

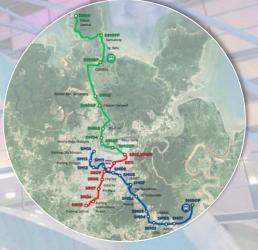
LAUNCH OF PROTOTYPE AUTONOMOUS RAPID TRANSIT ENGINEERING RUN



Launch of the prototype ART hydrogen-powered vehicle engineering run, 6 September 2023.

Proof of Concept (PoC) to begin in November 2023.

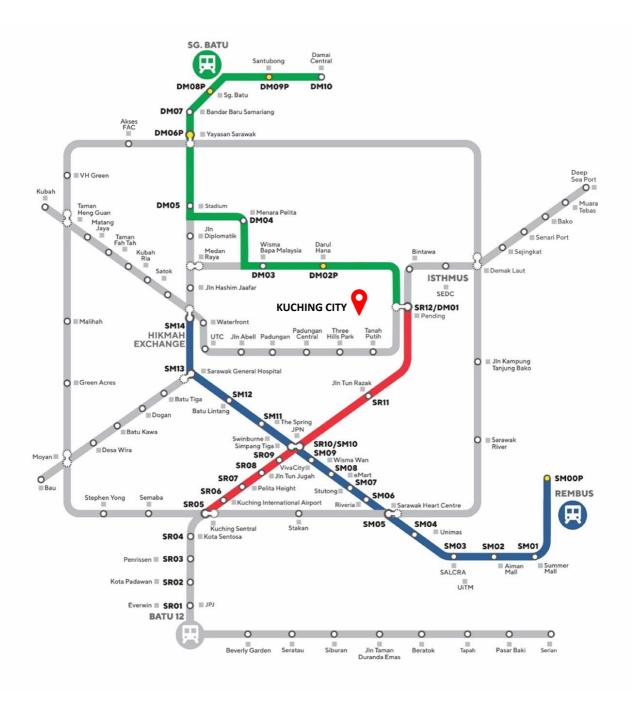








AUTONOMOUS RAPID TRANSIT ROUTE





ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

The successful completion of this document is made possible with input from various stakeholders.

Their contributions are gratefully acknowledged.

- Ministry of Utility and Telecommunication
- Ministry of Food Industry, Commodity and Regional Development
- Ministry of Transport
- Ministry of Education, Innovation and Talent Development
- Ministry of Energy and Environmental Sustainability
- Land and Survey Department Sarawak
- Department of Agriculture Sarawak
- Forest Department Sarawak
- Sarawak Civil Service Digitalisation Unit
- Sarawak Multimedia Authority
- Sarawak Biodiversity Centre
- Sarawak Economic Development Corporation (Energy)
- Sarawak Forestry Corporation
- CRAUN Research
- Sarawak Information Systems Sdn. Bhd.
- Sarawak Digital Economy Corporation
- Sarawak Tropical Peat Research Institute
- Sarawak Metro Sdn Bhd
- Centre for Technology Excellence Sarawak









For inquiry please contact:

ECONOMIC PLANNING UNIT SARAWAK
DEPARTMENT OF THE PREMIER OF SARAWAK
WISMA BAPA MALAYSIA
PETRA JAYA, 93502

PETRA JAYA, 93502

KUCHING, SARAWAK MALAYSIA

https://premierdept.sarawak.gov.my