Sarawak Government

SARAWAK

13TH MALAYSIA PLAN 2026 – 2030

MAIN REPORT

Published By:

ECONOMIC PLANNING UNIT SARAWAK
DEPARTMENT OF THE PREMIER OF SARAWAK
6th, 7th and 12th Floor
Wisma Bapa Malaysia
Petra Jaya
93502 Kuching
Sarawak
Tel : (+6)082 – 319380 / 440857
Fax : (+6)082 – 449481 / 442536

All Rights Reserved © Published November 2025

No part of this publication may be reproduced, copied, stored in any retrieval system of transmitted in any form or by any means – electronic, mechanical, photocopying, recording or otherwise; without prior permission of Economic Planning Unit Sarawak, Department of the Premier of Sarawak.

Whilst every reasonable care has been taken in preparing this document, the Sarawak Government cannot be held responsible for any inaccuracies. All information and specifications are current at the time of preparation and are subject to change as may be required.

Table of Contents

		Page
	Overview	**14**
1.0	**Progress and Achievements of Key Initiatives**	**38**
2.0	**13MP Strategy Framework**	**42**
2.1	**Pillars and Priority Areas for 13MP**	**43**
2.2	**HLS 1: Accelerate the Clean Energy Transition**	**56**
	Energy Transition	***59***
	ET-S1 Create hydrogen value chain through facilitating strong supply and demand	
	ET-S2 Expand grid and energy storage infrastructure to accommodate higher renewable energy capacity	
	ET-S3 Ensure electricity access and energy security with clean energy in rural areas	
	ET-S4 Increase fuel efficiency of the transportation sector, including expanding EV charging infrastructure at key urban areas	
	ET-S5 Catalyse R&D of new technologies through piloting large-scale commercialisation	
	ET-S6 Drive energy efficiency by changing behaviour	
	ET-S7 Introduce sustainable financing and funding strategy to drive innovation and implementation	
	Infrastructure & Utilities	***69***
	IU-S1 Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability	
	IU-S2 Accelerate gas production efforts and prioritise key sectors with high economic impact through policy intervention	
2.3	**HLS 2: Develop and Attract Strategic Industries**	**75**
	Manufacturing & SME Development	***80***
	M-S1 Strengthen local supply chains by fostering partnerships and building capacity to meet investor needs	
	M-S2 Advance into higher-value downstream activities for long-term resilience	

		Page
Commercial Agriculture		***84***
CA-S1	Provide and strengthen essential supporting services to support agriculture ecosystems	
CA-S2	Increase yields by increasing adoption of modern farming practices and technology	
CA-S3	Improve farmers' access to financial services to adopt agricultural machinery and expand production	
Tourism, Arts, Culture and Creative Industries		***92***
T-S1	Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption	
T-S2	Expand and deepen creative industries by empowered communities and responsible action	
T-S3	Elevate both eco-tourism and luxury tourism offerings tapping into natural reserves and high-end market	
Mining and Oil & Gas		***105***
MOG-S1	To progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills	
MOG-S2	Explore partnerships with established downstream players to identify and develop opportunities for value-added activities	
MOG-S3	Explore and assist in the development of Carbon Capture, Utilisation and Storage (CCUS) sector	
Digital Transformation		***110***
DT-S1	Drive digital business development and high-tech high-value investment in strategic industries	
DT-S2	Accelerate digitalisation in priority economic sectors	
DT-S3	Catalyse Artificial Intelligence (AI) opportunities leveraging the Sarawak AI Centre (SAIC)	
Innovation		***118***
IN-S1	Strengthen local and global linkages and partnerships, particularly between research institutions, innovation hubs and industries to maximise the value of R&D and commercialisation	
IN-S2	Enhance facilitation services to support innovation and scaling up across borders	

		Page
2.4	**HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation**	**125**
	Business Services	***132***
BS-S1	Enhance foundational enablers to drive industry competitiveness	
BS-S2	Facilitate digitalisation of key public services for investors in the mining industry	
BS-S3	Streamline approval processes while enforcing robust post-approval standards	
BS-S4	Adopt a comprehensive and collaborative approach to integrate illegal tourism service providers into the formal economy effectively	
BS-S5	Strengthen regulations and guidelines in the tourism industry	
BS-S6	Review maritime cabotage policy	
BS-S7	Improve air connectivity and aviation facilities to establish an aviation hub in Sarawak	
BS-S8	Enhance the efficiencies of port equipment through targeted upgrades and replacement	
BS-S9	Enhance transparency and simplify processes to attract and support energy-related investors	
BS-S10	Accelerate technology adoption within the public sector to improve efficiency	
	Transport & Logistics	***150***
TL-S1	Develop, upgrade and expand freight and logistical infrastructure with dedicated driver facilities	
TL-S2	Collaborate with private sector players for data sharing on demand	
TL-S3	Expedite initiatives on improving maritime traffic management	
TL-S4	Review policies and ordinances governing the port sector	
	Infrastructure & Utilities	***158***
IU-S3	Enhance asset management strategies for government buildings	

		Page
Government Transformation		***160***
GT-S1	Empowering people-centric and integrated digital service delivery driven by the Whole of Government digital service approach	
GT-S2	Strengthen the digital capabilities of the SCS	
GT-S3	Establishing a conducive digital ecosystem for the digital work environment of civil servants	
GT-S4	Enhance data governance within the civil service	
GT-S5	Streamline policy/regulation and process/procedures to improve citizen-centric service delivery and ease of doing business	
GT-S6	Develop frameworks for effective collaboration between agencies to break down silos and enhance governance	
GT-S7	Improve integration between federal and state initiatives	
GT-S8	Improve career and well-being programmes to increase job satisfaction within the SCS	
GT-S9	Develop new revenue streams to reduce dependence on tax revenues from oil and gas related activities	
GT-S10	Sustainably preserve and grow the wealth of Sarawak	
GT-S11	Reform Sarawak's public finance management	
GT-S12	Strengthen digitalisation in state budgeting, e-procurement and financial management activities	
Digital Transformation		***180***
DT-S4	Enhance the data governance landscape in Sarawak	
DT-S5	Enhance baseline cybersecurity and resilience of Sarawak's critical infrastructure	
DT-S6	Enhance public awareness on cybersecurity threats via CyberSarawak	
DT-S7	Strengthen capabilities and digital infrastructure in data centre operations and high-performance computing	

		Page
Energy Transition		***186***
ET-S8	Enhance transparency and simplify processes to attract and support energy-related investors	
Innovation		***189***
IN-S3	Facilitate private investment into the startup ecosystem, targeting strategic economic sectors of Sarawak	
IN-S4	Create and implement mechanisms to assess the innovation ecosystem in Sarawak	
Mining and Oil & Gas		***192***
MOG-S4	Foster development of the local downstream mining industry	
2.5	**HLS 4: Optimise Land Use to Drive Growth**	**194**
Business Services		***199***
BS-S11	Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production	
Infrastructure & Utilities		***203***
IU-S4	Provide incentives and support for BIM upskilling initiatives	
IU-S5	Mandate the application of BIM in building lifecycle	
IU-S6	Strengthen project management capabilities of Public Works Department (JKR)	
IU-S7	Collaborate with private sector through Public-Private-Partnerships (PPP) for improved project management	
IU-S8	Centralise procurement, bulk purchase, and long-term supply contracts	
IU-S9	Local material sourcing and development	
IU-S10	Development of utility infrastructure database and integrate utility planning into all development approval process	
IU-S11	Renewal of ageing pipes and digitalisation efforts to tackle NRW	
IU-S12	Enhance and establish additional water treatment facilities	

Page

IU-S13 Review existing water tariffs for sustainable water sector development

IU-S14 Streamline water sector governance by empowering SWA to be the single authority for water supply and resources

IU-S15 SWA to be supported by an organisational setup with an executive team to help execute the regulatory functions of SWA

Forestry, Natural Asset Management & Conservation ***229***

FNAM-S1 Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation

Transport & Logistics ***232***

TL-S5 Develop Sarawak's Aerospace Ecosystem

TL-S6 Implementation of aids to navigation (AtoN) for major maritime and riverine routes

TL-S7 Review existing policies and regulations governing maritime and riverine transport

TL-S8 Maritime study for potential development of the riverine economy

TL-S9 Enhance training and competency for maritime and riverine personnel

2.6 HLS 5: Build a High-quality Living Environment and Inclusive Society for all Communities **239**

Social Services ***244***

SS-S1 Increasing supply of affordable housing, particularly in urban areas

SS-S2 Strengthening planning, coordination and monitoring of housing development in Sarawak

SS-S3 Introduce a comprehensive and integrated approach to urban renewal planning and policymaking that prioritises suitability, inclusivity and resilience for all Sarawakians

SS-S4 Facilitating home ownership or rental, particularly for households in need

SS-S5 Improving accessibility to healthcare facilities and services

SS-S6 Raising awareness and education on health and lifestyles

SS-S7 Formalising strategic partnerships and alliances in the healthcare sector

		Page
SS-S8	Advancing infrastructure and innovation related to health	
SS-S9	Enhancing income generation opportunities through targeted support	
SS-S10	Strengthening implementation of social welfare programmes	
SS-S11	Improving access to essential services	
SS-S12	Creating a conducive environment for family establishments	
SS-S13	Enabling workforce participation and equal access to economic and leadership opportunities for women	
SS-S14	Enhancing access, equity and quality early childhood care, education and special needs early intervention	
SS-S15	Enhancing social protection and support systems for the elderly community	
SS-S16	Creating economic opportunities that harness the potential of healthy and productive PWDs	
SS-S17	Leveraging partnerships to drive community development, outreach and support	
SS-S18	Strengthening healthcare and social services infrastructure	
Education & Human Capital		***289***
EHC-S1	Introducing a dedicated and holistic youth policy in Sarawak	
EHC-S2	Promoting accessibility to sports offerings and infrastructure for the general public	
Digital Transformation		***293***
DT-S8	Provide high-speed, reliable and affordable internet connectivity to improve regional and global connectivity	
DT-S9	Facilitate adoption of digital technologies among Sarawakian communities	
Transport & Logistics		***296***
TL-S10	Establish a centralised transport data management system to improve public transport planning	
TL-S11	Enhance public transport infrastructure and services; implement improved traffic management and road safety initiatives with integrated infrastructure and connectivity advancement	

			Page
2.7	**HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce**		**302**
	Education & Human Capital		***307***
	EHC-S3	Building capacity and professional expertise/specialisation of teachers	
	EHC-S4	Enhancing education accessibility, standards and mindsets in Sarawak	
	EHC-S5	Nurturing young leaders that can drive the future socio-economic development of Sarawak	
	EHC-S6	Enhancing development and performance of homegrown athletes (including PWDs) in a targeted and structured manner	
	Business Services		***318***
	BS-S12	Attracting and retaining new or Sarawakian talent	
	Social Services		***321***
	SS-S19	Nurturing a pipeline of healthcare workforce	
	Energy Transition		***323***
	ET-S9	Consider just energy transition perspective as natural gas is still considered a transitional fuel and human capital development for the new industries	
	Digital Transformation		***325***
	DT-S10	Build digitally skilled workforce and match talent needs with the future needs of the digital economy	
	Mining and Oil & Gas		***330***
	MOG-S5	Improve access to manpower and build capacity of local human capital	
2.8	**HLS 7: Enhance Safety, Security, and Disaster Preparedness**		**332**
	Social Services		***335***
	SS-S20	Enhancing security in coastal areas	
	SS-S21	Strengthening border security	

		Page
	Forestry, Natural Asset Management & Conservation	***339***
	FNAM-S2 Enhance response to regular flooding in Sarawak and disaster risk reduction strategy	
2.9	**HLS 8: Engage in Climate Action, Integrate ESG, and Advance the Circular Economy**	**343**
	Waste & Circularity	***347***
	WC-S1 Adopt targeted waste management strategy and technology	
	WC-S2 Increase private sector interest and participation in circularity, targeting high-value and high-volume wastes	
	WC-S3 Implementation of centralised sewerage system for major urban centres in Sarawak	
	WC-S4 Improve treatment and collection of greywater	
	WC-S5 Strengthen local governments' capacity and community participation in waste management and circular development	
	Forestry, Natural Asset Management & Conservation	***355***
	FNAM-S3 Mainstream environmental sustainability across the various economic sectors	
	FNAM-S4 Facilitate private sector participation through ESG adoption and financing	
	FNAM-S5 Better pollution control at source and enforcement	
	FNAM-S6 Facilitate carbon trading and ecosystem	
	FNAM-S7 Price carbon through compliance or voluntary market	
	FNAM-S8 Formulate a sound policy and plan that incorporates conservation of environment related to climate related hazards due to climate change	
	FNAM-S9 Enhance measurement, reporting and verification (MRV) of GHG emissions throughout Sarawak	
	FNAM-S10 Mainstream climate adaptation in planning	

		Page
2.10	**HLS 9: Protect and Sustainably Manage Natural Resources**	**369**
	Forestry, Natural Asset Management & Conservation	***372***
FNAM-S11	Ensure economic benefits from forestry activities are realised by rural communities	
FNAM-S12	Intensify cooperation between tourism and forestry, particularly in the eco-tourism sector to enhance sustainable development and forest conservation efforts	
FNAM-S13	Facilitate the availability of raw materials for high value-added industry	
FNAM-S14	Bolster enforcement and forest landscape restoration efforts	
FNAM-S15	Strengthen participation and capability of private sector and NGOs to develop high-quality conservation projects	
FNAM-S16	Ensure water availability, quality and sustainable water consumption and management	
FNAM-S17	Conduct biodiversity assessments to ensure better management of natural assets	
FNAM-S18	Enhance sustainable marine fisheries and leverage blue economy potential	
FNAM-S19	Integrate land use management decisions with natural resource management and conservation goals	
	Mining and Oil & Gas	***387***
MOG-S6	Expedite geological mapping and mineral prospecting activities	
2.11	**HLS 10: Create a Strong and Resilient Bumiputera Business Community**	**391**
	Education & Human Capital	***394***
EHC-S7	Fostering a skilled and agile workforce that meets industry needs and enhances productivity	
EHC-S8	Strengthening youth employability and economic participation	

Page

Social Services ***398***

SS-S22 Accelerating socio-economic development of indigenous communities with continuous engagements and in a phased manner (Penan)

SS-S23 Supporting existing communities and growing populations with basic infrastructure (Penan)

SS-S24 Establishing long-term monitoring and support systems to address emerging issues and ensure the sustainability of indigenous and resettled communities (Resettlement)

SS-S25 Supporting resettlement communities through economic diversification and growth (Resettlement)

SS-S26 Improving connectivity and access to essential services and facilities (Resettlement)

3.0 Conclusions and Next Step **405**

List of Abbreviations **409**

Appendix **418**

- List of Strategies by 15 Key Socio-Economic Sectors and Enablers **419**

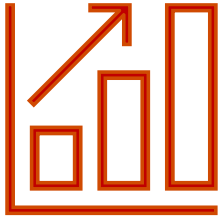
Overview

The PCDS 2030 was formulated to transform the socio-economic well-being of Sarawak by enhancing access to economic opportunities and social services sustainably

PCDS 2030 vision:

By 2030, Sarawak will be a *thriving society* driven by *data and innovation* where everyone enjoys Economic Prosperity, Social Inclusivity and Environmental Sustainability.

PCDS 2030 Aspirations:



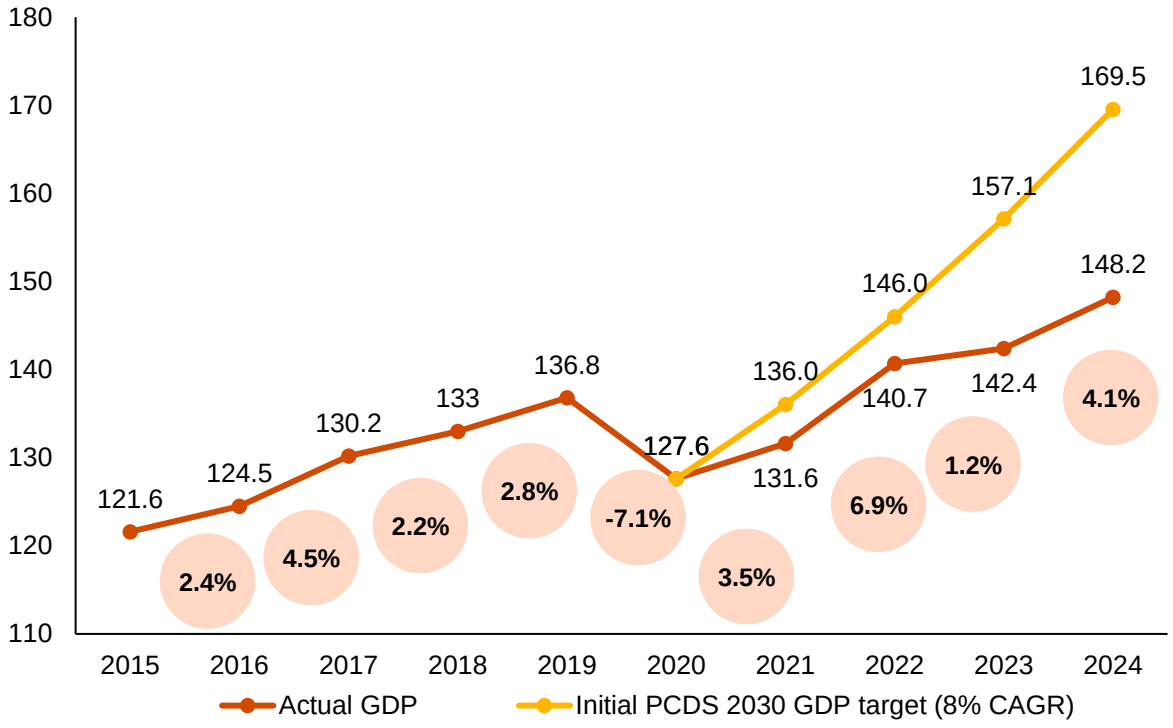
Grow Sarawak's economy to achieve GDP of RM282 billion in 2030

Raise median monthly household income to RM15,000 by 2030

Support Malaysia's commitment to reduce GHG emissions intensity of GDP by 45% by 2030

Sarawak's economy has recovered from COVID-19…

Real GDP 2015 Constant Price, 2015 – 2024 (RM billion)



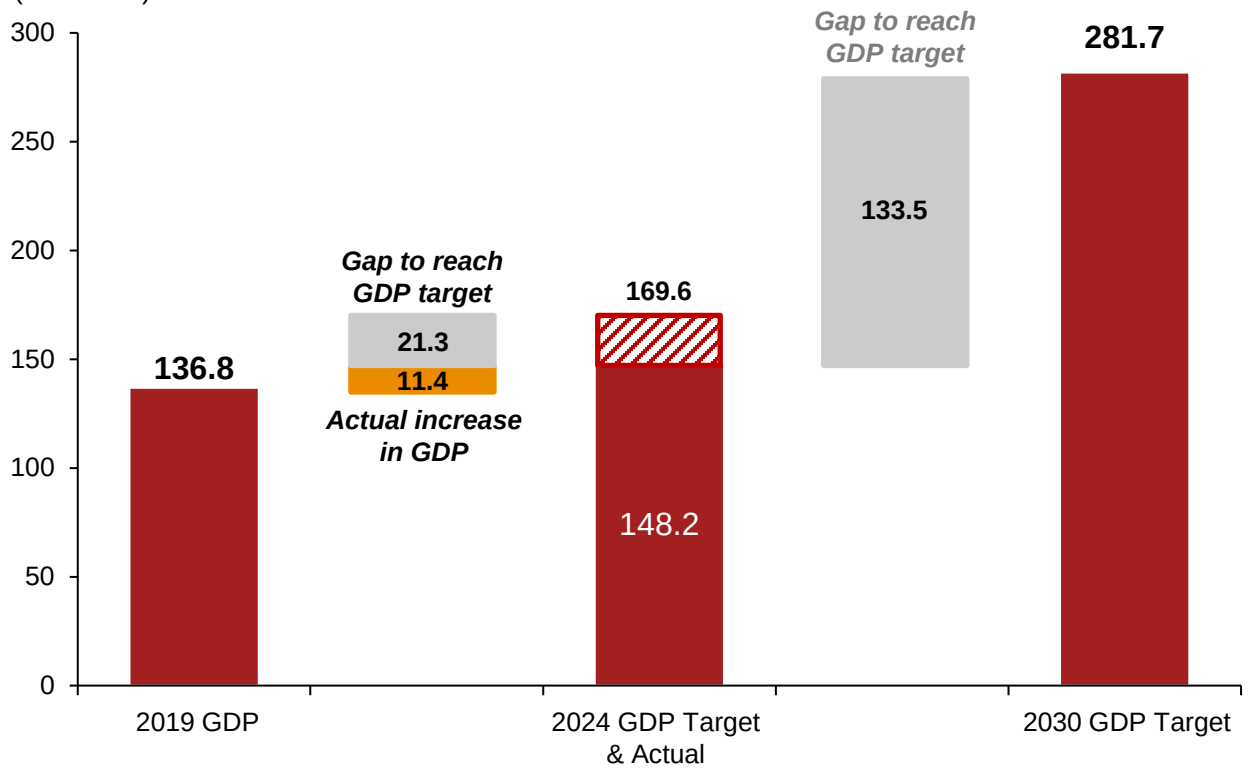
Source: Department of Statistics Malaysia (DOSM)

- In 2019, Sarawak's GDP stood at RM136.8 billion. This figure serves as a baseline from which Sarawak has been building.
- Based on the PCDS 2030 trajectory, the 2024 GDP was targeted at RM169.5 billion. However, the actual GDP for 2024 was RM148.2 billion. This shortfall underscores the need to intensify our efforts and align with the targets outlined in PCDS 2030.

However, Sarawak needs to grow at a faster pace to achieve the PCDS 2030 targets for GDP

Based on GDP targets from PCDS 2030, GDP in 2024 should be ~RM170 billion. The current GDP stands at RM148 billion with a RM21 billion gap that needs to be addressed to remain on track towards achieving the PCDS 2030 target.

GDP targets against actual GDP, Sarawak
(RM Billion)



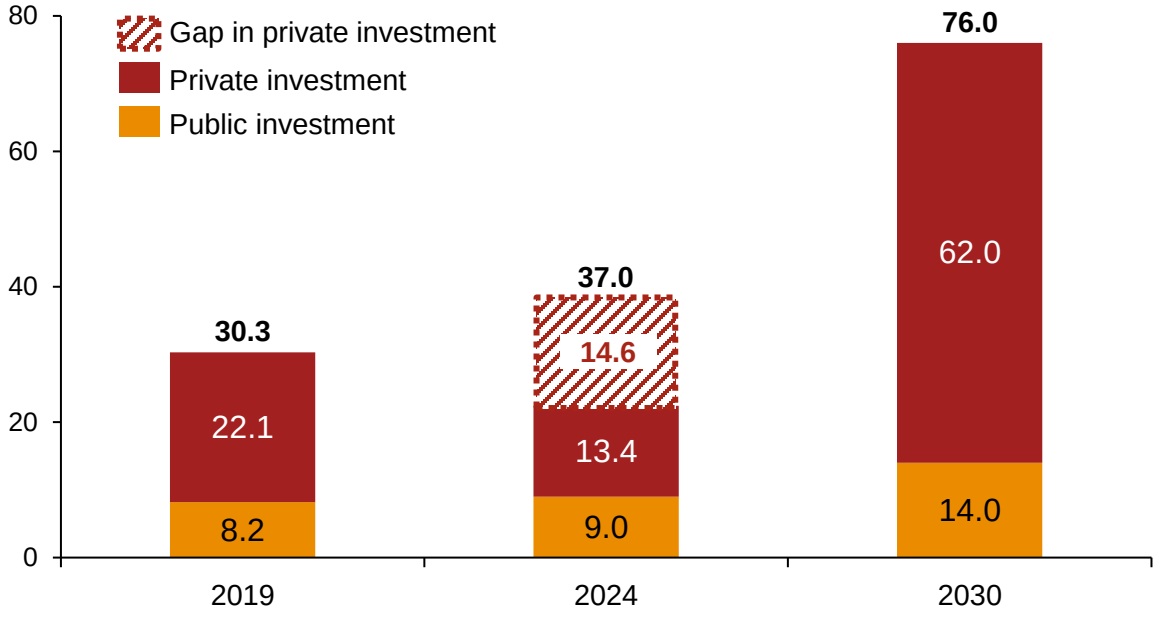
**Note: Figures shown are real GDP values at constant 2015 prices*
Source: PCDS 2030 (2024 interpolation)

Sarawak's economic activity needs to accelerate at a faster pace to achieve its PCDS 2030 targeted growth.

- There is lower private sector investment than required to drive growth, reflecting a potential lack of investor confidence.
- To a lesser degree, slower than expected rebound in private sector consumption after COVID-19 from persistent economic uncertainties or reduced disposable incomes in certain population.

Interest by the private sector has not translated sufficiently into realised investments

Total investment, Sarawak, 2019, 2024 and 2030
(RM billion)



Sarawak's economic transformation hinges on bridging the estimated RM15 billion private sector investment gap identified for 2024.

Accelerating and realising private sector investments is vital for boosting Sarawak's productive capacity and fostering socio-economic growth. This involves integrating the expertise, innovation, and technological advancements that private investors bring, thereby enhancing competitiveness at both the national and international levels.

Note: Private investment includes approved investment figures, while public investment comprises Sarawak Government allocated spending
Source: PCDS 2030 (2024 interpolation), Office of the Premier of Sarawak, Borneo Post Online

Public investments have been substantial in strategic initiatives and projects over the past few years…

DUN passes of Sarawak Sovereign Wealth Future Fund (SSWFF) Bill

Launch of Kuching Urban Transport System (KUTS) with ART

Launch of Sarawak's first mega methanol plant

Launch of InvestSarawak and overseas trade & tourism offices

PETROS appointed as Sarawak's gas aggregator

Takeover of Bintulu Port Authority

…and more investments are in the pipeline

Sarawak AI Centre approved by the State Cabinet

Acquisition of 31.25% stake in Affin Bank

Pan Borneo Highway 97% completed

Coastal Highway and bridges in progress

Final stage of acquisition of MASWings

Announcement of new airport and seaport at Tanjung Embang

Limited realisation of private sector investment has constrained growth in Sarawak

InvestSarawak has engaged over 200 investors

13MP process ran 16 industry engagement workshops with ministries

Source: InvestSarawak, Stakeholder Engagements

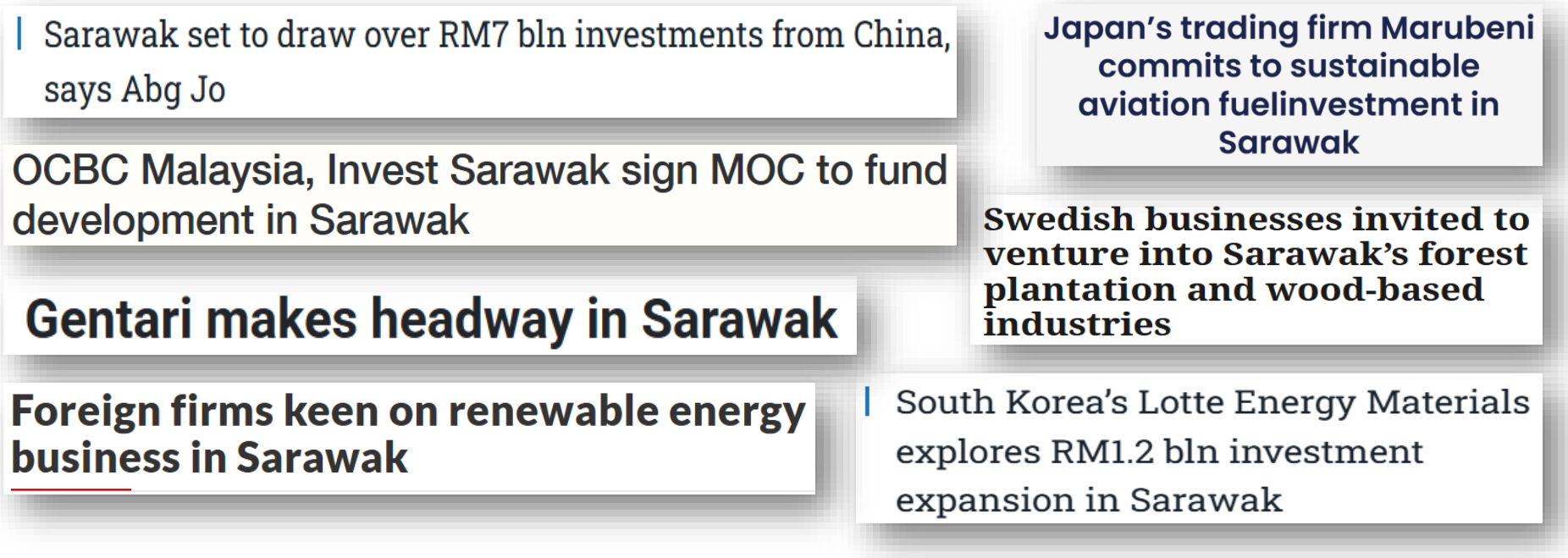
Feedback from investors confirms the following pain points:

- Lack of certainty in terms of policy and regulations, unclear criteria and timelines for investment and lengthy processing times
- Insufficient energy and a lack of infrastructure
- Exporting is too expensive for many Sarawakian companies due to high logistics costs
- Hard to access suitable land due to strict policies, especially on land preparation and identification of available land for investors
- Lack of enforcement to address land not developed in industrial parks
- Critical need to expand skilled workforce and stem outward migration of talent to meet industry needs

Private sector investment interest has also been extensive, reflecting strong confidence in Sarawak's economic direction

There has been extensive interest from the private sector to invest in Sarawak, as indicated by projects being announced across a wide range of sectors from energy and materials to services. In addition, InvestSarawak has engaged over 200 companies exploring various opportunities in Sarawak.

However, private sector investment realisation is lagging, and the strong interest is not being translated into actual investments on the ground.



Source: The Star, The Borneo Post, NST, Malaymail, InvestSarawak, The Edge Malaysia

In recent years, the private sector has announced new commitments, and Sarawak must focus on realising these key investments to drive growth

2021

The Sarawak BioHub Port and Industrial Estate development

- Located on 2,500 hectares (ha) of land between Bintulu and Samalaju and with an estimated development cost of RM20 billion over 10 years

Taiyo Yuden announced an investment of RM680 million for the expansion of its multilayer ceramic capacitors production

TAIYO YUDEN

- The production facility located in Kuching is expected to help Taiyo Yuden to meet the growing demands of their clients in ASEAN

2022

Samsung Engineering plans green hydrogen, ammonia project in Sarawak

SAMSUNG ENGINEERING

- The Sarawak H2biscus Green Hydrogen/Ammonia Project (H2biscus Project) will be located in Bintulu and will be developed together with Lotte Chemical, Posco, and SEDC Energy Sdn Bhd

UOB Malaysia to facilitate FDI into Sarawak

UOB

- UOB Malaysia partnered with Sarawak Trade and Tourism Office Singapore (STATOS) and the Singapore Business Federation (SBF) to organise an investment and trade mission to Sarawak

2023

South Korea's Lotte Energy Materials to invest RM2.3 billion in Sarawak plant for copper foil production

LOTTE ENERGY MATERIALS

- Lotte Energy Materials is planning to invest a further RM2.3 billion in its Sarawak plant to produce copper foil, a high-grade industrial material used in all electronics and lithium-ion batteries

Approved investments amounting to RM3.4 billion in the E&E industry were recorded in 2023

- Including the production of semiconductor wafers, testing, and probing

Source: MIDA, The Sun, The Borneo Post

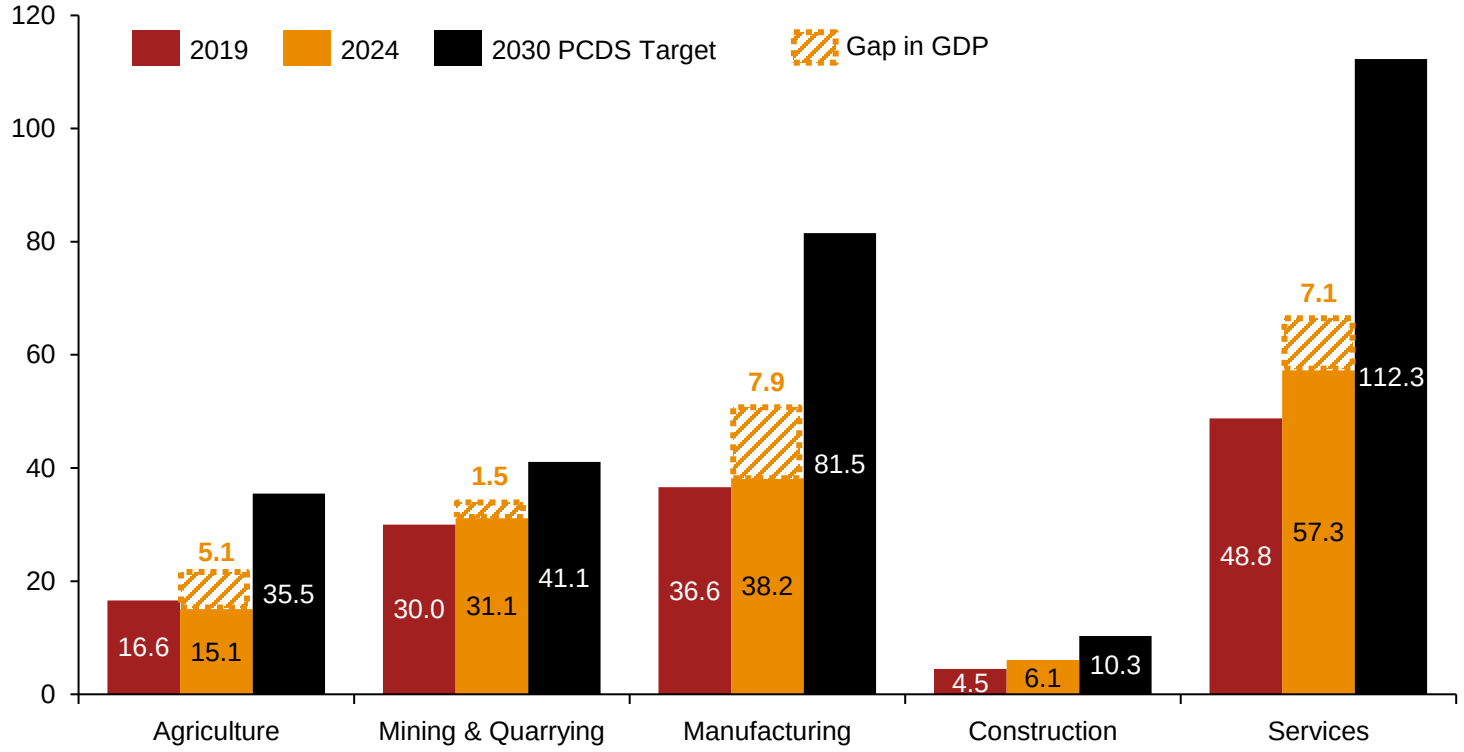
**Non-exhaustive*

However, there must be an enhanced focus on key private sector investments to transform Sarawak's economic structure as envisioned

Sarawak has made significant strides towards transforming its economic structure by increasing the contribution from the services sector and focusing on higher-value-added activities. This strategic shift is indicative of a broader effort to modernise Sarawak's economy and reduce its historical reliance on primary sectors such as agriculture and resource extraction.

To accelerate Sarawak's economic transformation, it is vital to boost private investment. This will provide essential capital, along with expertise and innovation, crucial for developing the services sector.

GDP by sector, Sarawak 2019, 2024, and 2030 (RM billion)



Note: Figures shown are real GDP values at constant 2015 prices

This can be achieved by improving ease of doing business, ensuring sufficient energy and infrastructure, addressing land issues and shortage of talent

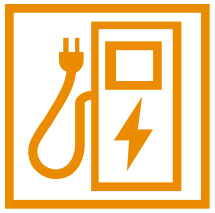
Issue	Key Strategy	Actions
Policy and regulatory framework	Reduce investor uncertainty and speed up approval processes by end of 2025	Clear policies and criteria, consistent application of policies and criteria, and streamlining processes to ensure predictable and timely experiences
Energy & infrastructure constraints	Unlock energy and infrastructure constraints by 2026	Attract IPPs for renewable energy, accelerate initiatives to reduce logistics costs and improve access to markets
Unlocking idle land for development	Implement initiatives to ease access to investment-ready land by 2026 (i.e. furniture park)	Enforcement of policies to ensure greater land utilisation in existing industrial estates, and investing ahead to get land ready for investors
Shortage of talent	Implement initiatives to increase access to talent by end of 2025 (i.e. TMTTC training)	Comprehensive and balanced talent attraction and development strategies and initiatives

These are the key areas that will help drive growth in private sector investments, as it addresses regulatory, ecosystem and competitiveness factors

Beyond growing the economy, Sarawak's 13MP aims to enhance social well-being and sustainability for holistic development

Upskilling to raise productivity and fill high-value jobs to propel Sarawak's socio-economic growth

Ensuring greater sharing of economic gains by enhancing economic participation and targeting social intervention for key community segments



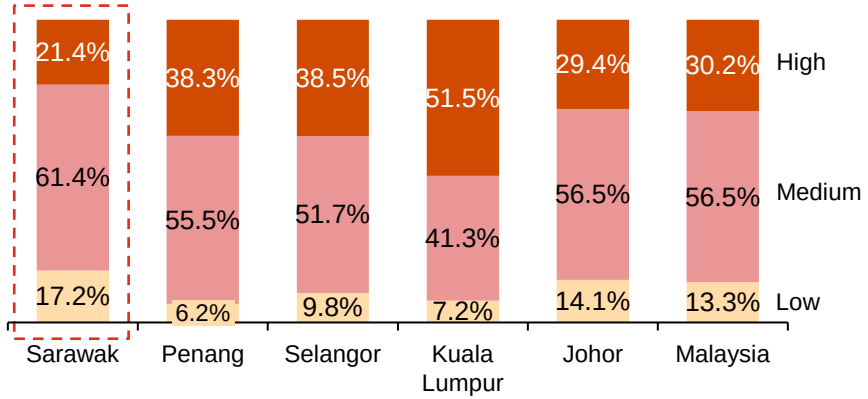
Implementing strategies that build on Sarawak's vast endowments of natural assets to take the lead in the clean, green, and circular economy

Developing climate-resilient strategies to drive Sarawak's decarbonisation efforts while future proofing infrastructure and growth

Upskilling the workforce to raise productivity and fill high-value jobs will be essential to propel Sarawak's socio-economic advancement

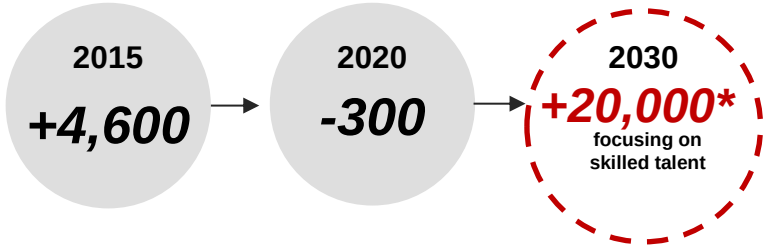
Critical need to expand skilled workforce and stem brain drain to stay ahead of the curve

Employed person by skill level, 2024



Source: Department of Statistics Malaysia (DOSM)

Net migration flows (Sarawak), persons



Attracting talent goes beyond monetary benefits, well-being and development prospects matter too

13MP Strategy: Attracting and retaining Sarawakian and new talent through Sarawak Employment Package (SPACK) - a comprehensive incentive and benefits package

SPACK
Targeting Sarawakians, West Malaysians, Sabahans and foreign expatriates in identified critical job sectors (e.g. healthcare, energy, digital)

Attractive allowances and benefits, such as medical, housing and relocation allowances

Entrepreneurial support for business owners such as grants, loan assistance and mentorship programmes

Fast track work permit application path and **establish immigration fast lanes**

Promote **conducive living and family support** via *'Family First'* and the Sarawak MM2H Programme

Equally important is the promotion of inclusive participation to ensure that economic gains are shared equitably through targeted social interventions

Key 13MP initiatives for community segments in Sarawak with immense potential

Rural & Bumiputera Communities

Harnessing urban and rural youth potential for rural revitalisation

- Attract youth with urban exposure to contribute to their rural hometowns (partnering with rural youth)
- Value creation in economic sectors specific to rural areas
- Leverage new business models
- Hybrid modes of contribution (physical, remote, or both)

Youth

Career Pathway Programme

- Leveraging MySIP (National Structured Internship Programme)
- Networking and mentorship with industry players
- Training and career advisory support
- Adoption of digital platforms

Women

Women@Work

- Monetary and non-monetary support to enable work-family balance (e.g. childcare, skills development to return to work)
- Policies and guidelines to enhance women economic participation and leadership

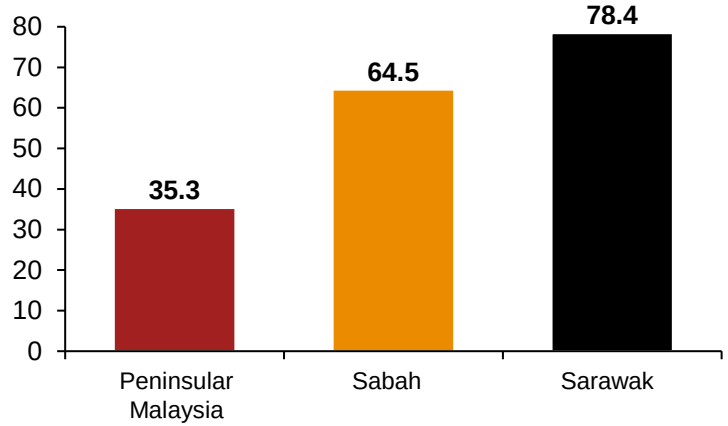
**Also applicable for the general working population*

Sarawak's vast natural endowments offer a powerful platform to lead in the clean, green, and circular economy of the future

Sarawak's industries are energy- and resource-intensive, but efforts are underway to green the economy

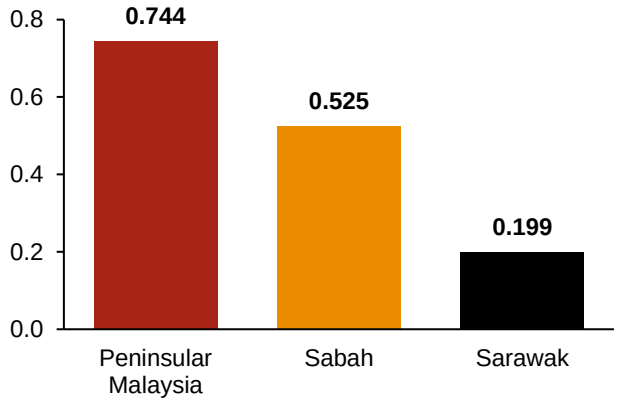
Sarawak's energy intensity is the highest in Malaysia…

Final Energy Intensity per GDP (toe/RM million), 2021



…although Sarawak records the lowest grid emission intensity

Main Grid Emissions Intensity (tCO_2eq/MWh), 2022



Source: National Energy Balance

13MP Strategy: Mainstreaming environmental sustainability is critical to drive resource-efficiency and a green economy

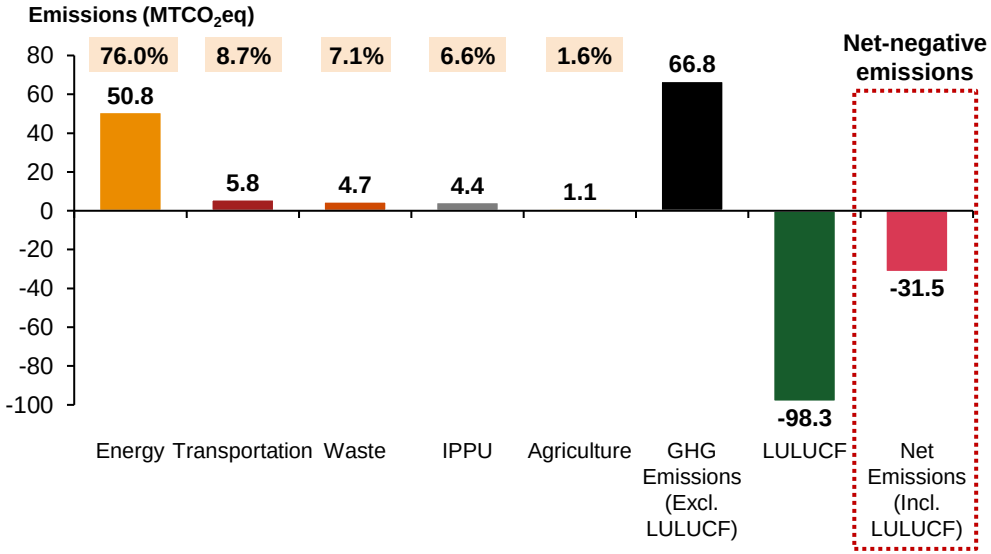
Policy Mainstreaming
Develop policies aligned with green economy principles across policy areas and sectors, e.g., waste and circularity, forest and natural asset management, supported by tools, e.g. green procurement standards, as part of Sarawak's Circularity Model

Economic Instruments
Develop sustainable financing mechanisms and new business models to transform businesses and increase ESG adoption, e.g., Green Finance Accelerator programme

Infrastructure and Capital
Provide green and blue infrastructure and capital to nudge behavioural change

Climate-resilient development will be critical, driving decarbonisation efforts while future-proofing infrastructure and growth

Sarawak needs to maintain and enhance its net zero position, while reducing disaster risk to future-proof growth

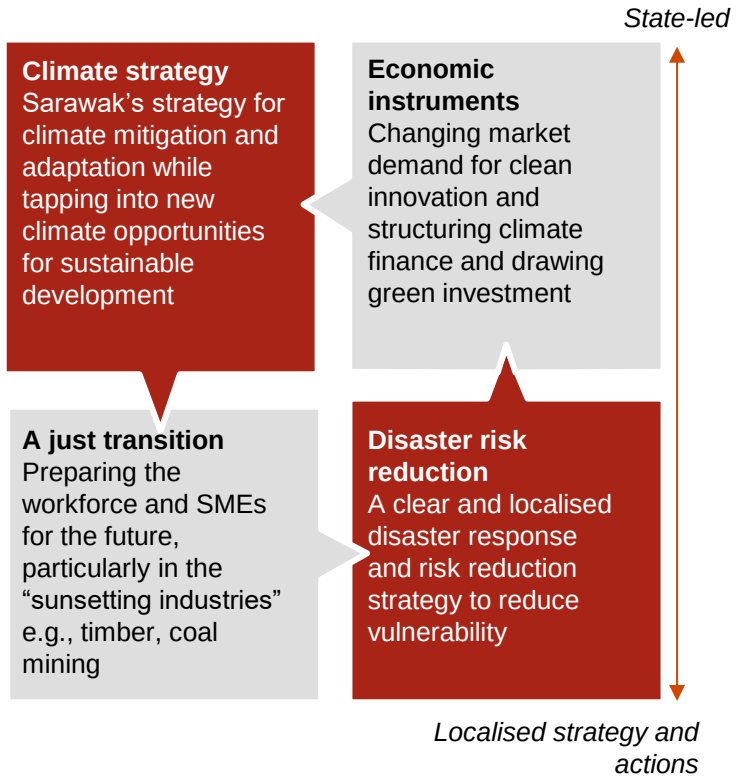


In 2024, Sarawak experienced one of the highest flood incidences in Malaysia and climate-induced disaster is projected to increase in frequency and impact

242
Flood incidences

RM27.4 million
In economic loss and damages

13MP Strategy: The net zero transition costs yet brings new opportunities – the success lies in decoupling growth from externalities at the state- and local-levels



Source: GHG emissions baseline derived from the 2021 baseline from the Sarawak Net Zero Strategy and Carbon Plan study (ongoing), DOSM (2024) The impact of flood losses and damages in Malaysia

Sarawak can achieve its goals by implementing strategies that fix key challenges, build on its economic foundations, and seize emerging opportunities

Recommended way forward

Economic Prosperity

Increase private sector investment by:

- Easing investors doing business by reducing uncertainties in policies and processes, making it more transparent
- Allowing a significant and fast increase in power supply to fuel investors' projects
- Unlocking land for development
- Addressing the shortage of talent
- Leveraging on Sarawak's R&D, innovations and technology to attract investments

Social Inclusivity

Increase economic participation by Bumiputera and rural communities, youth and women by:

- Building a robust talent pipeline
- Enabling greater economic participation by upskilling to raise productivity and fill high-value jobs
- Targeted social interventions for key communities for greater sharing of economic gains
- Improving accessibility and quality of social services and infrastructure

Environmental Sustainability

Enhance and embed environmental sustainability into development by:

- Integrating environmental sustainability into all priority policy areas and sectors
- Executing state-led climate strategies and policies that are supported by localised climate actions to steer net-zero transition and future-proof growth

The 13MP is guided by 10 High-Level Strategies approved by MMKN

In response to changes over the past few years within Sarawak's economic, social, and governmental landscape, the strategic thrusts, socio-economic sectors and enablers within the PCDS 2030 framework have been integrated and restructured to better reflect key priority areas from the Sarawak 13MP. This aims to bridge existing gaps and ensure a more comprehensive and robust framework for future development.

To realise the ambition of a sustainable and prosperous future for Sarawak, ten high-level strategies will be implemented. These strategic initiatives aim to accelerate the clean energy transition and develop strategic industries to bolster economic growth. By increasing investor confidence and encouraging private sector involvement, Sarawak seeks to optimise land use for growth.

A pivotal focus will be on creating a high-quality living environment while fostering an inclusive society. This plan aims to attract and retain talent, cultivating a skilled and agile workforce equipped to enhance safety, security, and disaster preparedness. Embracing climate action, Sarawak will integrate ESG principles and promote a circular economy.

Additionally, protecting and responsibly managing natural resources will ensure environmental sustainability. With the building blocks and ecosystem in place, Sarawak will work towards creating a resilient Bumiputera business community to drive long-term progress.

10 High-Level Strategies (HLS)	
1	Accelerate the Clean Energy Transition
2	Develop and Attract Strategic Industries
3	Increase Investor Confidence and Attract Greater Private Sector Participation
4	Optimise Land Use to Drive Growth
5	Build a High-quality Living Environment and Inclusive Society for all Communities
6	Attract and Retain Talent and Foster a Skilled and Agile Workforce
7	Enhance Safety, Security, and Disaster Preparedness
8	Engage in Climate Action, Integrate ESG, and Advance the Circular Economy
9	Protect and Sustainably Manage Natural Resources
10	Create a Strong and Resilient Bumiputera Business Community

Note: MMKN refers to Majlis Mesyuarat Kerajaan Negeri

Summary: 10 High-Level Strategies (1 of 5)

HLS 1: Accelerate the Clean Energy Transition

Accelerating the clean energy transition by expanding renewable energy and modernising infrastructure involves setting up an energy regulator to enhance the regulatory environment and attract investment, ensuring a sustainable long-term energy strategy.

The development of the Sarawak Hydrogen Hub will be a key initiative, alongside building infrastructure such as power generation, transmission and distribution lines, energy storage systems, and flexible grid lines to support increased energy capacity.

Additionally, an ecosystem will be built to support human capital development, meeting the current and future needs of the energy industry.

HLS 2: Develop and Attract Strategic Industries

Developing and attract strategic industries through key partnerships, strengthened local supply chains, and SME capacity building, while driving tech adoption via financial institution collaborations. Strategic private sector partnerships will optimise Sarawak's natural resources, including geological assets, tourist sites, and energy, while attracting high-tech investments in aerospace and digital business development.

The establishment of Free Zones, Free Industrial Zones, and Economic Zones, including the proposed Kuching Low-Carbon Hub Economic Zone, Baram Renewable Energy Economic Zone, and Kota Petra Green Technology Park, will further drive innovation, sustainability, and economic growth. Kuching will be positioned as Borneo's global gateway with a new international airport, deep seaport, and enhanced air connectivity through AirBorneo, Sarawak-owned airline.

In addition, the Oil & Gas Services and Equipment (OGSE) sector will be strengthened through collaboration, innovation, and skills development to enhance competitiveness and sustainability.

Summary: 10 High-Level Strategies (2 of 5)

HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

Increasing investor confidence and attracting greater private sector participation by strengthening governance and improving regulatory processes through the Public-Private Partnership (PPP) framework. Collaboration within relevant agencies will improve infrastructure and utility policies, with a focus on water and power supply, while considering the energy transition.

Additionally, a comprehensive and collaborative approach will be adopted to integrate informal tourism service providers into the formal economy, enhancing safety, quality, and confidence among registered businesses.

HLS 4: Optimising Land Use to Drive Growth

Optimising land use to drive growth through land optimisation in new agriculture, industry, and urban development projects, while ensuring environmental sustainability, involves developing underutilised or abandoned land into industrial plots with good transport linkages to attract investors.

Collaborative models like Joint Ventures or Leasing agreements between the government and communities will optimise native customary rights (NCR) land for agriculture. Governance of land matters will be enhanced through improved feedback loops, streamlined approval processes, and expedited land conversion times.

Additionally, a paddy irrigation scheme will be developed to increase rice self-sufficiency in Sarawak by rehabilitating and expanding paddy land areas.

Lastly, the adoption of technologies and ecosystem development will be promoted in key areas such as livestock rearing, animal feed, fertiliser, and seedling production.

Summary: 10 High-Level Strategies (3 of 5)

HLS 5: High-quality Living Environment and Inclusive Society for all Communities

Building a high-quality living environment and inclusive society for all communities by fostering equal opportunities in economic advancement, access to education, and social well-being involves developing regional medical hubs in Kuching, Kota Samarahan, Sibu, and Miri, with hospitals, research centres, wellness facilities, and science universities to elevate Sarawak's medical capabilities and attract medical tourism.

The Sarawak Family First Initiative will offer parental education, child protection, and mental health support to families while ensuring access to conducive living environments. Support services for the elderly and vulnerable communities will be expanded, including the Geriatrik Komuniti (GeKo) service and Pusat Aktiviti Warga Emas (PAWE).

The Sarawak Women@Work Initiative will promote affordable childcare, flexible work arrangements, return-to-work programmes, gender equality policies, and financial compensation for women in informal care services, alongside the establishment of the Sarawak Women Leadership Institute.

HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce

Attracting and retaining talent and fostering a skilled and agile workforce through targeted support and development programmes - the Sarawak Employment Package (SPACK), which includes attractive allowances, entrepreneurial support, fast-track work permit applications, immigration fast lanes, family support initiatives, and a review of the legal framework.

A compliance unit could be established for SPACK to oversee enforcement and prevent incentive misuse. The "Elevating the Educators" programme will attract and retain quality educators, with a focus on rural teachers, to ensure effective curriculum delivery and student attention.

Sarawak Regional Youth Centres will be established to provide services, support, and opportunities for youth, offering courses to develop intellectual, physical, and soft skills, as well as job placement centres for rural youth.

Additionally, the Sarawak High Performance Sports Centre will provide professional sports development for future athletes, including those with disabilities, offering structured training, sports science support, and career development for coaches.

Summary: 10 High-Level Strategies (4 of 5)

HLS 7: Enhance Safety, Security, and Disaster Preparedness

Enhancing safety, security, and disaster preparedness requires a systematic strengthening of disaster resilience, public safety measures, and emergency response capabilities. This includes the strategic deployment of technology to support early detection, monitoring, and rapid response, particularly at critical infrastructure, entry points, and high-risk locations.

To support effective enforcement and operational coordination, closed-circuit television (CCTV) systems and electronic monitoring sensors will be installed at all entry points and strategic locations.

At the same time, UKPS will be empowered to act swiftly and decisively against offenders through a secure Ultra High Frequency (UHF) trunk radio communication network, ensuring seamless real-time communication across enforcement units.

Additionally, disaster prevention and response units will be implemented and strengthened among local authorities (PBTs) and integrated with a community warning system for more effective local preparedness.

HLS 8: Engage in Climate Action, Integrate Environmental, Social, and Governance (ESG), and Advance the Circular Economy

Engaging in climate action, ESG integration, and advancing the circular economy through climate policies, carbon trading, and sustainability-focused investments involves establishing the Sarawak Climate Change Centre to guide climate mitigation, adaptation, and carbon trading activities.

A Climate Finance Facility will be introduced to support high-tech, innovative business models with climate and environmental impacts. Additionally, Sarawak's waste and circularity policy will be developed, and green procurement policies will be introduced to create demand for locally recycled materials and green products, supporting long-term resource efficiency and sustainability.

Summary: 10 High-Level Strategies (5 of 5)

HLS 9: Protect and Sustainably Manage Natural Resources

Protecting and sustainably managing natural resources by ensuring responsible resource extraction, conservation efforts, and biodiversity protection involves developing nature-based projects for carbon credits.

A community-based forest resource management programme will be promoted through participatory models, strengthening community capacity, and integrating traditional knowledge with modern practices.

Additionally, geological mapping and mineral prospecting activities will be expedited by establishing phased plans for surveying and mapping target areas, alongside facilitating land designation and integrating mining areas into land-use policies.

HLS 10: Create a Strong and Resilient Bumiputera Business Community

Creating a strong and resilient Bumiputera business community through capacity building and enhanced market access for greater economic participation involves harnessing the potential of young people with urban exposure to contribute to the rural economy by creating value in sectors like agriculture and tourism.

The "Career Pathway Programme: Apprenticeship" platform will provide graduates and the workforce with tools, networks, and opportunities to explore business and career avenues, including non-traditional jobs.

Additionally, targeted programmes will support the economic development and livelihoods of indigenous communities by offering upskilling initiatives tailored to key economic activities in specific areas.

1

Progress and Achievements of Key Initiatives

Economic Prosperity

Despite challenges from the slow COVID-19 recovery, there is a strong commitment to achieving the PCDS 2030 targets, laying a foundation for future growth

Current trajectory is on track to achieve the 2030 target	Addressing gaps to achieve the 2030 target	Significant improvement needed to achieve the 2030 target	Not enough information
Online State services • 100% **Productivity** • 30% increase from 2019 level **Youth ICT Skills** • Increase the proportion of youths using basic arithmetic formulas in spreadsheet from 36.7% in 2019 to 65% by 2030 • Increase the proportion of youths creating electronic presentations using computer software from 31.2% in 2019 to 70% by 2030 • Increase the proportion of youths searching, downloading, installing, and configuring software from 57.6% in 2019 to 75% by 2030	**Employment** • 1.5 million persons • 30% skilled workforce **R&D** • *Double the number of commercialisable intellectual properties, comprising 80 patents and 40 utility, innovation, and industrial designs **Youth ICT Skills** • Increase the proportion of youths capable of writing computer programs using specialised programming languages from 10.6% in 2019 to 35% by 2030	**GDP** • RM282 billion (~8% annual growth) **Real GDP per capita** • RM85,762 **Monthly median household income** • RM15,000 **Investment** • 27% Share of total investment to GDP (RM76 billion) **R&D** • *Funding in digital technology and innovation is equivalent to 2% of GDP (RM5.6 billion)	**Investment** • 5% Share of public investments to GDP (RM14 billion) by 2030 • 22% Share of private investments to GDP (RM62 billion) by 2030

Social Inclusivity

Social inclusivity continues to be a challenge for Sarawak with the need to improve data collection and grow its middle class

Current trajectory is on track to achieve the 2030 target	Addressing gaps to achieve the 2030 target	Significant improvement needed to achieve the 2030 target	Not enough information
Education • Achieve at least 60% STEM enrolment in upper secondary **Internet access** • 99.9% households have access to internet connectivity **Workforce** • Achieve equal gender and wealth distribution in the workforce (women: 50%, men: 50%)	**Doctor-population ratio** • Increase the doctor-to-population ratio to 1:294	**Incidence of absolute poverty** • Reduce the incidence of absolute poverty to 3% by 2030	**B40 households** • Decrease the share of B40 households at the national thresholds to 20% **Public/social safety** • Increase the ratio of firefighters to population to 1:2000 **Youth education and employment** • Reduce the proportion of youth not in education, employment or training to 4.0% **Education** • Achieve 100% of preschool and primary school participation rate

Environmental Sustainability

There is a need for enhanced environmental sustainability efforts to achieve key targets and improve data collection in some areas, such as water quality

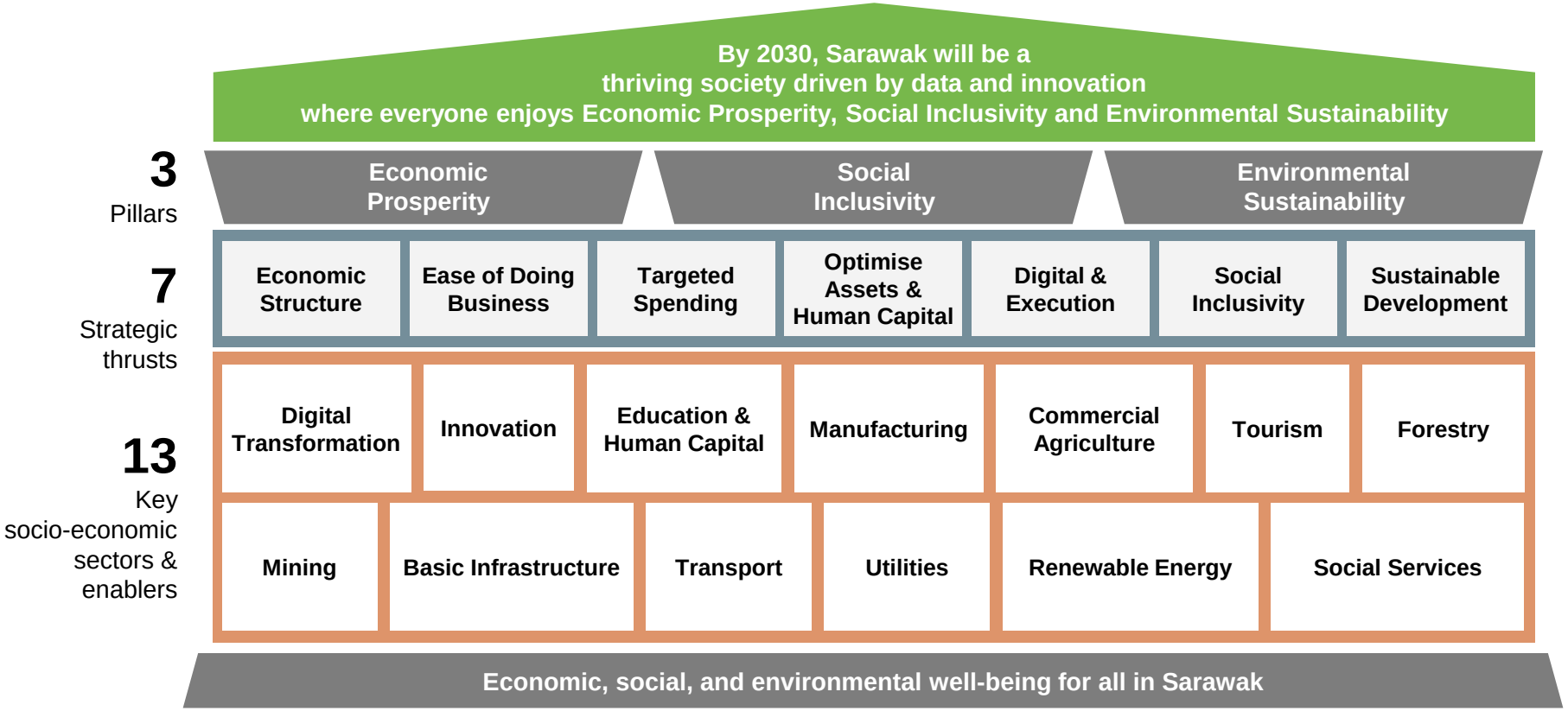
Current trajectory is on track to achieve the 2030 target	Addressing gaps to achieve the 2030 target	Significant improvement needed to achieve the 2030 target	Not enough information
GHG emissions and Particulate Matter • Reduce annual mean levels of Particulate Matter 2.5 concentration in cities to below 28 µg/m3 **Forestry** • Maintain 56% forest cover Restore 200,000 ha of degraded forest land area **Energy generation and usage** • Maintain at least 60% installed energy capacity mix from renewable sources • Reduce energy usage from green and sustainable building infrastructure by 20%	**N/A**	**Water and sanitisation services** • Reduce non-revenue water (NRW) to at least 25% • Reduce domestic water consumption (lcpd) to 165 lcpd **Energy generation and usage** • Maintain at least 60% installed energy capacity mix from renewable sources • Reduce energy usage from green and sustainable building infrastructure by 20%	**Water and sanitisation services** • Safely managed treated water quality complying to National Drinking Water Quality Standards (NDWQS) and sanitisation services **GHG emissions and Particulate Matter** • Contribute to national target to reduce GHG emissions intensity of GDP by 45% by 2030

2

13MP Strategy Framework

2.1 Pillars and Priority Areas for 13MP

The strategic framework for the first phase of PCDS 2030 needs to be updated to reflect changes identified over the years



Additional sectors and enablers were added and restructured to the PCDS 2030 house to include key 13MP priority areas

Baselining, performance review, and gap analysis

During the process of baselining, performance review, and gap analysis, several key areas that were lacking emphasis and required enhancement were identified. This thorough examination and evaluation revealed opportunities for growth and improvement, leading to the establishment of additional sectors. These sectors have been prioritised to address the gaps and to ensure a more comprehensive and robust framework for future development.

The additional Strategic Thrust is as follows:

Net Zero and Sustainable Development

The restructured key socio-economic sectors and enablers are as follows:

Manufacturing & SME Development	**Forestry, Natural Asset Management & Conservation**	**Tourism, Arts, Culture & Creative Industries**	**Mining & Oil and Gas**
Infrastructure & Utilities	**Transport & Logistics**	**Energy Transition**	

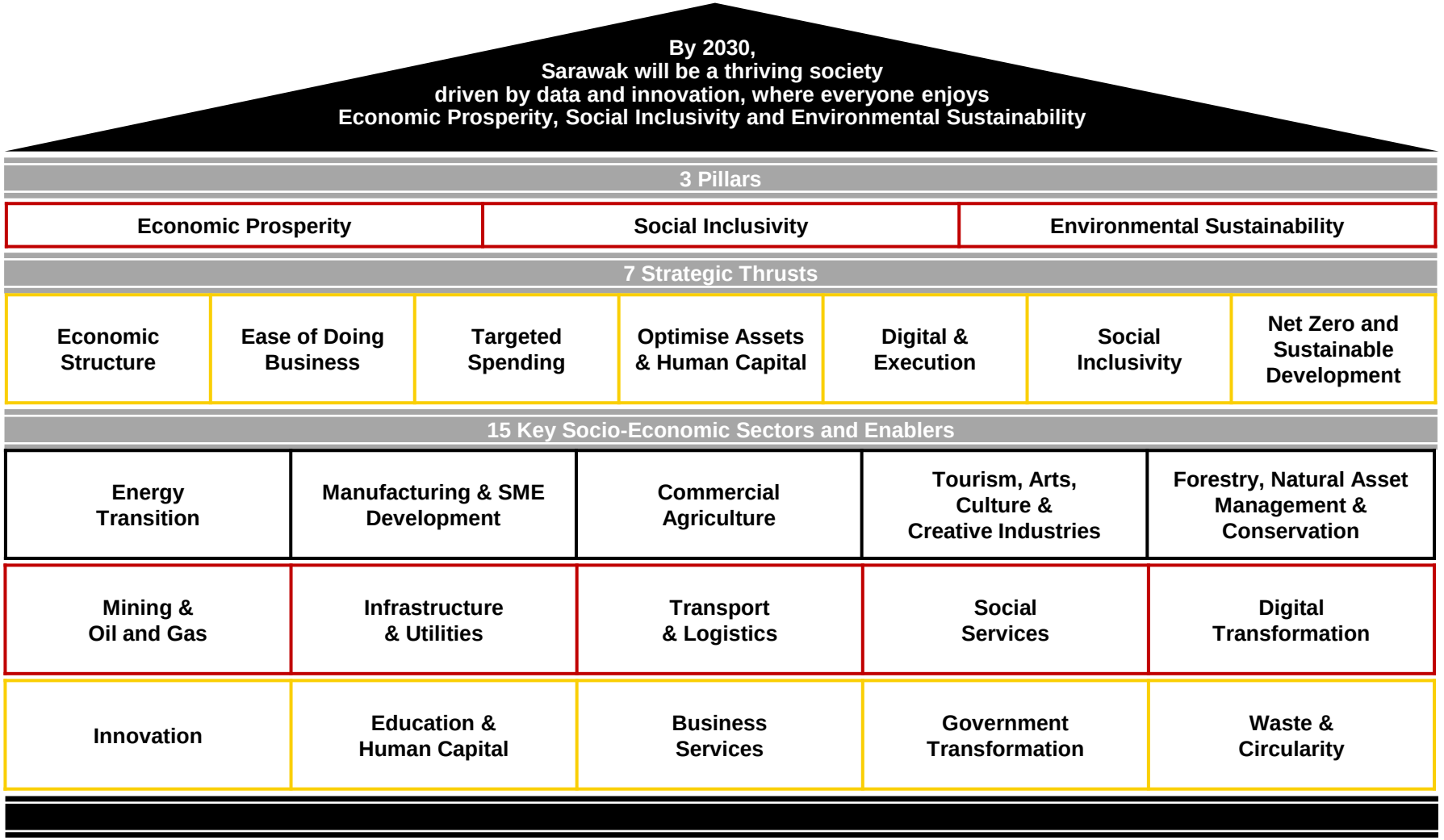
Input from TWG and Ministries

The Ministries and TWGs have identified new opportunities for growth and areas they wish to prioritise. This collaborative input has led to the identification and establishment of additional sectors.

The additional key socio-economic sectors and enablers are as follows:

Waste & Circularity	**Business Services**	**Government Transformation**

The PCDS 2030 strategic framework for Phase 2 has been updated to reflect new focus areas in the strategic thrusts, key socio-economic sectors and enablers



The seven strategic thrusts identified in Phase 1 of PCDS 2030 remain relevant to the strategic framework…

Economic Structure

The transformed economic structure will shift towards a more diversified and export-oriented economy, with more focus on secondary and tertiary sectors as compared to primary sectors. This will require accelerating downstream activities and services for broader wealth distribution and economic resilience. To this end, the plan envisages significant improvement in productivity (efficiency and scale). New domestic and foreign investors will play important roles to build up scale and facilitate technology and skills transfer.

Targeted Spending

The plan will implement prioritised spending with clearly indicated targeted spending measures on areas with higher impact and emphasis on economic diversification, digitalisation, and transition towards a low carbon economy. For example, any new infrastructure spending will be balanced with spending required to enhance existing infrastructure service levels and connectivity to maximise impact and benefits to the people.

Ease of Doing Business

Suitable ecosystems with conducive policies and efficient public administration are vital to ensure that the interests of the private sector are translated into realised investments. This can be achieved by improving the ease of doing business, ensuring sufficient energy and infrastructure, and addressing land issues and the shortage of talent. Greater practice of inter-agency alignment through clear data-sharing and streamlined processes will also help support this.

Optimising Assets & Human Capital

Assets including physical structures and human capital should be fully utilised to maximise operational efficiency. Existing and under-utilised infrastructure should be examined and redeployed for specific functions if relevant. Human capital will be developed in a more strategic manner, alongside attracting and retaining skilled talent to address skill shortages and develop the economy.

…updated to include net zero commitments

Digital & Execution

Digitalisation has been accelerated through strategic initiatives for rural connectivity, innovation hubs and smart city projects, as well as digital delivery of Government services. Digitalisation will drive execution of initiatives in the most effective way.

Social Inclusivity

Progress has been made but improvements are required for Sarawak's long-term development. Sarawak will continue implementing social initiatives to ensure the well-being of Sarawakians, including efforts to raise household incomes for vulnerable segments of society. This will allow Sarawak's citizens to have a tangible stake in the economic growth of Sarawak.

Net Zero and Sustainable Development

With its commitment to achieving net zero emissions by 2050, Sarawak will enhance and embed environmental sustainability into development. This will be done by mainstreaming environmental sustainability across priority policy areas and sectors and executing state-led climate strategies and policies that are supported by localised climate actions to steer net-zero transition and future-proof growth.

Deep dive on Social Inclusivity: Rural Development

Social Inclusivity

Inclusive rural development is central to Sarawak's goals of shared prosperity and resilient communities. Moving forward, Sarawak aims to focus on interventions that raise rural incomes, broaden economic participation and strengthen basic services so that the benefits of growth are equitably shared across all segments of society, especially among lower-income and underserved communities.

The measures set out clear, actionable directions that together will lift productivity, diversify livelihoods and improve quality of life across rural Sarawak. To implement these actions, Sarawak's nine Regional Development Agencies (RDAs) can act as local delivery partners and programme implementers.

Sarawak will optimise land use and rural infrastructure to unlock productive potential through RDAs. For example, agencies covering riverine and delta areas can coordinate paddy irrigation rehabilitation and aquaculture zoning; upland agencies can facilitate cooperative arrangements and joint-venture models to mobilise Native Customary Rights (NCR) land for commercial and smallholder farming.

Complementary investments in tertiary roads, drainage and farm access, combined with a utilities-mapping and geospatial database to integrate utility planning into approvals, will reduce project delays and logistics costs. These measures are designed to raise yields, enable local aggregation and processing at scale, and stabilise incomes for smallholders and commercial farmers alike.

Leveraging this platform, Sarawak will develop strategic, rural-focused industries to diversify incomes and capture greater local value. RDAs can identify and mobilise farmer organisations and entrepreneurs to participate in commercial agriculture (including veterinary services, biosecurity and farmer finance) to promote downstream processing and agro-value chains and strengthen planted-forest productivity and non-timber forest product (NTFP) opportunities.

Concurrently, tourism will be advanced through community-based ecotourism (CBET), formal concession and benefit-sharing arrangements for flagship natural attractions, and support for creative and culinary industries. By emphasising local processing, market linkages and partnership models, these sectoral investments will support year-round employment and broaden livelihood choices in rural areas.

To ensure rural households can take up these opportunities, Sarawak will strengthen liveability and social inclusion across rural communities. RDAs can coordinate local roll-out of Family First, Women@Work and conditional income-support pilots; convene partners for regional medical hub outreach and the expansion of community health workers and telehealth; and support affordable housing initiatives, rental-to-own pilots and transit-oriented township planning at the divisional level.

These measures reduce vulnerability, increase workforce participation (particularly among women) and underpin long-term human capital development needed for rural economic renewal.

Deep dive on Social Inclusivity: Rural Development

Social Inclusivity

Recognising that modern energy and connectivity are prerequisites for competitiveness, Sarawak will secure reliable, affordable energy and digital access for rural productivity. The approach combines rural grid reinforcement with decentralised renewable solutions and microgrids where appropriate. RDAs can act as intermediaries between communities, State agencies and private developers to accelerate decentralised energy pilots, microgrids and digital connectivity projects that directly enable rural value-addition.

At locality level, agencies can identify priority sites for mini-grid deployment to support agro-processing and cold chains, host demonstrations of energy-efficient equipment for smallholders, and coordinate community demand aggregation for renewable investments. Reliable energy will ultimately lower operating costs for these industries, enable telehealth and e-learning, and permit higher-value processing close to production.

Finally, Sarawak will attract and retain talent and catalyse rural skills to sustain the rural community. The State will implement targeted employment and family-support packages through the coordination of RDAs to bring professionals to regional hubs, elevate rural teaching, expand regional vocational training, and establish youth centres that link education to local employment.

Together, these measures will reduce brain drain, improve public service delivery in rural areas and stimulate entrepreneurship and through the coordination of RDAs, they can help ensure skills investments translate into sustainable employment and enterprise growth.

Taken together, these measures strengthen land, water and energy resources for Sarawak. It diversifies and add value to rural incomes and build human and social capital.

Immediate priorities are to rehabilitate and expand paddy irrigation and formalise land access; strengthen rural grids for agro-processing; upgrade tertiary roads to link farms and tourism to markets; scale community-led tourism and forestry enterprises; and deploy targeted skills-and-deployment packages with incentives for rural teachers and healthcare workers.

Summary: 15 Socio-Economic Sectors and Enablers (1/4)

Energy Transition

Sarawak will invest in advanced technologies and public-private partnerships to transform its energy landscape into a sustainable, inclusive and secure regional powerhouse.

Central to this vision is a target of 10 GW of renewable energy capacity by 2030, to be delivered through Cascading Power Sources (CPS), large-scale and floating solar projects, and biomass.

At the same time, natural gas will be developed as a transitional source via Combined Cycle Gas Turbine plants in Miri, Samalaju and Kuching to ensure reliability as renewables are integrated. Together, these measures will diversify the energy mix and align Sarawak with global climate and sustainability commitments.

Commercial Agriculture

Sarawak aims to build a technology-driven, high-yield, and sustainable agro-industry to enhance food security, create jobs, and become a net food exporter by 2030.

The transformation focuses on large-scale commercial farming, particularly the expansion of paddy cultivation, adoption of modern agro-technologies, and integration of agro-industrial value chains.

Sarawak will attract global partnerships and access international markets, with greater emphasis on high-value crops and climate-resilient farming to develop a sustainable and competitive agricultural ecosystem.

Manufacturing & SME Development

To position Sarawak as a premier hub for high-value investment, the Government will strengthen economic resilience through value-added downstream manufacturing, establishment of Special Economic and Free Industrial Zones, and enhanced industrial park management to reinforce supply chains and competitiveness.

Additionally, Sarawak will also develop its aerospace, semiconductor, and specialised manufacturing sectors. This will empower small and medium enterprises (SMEs) through digitalisation, entrepreneurship, and improved access to global markets.

These combined efforts will promote sustainable growth and further establish Sarawak as a leader in innovative, high-value manufacturing.

Tourism, Arts, Culture & Creative Industries

Sarawak aims to boost quality leisure and business visitor arrivals by building industry capacity and leveraging its culture, heritage, and biodiversity to position itself as a leading sustainable tourism destination.

Priorities include eco-tourism and creative-tourism branding, integrating informal providers to raise service standards and visitor experience, promoting micro-tourism, and increasing private-sector participation in luxury and responsible tourism to spur infrastructure development, cultural preservation, and global recognition.

Summary: 15 Socio-Economic Sectors and Enablers (2/4)

Forestry, Natural Asset Management & Conservation

The Sarawak Government will integrate conservation considerations into land-use planning to safeguard biodiversity while supporting the sustainable growth of the timber industry, through strengthened enforcement and enhanced community–private partnerships. These efforts will focus on restoring and protecting ecosystems, while accelerating forest carbon management to achieve international recognition for responsible and sustainable resource stewardship.

In parallel, Sarawak will promote the development of value-added timber products to enhance revenue and export performance, with active local community engagement to empower stakeholders. Collectively, these measures will align economic development objectives with ecological sustainability in line with the aspirations of the 13th Malaysia Plan.

Mining & Oil and Gas

Sarawak will develop a sustainable and technologically advanced extractive industry to drive growth, create high-value jobs, and strengthen local capabilities.

Efforts will focus on expanding mining activities across the value chain, particularly in downstream processing, to attract investors and promote local vendor participation and technology transfer. Capacity building, innovation, and the adoption of advanced technologies such as carbon capture, utilisation, and storage (CCUS) will underpin this strategy. Key initiatives include geological mapping, development of the Kuching Low Carbon Hub, and greater domestic utilisation of gas, positioning Sarawak as a leader in the mineral extraction sector.

Infrastructure & Utilities

The Infrastructure & Utilities sector is central to driving sustainable growth and economic resilience through advanced technologies and efficient resource management. The Sarawak Government will integrate Building Information Modelling and modernise utility systems to improve governance and project delivery, while ensuring universal access to reliable utilities.

Renewed pipelines, centralised procurement and stronger public–private partnerships will enhance efficiency and connectivity. Strategic projects, including the Sarawak Coastal Road, the Second Trunk Road and the Sarawak Water Supply Grid, will strengthen urban–rural links and secure sustainable water supply for industry and public health.

Transport & Logistics

The Transport & Logistics sector will be strengthened through data-driven and integrated systems to enhance connectivity, safety and cost efficiency, supporting Sarawak's aspiration to become the logistics hub of Borneo. The Government will advance public–private partnerships, upgrade infrastructure and modernise freight and port operations to strengthen regional trade.

Key initiatives include hydrogen-powered buses in Kuching, the launch of AirBorneo, airport upgrades in Kuching and Sibu, improvements to river transport, and streamlined logistics processes. These measures will enhance mobility, logistics efficiency and Sarawak's attractiveness to investors.

Summary: 15 Socio-Economic Sectors and Enablers (3/4)

Social Services

Sarawak's Social Services sector will enhance living standards and social resilience through innovative and affordable services for all. Priorities include poverty alleviation, strengthened social welfare, and youth and sports programmes to promote community well-being.

Efforts will ensure equitable access by addressing affordability barriers, with targeted support for vulnerable groups, including the elderly and low-income families. Together, these measures will empower communities and foster a more inclusive and resilient society.

Innovation

Sarawak aims to become a leading hub for research, creativity and technology-driven solutions by strengthening its innovation ecosystem through targeted investments in R&D, biotechnology and commercialisation.

The Sarawak Bio-Industrial Park in Samarahan will anchor this effort by attracting global investment and leveraging biological resources for high-value applications.

In parallel, SMEs and start-ups will be supported through venture funding, digital platforms and collaborative networks. Collectively, these initiatives will accelerate innovation across sectors and foster a strong culture of creativity and entrepreneurship in Sarawak.

Digital Transformation

Sarawak's digital transformation will strengthen infrastructure and connectivity to support a digitally driven, inclusive economy grounded in innovation and data.

Guided by the Sarawak Digital Economy Blueprint 2030, the Government will accelerate digitalisation across public services, businesses and communities to improve service delivery, productivity and opportunities for SMEs and rural areas.

Targeted digital skills training and strategic investments in nationwide connectivity will ensure inclusive access, enabling all Sarawakians to participate in and benefit from the digital economy.

Education & Human Capital

The Education & Human Capital sector is central to building a skilled, digitally proficient workforce to support Sarawak's transition to a high-income economy by 2030.

Priorities include inclusive education, workforce upskilling, lifelong learning, stronger foundational education, expanded technical and vocational training, and increased STEM participation, supported by closer industry–academia collaboration.

Efforts will prioritise underserved urban and rural communities and be reinforced by the introduction of free higher education by 2026 to widen access and remove financial barriers.

Summary: 15 Socio-Economic Sectors and Enablers (4/4)

Business Services

The Business Services sector will strengthen Sarawak's economy by improving the business environment through better policy compliance, more efficient infrastructure, strategic land use, and targeted talent development. These measures will create a supportive ecosystem that attracts investment, fosters innovation and drives growth.

Priority strategies include expanding high-value services such as finance, manufacturing support and engineering to diversify the economic base and leverage local strengths. Upgrading infrastructure and improving workforce readiness through skills programmes will ensure companies can operate smoothly and access a skilled labour pool that meets industry needs.

Waste & Circularity

Sarawak is advancing the circular economy to address environmental challenges while supporting sustainable economic growth by turning waste into resources, cutting pollution and conserving natural assets. Central measures include waste-to-energy projects and upgraded waste management infrastructure to reduce landfill reliance, alongside industrial waste exchanges, and community recycling to boost resource efficiency.

Sarawak is increasing private-sector participation and establishing household e-waste collection centres to streamline recycling, while educational outreach in schools and communities will raise environmental awareness and participation. Improvements to greywater treatment and the roll-out of centralised sewerage systems will strengthen wastewater management, enhancing long-term environmental and economic resilience.

Government Transformation

The Government Transformation sector is committed to improving public sector efficiency and responsiveness through digitalisation, streamlined processes and stronger inter-agency collaboration. By aligning Federal and Sarawak initiatives and reinforcing governance frameworks, the government aims to enhance service delivery and create new economic opportunities.

Key tools include Integrated Results-Based Management (IRBM) to align planning and evaluation with policy objectives, Results-Based Budgeting (RBB) to prioritise funding for high-impact programmes, and an Employee Performance Management System to support staff development, well-being and accountability.

Together, these measures will foster a more adaptive, effective and performance-driven public service.

Serving as the guiding framework, 10 High-Level Strategies shape the direction of Sarawak's 13MP

- **HLS 1: Accelerate the Clean Energy Transition**
- **HLS 2: Develop and Attract Strategic Industries**
- **HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation**
- **HLS 4: Optimising Land Use to Drive Growth**
- **HLS 5: High-quality Living Environment and Inclusive Society for all Communities**
- **HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce**
- **HLS 7: Enhance Safety, Security, and Disaster Preparedness**
- **HLS 8: Engage in Climate Action, Integrate Environmental, Social, and Governance (ESG), and Advance the Circular Economy**
- **HLS 9: Protect and Sustainably Manage Natural Resources**
- **HLS 10: Create a Strong and Resilient Bumiputera Business Community**

2.2 HLS 1: Accelerate the Clean Energy Transition

HLS 1: Accelerate the Clean Energy Transition

		Page
Overview		**58**
Energy Transition		***59***
ET-S1	Create hydrogen value chain through facilitating strong supply and demand	
ET-S2	Expand grid and energy storage infrastructure to accommodate higher renewable energy capacity	
ET-S3	Ensure electricity access and energy security with clean energy in rural areas	
ET-S4	Increase fuel efficiency of the transportation sector, including expanding EV charging infrastructure at key urban areas	
ET-S5	Catalyse R&D of new technologies through piloting large-scale commercialisation	
ET-S6	Drive energy efficiency by changing behaviour	
ET-S7	Introduce sustainable financing and funding strategy to drive innovation and implementation	
Infrastructure & Utilities		***69***
IU-S1	Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability	
IU-S2	Accelerate gas production efforts and prioritise key sectors with high economic impact through policy intervention	

Overview
HLS 1: Accelerate the Clean Energy Transition

Accelerating the clean energy transition by expanding renewable resources and modernising infrastructure through strategic investments for sustainable development and environmental stewardship

To advance the clean energy transition, a comprehensive approach is being adopted to expand renewable energy and modernise infrastructure. This includes establishing an energy regulator to enhance regulatory frameworks and attract investment for sustainable energy. Key initiatives feature the development of the Sarawak Hydrogen Hub to strengthen the hydrogen value chain, alongside significant infrastructure upgrades in grid systems and energy storage to accommodate higher renewable capacities and ensure electricity access in rural areas.

Further strategies focus on boosting transportation fuel efficiency through electric vehicle infrastructure, driving energy efficiency to influence consumer behaviour and fostering innovation through R&D and sustainable financing. Legislative and regulatory enhancements, alongside accelerated gas production and targeted policy interventions, will reinforce efforts to ensure reliability, sustainability and economic impact. An ecosystem for human capital development will be built to support these initiatives, preparing the workforce to meet current and future energy industry demands.

9	**Strategies**
15	**Initiatives**
1	**Game Changer**

Energy Transition	Infrastructure & Utilities
Key areas: • Grid and Energy Storage Expansion • Electric Vehicle Infrastructure • Technology R&D and Commercialisation	**Key areas:** • Energy Sector Legislation and Regulatory Enhancement • Rural Electricity Grid Reinforcement • Gas Production Policy Intervention

Energy Transition

Strategy	Initiative	Outcome
ET-S1: Create hydrogen value chain through facilitating strong supply and demand	• New energy demand and supply value chain (e.g., ammonia, green port) ✓ **Development of the Sarawak Hydrogen Hub**	• Increased investment in low-carbon hydrogen in Sarawak • Improved infrastructure to produce, sell and distribute hydrogen • Generate RM2.4 billion in revenue from development of Sarawak Hydrogen Hub
ET-S2: Expand grid and energy storage infrastructure to accommodate higher renewable energy capacity	• Build infrastructure (power generation, transmission and distribution lines, energy storage systems, flexible grid lines) to accommodate increased power generation, transmission and distribution • Promote REC for consumers and investors (increase traceability of renewable energy source to companies)	• Increased grid capacity to 10 GW by 2030 handle increased energy generation and transmission • Improved energy security • Increased traceability of renewable energy source for investors and consumers for better corporate disclosure
ET-S3: Ensure electricity access and energy security with clean energy in rural areas	• Decentralised energy system in rural areas	• Ensure social inclusivity including rural electricity access, increasing to 100% rural access by 2030
ET-S4: Increase fuel efficiency of the transportation sector, including expanding EV charging infrastructure at key urban areas	• Strategic partnerships with the private sector to co-invest in EV charging stations	• Lower carbon emissions by 60,000 tons by 2030 from mobility fleet • Increased adoption of EV vehicles

✓ **Indicates key initiatives/game changer**

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

Energy Transition

Strategy	Initiative	Outcome
ET-S5: Catalyse R&D of new technologies through piloting large-scale commercialisation	• To support more R&D initiatives towards commercialisation of Microalgae Project for Biofuels production and potentially give way to community involvement • Feasibility study for Small Modular Reactors	• Support the commercialisation of new and innovative technologies to accelerate implementation
ET-S6: Drive energy efficiency by changing behaviour	• Introduce energy efficient measures in government building or as part of the green procurement system	• Reduce energy demand and wastage
ET-S7: Introduce sustainable financing and funding strategy to drive innovation and implementation	• Encourage the use of green financing or sustainable finance through Energy Transition Fund, particularly to support technologies or innovation at the nascent stage with less commercial feasibility	• Improve financial viability and investment attractiveness of innovative technologies or start-up companies and businesses • Encourage innovation and new technologies by enhancing their commercial and financial viability

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

BUILD ET-S1: Create a hydrogen value chain through facilitating strong supply and demand

Sarawak is poised to be a regional leader in low-carbon hydrogen production. Ensuring that there is sufficient demand as off – takers is important to generate more interest and improve financial viability to commercialise hydrogen production.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **New energy demand and supply value chain (e.g., ammonia, green port):** Developing a hydrogen value chain in Sarawak necessitates collaboration between government and industry to conduct feasibility studies, focusing on infrastructure investment like electrolysis plants powered by renewable energy ✓ **Develop Sarawak Hydrogen Hub:** The H2ornbill project could position Sarawak as a low-carbon hydrogen hub by 2030, leveraging hydrogen to facilitate the state's development. Providing incentives for investors as pioneers to enhance the business case, develop the necessary export infrastructure, and expand the base of potential hydrogen off-takers	• **Materialise investments in low-carbon hydrogen** in Sarawak • **Improved infrastructure to produce, sell and distribute hydrogen** • **Increased off-takers for hydrogen** to enhance commerciality	• **Cumulative RM9 billion committed investment** by 2030 • **10 GW power generation capacity** by 2030 • **0.17 tCO2/MWh main grid emission equivalent** by 2030

✓ **Indicates key initiatives/game changer**

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

BUILD Game changer: Create a hydrogen value chain through facilitating strong supply and demand

Thematic Area:
Scaling up of clean energy generation to meet increasing energy demand

Context:

- *Sarawak is uniquely placed to be able to produce green hydrogen due to its large source of hydropower*

Note: Refer to Sarawak Hydrogen Economy Roadmap

Development of the Sarawak Hydrogen Hub

Description: H2ornbill contributes to the overall mission of turning Sarawak into a low-carbon hydrogen hub by 2030. This focuses on utilising hydrogen to transform Sarawak into a developed state by 2030. Malaysia's green hydrogen market is expected to grow **to RM14.73 billion by 2050**, as projected by the Hydrogen Economy and Technology Roadmap (HETR).

Key Points

- Support investors to materialise the projects as required
- Develop infrastructure required for hydrogen export
- Increase the potential of off-takers for hydrogen

Aspect	H2ornbill
Partners	SEDC Energy, Sumitomo Corporation, ENEOS Corporation
Annual production of clean hydrogen	88 kilotonnes

Impact

The development of the Sarawak Hydrogen Hub is expected to generate **RM2.4 billion in revenue** by 2030, providing additional income for Sarawak and contributing to national GHG reductions.

Outcomes

- Increased investment in low-carbon hydrogen in Sarawak
- Improved infrastructure to produce, sell and distribute hydrogen
- RM2.4 billion in revenue generated from development of Sarawak Hydrogen Hub

Targets / Metrics

- Renewable energy installed energy capacity mix: **Maintain at least 60%** by 2030
- Committed investment and revenue from energy projects/initiatives: **Cumulative RM9 billion** by 2030

Source: Sarawak PCDS 2030 Highlights, National Energy Transition Roadmap, TV Sarawak

BUILD ET-S2: Expand grid and energy storage infrastructure to accommodate higher renewable energy capacity

Insufficient grid capacity, storage and power evacuation constraints restrict the scale-up of large-scale renewable energy (RE)

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Build infrastructure (power generation, transmission and distribution lines, energy storage systems, flexible grid lines) to accommodate increased power generation, transmission and distribution:** Develop comprehensive infrastructure, including power generation facilities, transmission and distribution lines, energy storage systems, and flexible grid lines, to accommodate increased power demands and improve energy distribution efficiency • **Promote REC for consumers and investors (increase traceability of renewable energy source to investors):** Promote the use of Renewable Energy Certificates (RECs) to enhance traceability of renewable energy sources, thereby providing assurance to consumers and investors and encouraging investment in clean energy • **Biomass clustering for power generation:** Implement biomass clustering to optimise power generation from biomass resources, enhancing efficiency and sustainability within Sarawak's energy sector	• **Increased grid capacity** from 5.9 GW currently to 10.0 GW to transmit renewable electricity at a larger scale to meet increasing energy demands, to spur growth • **Improved energy security** • **Increased traceability of renewable energy sources** for investors and consumers	• **Maintain at least 60% renewable energy installed capacity mix** • **10 GW power generation capacity** by 2030

BUILD ET-S3: Ensure electricity access and energy security with clean energy in rural areas

Creating an energy-inclusive society is important for rural livability

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Decentralise energy system in rural areas:** Implement decentralised energy systems by collaborating with local governments and energy providers to install microgrids and renewable energy technologies, tailored to the specific needs of rural communities. Encourage community participation and investment to enhance energy independence and ensure sustainable operation and maintenance	• **Ensure social inclusivity including rural electricity access,** increasing from 99% in 2024 to 100% by 2030.	• **10 GW power generation capacity** by 2030

BUILD ET-S4: Increase fuel efficiency of the transportation sector, including expanding EV charging infrastructure at key urban areas

Electrifying the mobility fleet is crucial for the energy transition, with increased electric vehicle adoption and comprehensive charging infrastructure playing key roles.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Strategic partnerships with private sector to co-invest in EV charging stations:** Collaborate with private sector to co-finance and install EV charging stations in key locations, such as Kuching, Sibu, Miri and Bintulu supported by government incentives to boost accessibility and adoption	• **Lower carbon emissions** from the mobility fleet by 60,000 tons by 2030 • **Increased adoption of EV vehicles**	• **Cumulative RM9 billion committed investment** by 2030

BUILD ET-S5: Catalyse R&D of new technologies through piloting large-scale commercialisation

To be at the forefront of new energy and related technologies, Sarawak must support research and development efforts in this area.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **To support more R&D initiatives towards commercialisation of Microalgae Project for Biofuels production and potentially give way to community involvement:** Establish partnerships with industry stakeholders to advance microalgae biofuel technologies through targeted funding and resource allocation. Facilitate community engagement and training programmes to integrate local knowledge and skills, fostering sustainable economic growth and energy innovation • **Feasibility study for Small Modular Reactors:** Conduct a study on deploying Small Modular Reactors in Sarawak, evaluating technical and economic viability, safety, and integration with current energy systems	• **Support commercialisation of new and innovative technologies** to accelerate implementation	• **Cumulative RM9 billion committed investment** by 2030

BUILD ET-S6: Drive energy efficiency by changing behaviour

Energy efficiency could reduce power demand, while reducing costs and emissions, a low-hanging fruit that can be adopted at government buildings, commercial and household areas.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Introduce energy-efficient technologies in government buildings or as part of the green procurement system:** Prioritise the integration of advanced technologies such as LED lighting, smart thermostats, energy-efficient HVAC systems, and renewable energy sources like solar panels. Regular monitoring and evaluation of the technologies' performance will help assess their impact on reducing energy consumption and the carbon footprint.	• **Reduce unnecessary power demand** and wastage	• SEER targets a **7.5% – 10% reduction in electricity intensity per capita for the residential and commercial sectors** by 2040 • SEER targets a **reduction in energy intensity per GDP in the industrial sector by 10% – 12.5%** by 2040

NEW ET-S7: Introduce sustainable financing and funding strategy to drive innovation and implementation

Government assistance is required to help investors and SMEs that are considered as a "start-up" to overcome high CAPEX costs. Start-up could refer to nascent technologies and innovation that are still at the pilot stage to incentivise the first-movers.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Encourage the use of green financing or sustainable finance through the Energy Transition Fund, particularly to support technologies or innovations at the nascent stage with less commercial feasibility:** Establish a fund to support early-stage sustainable technologies and innovations, providing financial backing to enhance commercial feasibility and drive development. Additionally, collaborate with the Federal Government to improve GITA under MIDA and MGTC, offering attractive tax benefits to encourage investment in green projects and technologies	• **Improve financial viability and investment attractiveness** of innovative technologies or start-up companies and businesses • **Encourage innovation and new technologies** by enhancing their commercial and financial viability	• **Cumulative RM9 billion committed investment** by 2030

Infrastructure & Utilities

Strategy	Initiative	Outcome
Electricity Sector		
IU-S1: Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability	✓ **Establish an independent regulatory body for energy regulation in terms of economic, technical and safety standards, and industry development for power generation and supply, gas distribution, new energy, EV charging, and CCUS (e.g. the proposed Sarawak Energy Authority/Sarawak Energy Council)** • Establish integrated Sarawak energy planning and standards database to enhance transparency and predictability to investors • Provide long-term electricity tariff mechanism for investors and consumers or introduce green tariff	• Streamlined and clear energy governance and structure • Predictable regulatory framework • Consistent market rules and regulations with a high degree of transparency, reduction in market monopoly • The industry development for power generation and supply will contribute to Sarawak's objective towards 10 gigawatts (GW) of electricity by 2030 and 15 GW by 2035. • Enhanced investment environment and ensure fair competition in the energy sector • Strengthened capability to support Sarawak's goal in achieving energy security, inclusivity and sustainability

✓ **Indicates key initiatives/game changer**

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

Infrastructure & Utilities

Strategy	Initiative	Outcome
Gas Sector		
IU-S2: Accelerate gas production efforts and prioritise key sectors with high economic impact through policy intervention	• Assess Sarawak's industrial landscape to identify industries with the highest potential for economic impact through increased gas usage as outlined in Sarawak Gas Roadmap • Develop policies and regulatory frameworks that mandate the use of gas by certain industries • Monitor the effectiveness of gas allocation policies and the economic performance of prioritised industries	• Increased domestic gas utilisation • Impact of increased gas availability on local industries and overall economic growth • Employment rates within sectors benefitting from enhanced gas supply

NEW IU-S1: Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability (1/2)

Sarawak's current governance for the energy sector is fragmented, with monopolies being formed on certain energy sectors that increases the risk of regulatory capture. An independent energy regulator is required to regulate all energy-related matters and to streamline energy governance.

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Legislative Enhancements:**
  • **Economic Regulation**: Promote and enhance economic efficiency of markets and services, licensing and standards of EV charging and infrastructure, consumer protection mechanisms
  • **Technical & Safety Standards**: Technical and safety regulations on new energy
  • **Industry Development:** Promote investments and innovation in new technologies, adoption of clean fuels
• **Regulatory Body**: Establishment of an independent regulatory body to regulate all forms of energy – power, gas distribution, new energy, and CCUS
	• **Enhanced economic regulations** with better consumer protection mechanisms, fair market participations towards a liberalised market
	• **Streamlined energy governance** with clear responsibilities and supporting legislations to support the energy sector
	• **Predictable regulatory environment** through transparent regulator – government relationship and responsibilities
	• **Consistent market rules and regulations** with a high degree of transparency to instil confidence to investors and operators
	• **Reduce natural monopolies** for a fairer market with better consumer protection
		• Maintain at least 60% of the generation capacity mix from renewable sources
		• Digitalisation of 50% of consumers' electricity meters, with potential savings of up to RM10 million from electricity theft
		• Smart meters in solar renewable energy to carry out net metering (NEM). NEM uptake of 150 MW by 2030 from Domestic, Small Commercial and Small Industrial consumers

NEW IU-S1: Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability (2/2)

Sarawak's current governance for the energy sector is fragmented, with monopolies being formed on certain energy sectors that increases the risk of regulatory capture. An independent energy regulator is required to regulate all energy-related matters and to streamline energy governance.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Establish integrated Sarawak energy planning and standards database to enhance transparency and predictability to investors:** Create a centralised database to consolidate energy planning data, regulatory standards, and performance metrics, providing stakeholders with reliable information to boost investor confidence and support strategic planning. • **Provide long-term electricity tariff mechanism for investors and consumers or introduce green tariff:** Implement a long-term electricity tariff mechanism to offer pricing stability for investors and consumers, alongside a green tariff to promote renewable energy adoption and sustainable energy consumption.	• **Increased investment** and ensure fair competition in the energy sector • **Strengthen capability** to support the state's goal in achieving energy security, inclusivity and sustainability	• **Cumulative RM9 billion committed investment** by 2030 • **10 GW power generation capacity** by 2030

NEW Game changer: Legislative and regulatory enhancements for the energy sector for supply reliability and sustainability

Thematic area: Enhancement of regulatory environment in an evolving energy landscape

Context:

- *Recent discussions with private sector stakeholders emphasised the need for an independent regulatory body in Sarawak's energy market, particularly in the competitive segment of the energy sectors.*

Enhance the regulatory environment and competitiveness of energy sector by setting up an energy regulator

Description: Establishing an independent energy regulator in Sarawak is essential for fostering investment, enhancing consumer outcomes, and ensuring long-term energy security and sustainability. This would ensure fair competition between Sarawak Energy Berhad (SEB) and Independent Power Producers (IPPs), protect consumers through fair tariffs and high service standards, and drive innovation and investment in renewable energy.

Key Points:

- **A stable regulatory environment** draws local and international investment, particularly in renewable energy
- **Ensures equitable tariffs and high service quality** with mechanisms for complaint resolution and transparency
- **Reduces reliance on single energy sources**, enhancing energy security
- **Enforces strong regulations** and supports clean technologies to support the energy policy objectives
- **Develop the energy industry by piloting and supporting innovative technologies** even at the nascent stage or start-ups to ensure materialisation of new energy technologies in Sarawak, e.g., through the Energy Transition Fund or Climate Financing Facility
- **Promotes initiatives to lower costs and reduce environmental impacts**, aligning with sustainability goals

Outcomes

- Increased investment and ensure fair competition in the energy sector
- Strengthen capability to support Sarawak's goal in achieving energy security, inclusivity and sustainability

Targets / Metrics

- Committed investment and revenue from energy projects/initiatives
- Electricity intensity per GDP of the energy sector *(pending SET-P finalisation)*

BUILD IU-S2: Accelerate gas production efforts and prioritise key sectors with high economic impact through policy intervention

Sarawak has a limited supply of gas for domestic use, with the majority being exported. Given this limited supply, a framework is needed to guide optimal utilisation to maximise economic benefits.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Accelerate Gas Production:** Explore avenues to increase domestic gas production • **Assess Current Industrial Landscape:** Assessment of the local industrial landscape to identify industries with the highest potential for economic impact through increased gas usage to strategically allocate limited gas resources, to maximise economic growth and job creation • **Monitor Effectiveness & Economic Performance**: Monitor the effectiveness of gas allocation policies and the economic performance of prioritised industries. This involves regular reviews and assessments to ensure that the policies are achieving their intended outcomes. By tracking key performance indicators, the government can make data-driven adjustments to optimise gas usage and support sustainable economic development	• **Percentage of domestically produced gas retained for domestic consumption** • **Targeted resource allocation** to ensure economic sectors with the greatest growth potential will receive the necessary input • **Industrial growth** can be stimulated through targeted allocation, leading to potential increase in job creation and economic development • **Optimised policy implementation** through monitoring of policies to allow for better decision-making in future policy decisions • **Sustainable development** through the tracking of economic performance of prioritised industries	• Increase domestic gas utilisation to minimum 30% of total domestic gas production • Attract new foreign and local investors for downstream expansion, targeting RM8 billion worth of investment • Creation of more than 29,800 jobs (~3,800 direct, ~26,000 indirect)

2.3 HLS 2: Develop and Attract Strategic Industries

HLS 2: Develop and Attract Strategic Industries

		Page
Overview		**78**
Manufacturing & SME Development		***80***
M-S1	Strengthen local supply chains by fostering partnerships and building capacity to meet investor needs	
M-S2	Advance into higher-value downstream activities for long-term resilience	
Commercial Agriculture		***84***
CA-S1	Provide and strengthen essential supporting services to support agriculture ecosystems	
CA-S2	Increase yields by increasing adoption of modern farming practices and technology	
CA-S3	Improve farmers' access to financial services to adopt agricultural machinery and expand production	
Tourism, Arts, Culture and Creative Industries		***92***
T-S1	Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption	
T-S2	Expand and deepen creative industries by empowered communities and responsible action	
T-S3	Elevate both eco-tourism and luxury tourism offerings tapping into natural reserves and high-end market	

HLS 2: Develop and Attract Strategic Industries

		Page
Mining and Oil & Gas		***105***
MOG-S1	To progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills	
MOG-S2	Explore partnerships with established downstream players to identify and develop opportunities for value-added activities	
MOG-S3	Explore and assist in the development of Carbon Capture, Utilisation and Storage (CCUS) sector	
Digital Transformation		***110***
DT-S1	Drive digital business development and high-tech high-value investment in strategic industries	
DT-S2	Accelerate digitalisation in priority economic sectors	
DT-S3	Catalyse Artificial Intelligence (AI) opportunities leveraging the Sarawak AI Centre (SAIC)	
Innovation		***118***
IN-S1	Strengthen local and global linkages and partnerships, particularly between research institutions, innovation hubs and industries to maximise the value of R&D and commercialisation	
IN-S2	Enhance facilitation services to support innovation and scaling up across borders	

Overview
HLS 2: Develop and Attract Strategic Industries

Fostering strategic industries by leveraging key partnerships and advanced technology to build resilient supply chains and attract high-value investments for sustainable innovation and economic advancement

To develop and attract strategic industries, a high-level strategy comprising six key sectors will be implemented to develop Sarawak's strategic industries, focusing on building robust partnerships and enhancing supply chains and SME capabilities to meet investor needs, advancing into higher-value downstream activities for ecosystem resilience.

Efforts will extend to strengthening commercial agriculture by enhancing essential services, promoting modern farming and improving farmer access to financial services. The tourism sector will be revitalised through strategic partnerships and capacity building while expanding creative branding and enhancing both eco and luxury tourism experiences. Sarawak's natural resources, particularly in the OGSE sector, will be harnessed through collaboration and innovation, developing CCUS capabilities and expediting strategic onshore investments.

Digital transformation will be a priority, driving investment in strategic industries and accelerating digitalisation, particularly through AI opportunities at the Sarawak AI Centre. Innovation hubs will strengthen R&D partnerships locally and globally, enhancing support for scaling up projects.

The establishment of economic zones such as the Kuching Low-Carbon Hub will promote sustainability and growth. Kuching will be positioned as Borneo’s global gateway with improved infrastructure, including an international airport, deep seaport, and the launch of the AirBorneo airline.

HLS 2: Develop and Attract Strategic Industries - Key Areas

Manufacturing & SME Development

Key areas:
- Local supply chain integration
- Downstream activity advancement
- SME capacity building

Commercial Agriculture

Key areas:
- Essential service support
- Technology and practices adoption
- Financial access and support

Tourism, Arts, Culture and Creative Industries

Key areas:
- Tourism offering enhancement
- Creative branding expansion
- Sustainable and luxury tourism

Mining & Oil and Gas

Key areas:
- OGSE sector development
- Value-added downstream partnerships
- Carbon capture and geological exploration

Digital Transformation

Key areas:
- Digital business development
- Sectoral Digitalisation
- AI opportunity expansion

Innovation

Key areas:
- R&D linkages and partnerships
- Cross-border scaling support
- Commercialisation facilitation

Manufacturing & SME Development

Strategy	Initiative	Outcome
M-S1: Strengthen local supply chains by fostering partnerships, and building capacity to meet investor needs	✓ **Develop a comprehensive SME support programme tailored to the unique needs of SMEs across industries**	• Enhanced SME competitiveness • Increased flow of economic benefits from FDIs to local SMEs
M-S2: Advance into higher-value downstream activities for long-term resilience	• Encourage technological advancements in local companies to promote innovation and business transformation • Attract high-value downstream FDI and DDI	• Creation of more high-skilled job opportunities • Increased manufacturing GDP

✓ **Indicates key initiatives/game changer**

BUILD M-S1: Strengthen local supply chains by fostering partnerships and building capacity to meet investor needs

Foreign direct investments and domestic direct investments could benefit local SMEs with improved readiness and visibility. There is a need for targeted programmes to uplift and support SMEs across industries

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Develop a comprehensive SME support programme tailored to the unique needs of SMEs across industries**: o The SME support programme offers targeted solutions based on industry maturity o For established SMEs, a centralised repository will enhance visibility, connecting them to investors and larger corporations o For emerging industries like hydrogen and CCUS, vendor development programmes will focus on capacity building, incentivising larger corporations to transfer knowledge and equip SMEs with the necessary skills o Upcoming SME Masterplan will be further supported by improving the competitiveness of SMEs in Sarawak and creating a more integrated and robust ecosystem for entrepreneurship development	• **Enhanced SME competitiveness** • **Increased flow of economic benefits from FDIs to local SMEs**	• **10,000 new entrepreneurs registered to contribute 40% of increase in MSMEs establishment in Sarawak by 2030** • **30,000 SMEs to adopt digital platform (2021-2030)**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Strengthen local supply chains by fostering partnerships and building capacity to meet investor needs

Thematic area: Insufficient integration of local supply chains with FDIs

Context:

- *Foreign direct investments in Sarawak often do not generate economic benefits to local SMEs due to a lack of readiness or visibility*
- *There is a need for targeted programmes to uplift and support SMEs across industries.*
- *There is currently no centralised platform to connect SMEs with investors*
- *This initiative is pivotal in bridging these gaps, benefiting SMEs in new and established industries*

Strengthen local supply chains by fostering partnerships, and building capacity to meet investor needs

Develop a comprehensive SME support programme tailored to the unique needs of SMEs across industries

The SME Support Programme is designed to address the diverse challenges faced by SMEs across industries by providing targeted solutions. Recognising that SMEs operate at different levels of industry maturity, the initiative adopts a dual approach to cater to their specific needs:

1. Centralised SME repository

For established or near-capable SMEs, this action focuses on enhancing visibility and facilitating connections with prospective investors and larger corporations

This approach involves developing a centralised repository with detailed information on SMEs by industry, such as capabilities and roles within the supply chain

The database should be developed through engagements with Business Chambers, Associations and Federal and Sarawak agencies such as SEDC, SME Corporation, MARA, SDEC and DOA.

2. Vendor development programme

For SMEs in emerging industries like hydrogen and CCUS, this action focuses on capacity building and knowledge transfer

This approach involves incentivising larger corporations to participate in vendor development programmes to equip SMEs with skills and standards needed to scale and meet industry demands

Outcomes

- Enhanced SME competitiveness
- Increased flow of economic benefits from FDIs to local SMEs

Targets / Metrics

- Number of SMEs linked to FDIs using the repository
- Number of SMEs participating in vendor development programmes
- Increase in the value of local content used by FDIs

Source: The Star

NEW M-S2: Advance into higher-value downstream activities for long-term resilience[1]

There is limited innovation and advancement into high-value downstream activities in the manufacturing sector which is necessary to future-proof the sector

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Encourage technological advancements in local companies to promote innovation and business transformation**:
  ○ Increase the adoption rate of higher levels of automation and digitalisation towards the latest technology among the local companies
  ○ Collaborate with capital market and financial institutions to fund R&D, technology-based adoption and innovation
  ○ Establish research partnerships between local universities, research institutes and manufacturing companies
• **Attract high-value downstream FDI and DDI**:
  ○ Establish partnerships between local SMEs and foreign investors, particularly in high-tech manufacturing projects
  ○ Intensify investment promotion in targeted sectors
	• **Creation of more high-skilled job opportunities**
	• **Increased manufacturing GDP**
		• **Contribute 30% to Sarawak GDP by 2030**
		• **RM80 billion approved investments in the manufacturing sector (2021-2030)**

Note: [1]A key initiative in MINTRED's Industrial Terminal Study

Commercial Agriculture

Strategy	Initiative	Outcome
CA-S1: Provide and strengthen essential supporting services to support agriculture ecosystems	✓ **Ensure adequacy of veterinary services and enhance capacity building of local veterinary services** • Expand logistics services, including transportation and storage facilities to support post-harvest activities • Strengthen biosecurity standards and control mechanisms • Improve market access mechanisms for farmers through the creation of systems or platforms that connect agricultural producers with suppliers and buyers across the supply chain • Ensure other support services in R&D, GAP certification, MSPO certification and related activities • Strengthen and empower Farmers' Organisation	• Improved livestock health and productivity of agricultural sectors • Job opportunities for the local economy, e.g. the increase in local veterinary workforce and expertise • Increased output quality to meet international standards for export • Improved transportation and logistics connectivity and services • Improved food security • Increased market access for smallholder farmers
CA-S2: Increase yields by increasing adoption of modern farming practices and technology	• Encourage the adoption of farming technologies and modern practices with a focus on mid- to large-scale farmers • Support small-scale farmers in utilising high-yield crop varieties • Conduct research and development, and strengthen technology and knowledge transfer programmes for farmers • Encourage small-holder farmers to form a cooperative to buy low-cost and sustainable technology	• Increased adoption of modern agricultural practices • Increased technology and knowledge transfer
CA-S3: Improve farmers' access to financial services to adopt agricultural machinery and expand production	• Increase awareness and knowledge among farmers on the process of securing agricultural loans to bridge the gap between farmers and financial institutions • Expand financial assistance offered to farmers such as grants, soft loans and subsidies	• Improved access to financial services and funding

✓ **Indicates key initiatives/game changer**

BUILD CA-S1: Provide and strengthen essential supporting services to support agriculture ecosystems (1/3)

Limited capacity and development of key supporting services is restricting productive capacity of farmers

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Ensure adequacy of veterinary services and enhance capacity building of local veterinary services**: o Allocate resources to facilitate capacity building for the development of skilled veterinarians with a focus on large-animal care and disease control o Enhance diagnostic laboratory capacity through new and existing facilities to improve veterinary diagnostic testing services • **Expand logistics services, including transportation and storage facilities to support post-harvest activities**: o Incentivise investments in cold chain facilities and services for perishable agricultural products o Encourage the setting up of trading hubs and collection centres to facilitate procurement, storage and distribution from a single location ▪ Collection centres may be owned by the private sector or by a cooperative of farmers ▪ This may be executed through the successful development and utilisation of agroparks and collection, processing and packaging centres (CPPC)	• **Improved livestock health and productivity of agricultural sectors** • **Job opportunities for the local economy, e.g. the increase in local veterinary workforce and expertise** • **Increased output quality to meet international standards for export** • **Improved transportation and logistics connectivity and services** • **Improved food security**	• **25% Self-Sufficiency Level (SSL) for beef** • **>RM1 billion / year state's net food export**

✓ **Indicates key initiatives/game changer**

BUILD CA-S1: Provide and strengthen essential supporting services to support agriculture ecosystems (2/3)

Limited capacity and development of key supporting services is restricting productive capacity of farmers

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Strengthen biosecurity standards and control mechanisms (awareness of importance/expediting process)**
  ○ Increase efficiency of biosecurity checks through enhanced capacity and capabilities
  ○ Increase involvement of industry players and local communities
  ▪ Educate all parties on potential harmful pests and diseases, tailoring messaging according to the readiness of the audience
  ▪ Provide an avenue or online system to report sightings
• **Improve market access mechanisms for farmers through the creation of systems or platforms that connect agricultural producers with suppliers and buyers across the supply chain**
  ○ This initiative can leverage existing plans for the development and utilisation of agroparks and collection, processing and packaging centres (CPPC)
  ○ Enhancing market access and connectivity directly contributes to the success of commercial agriculture
	• **Improved livestock health and productivity of agricultural sectors**
	• **Increased output quality to meet international standards for export**
	• **Improved food security**
	• **Increased market access for smallholder farmers**
		• **60% Self-Sufficiency Level (SSL) for rice**
		• **25% Self-Sufficiency Level (SSL) for beef**
		• **RM6,000 median monthly income for smallholding farmers in key agriculture sector**

✓ **Indicates key initiatives/game changer**

BUILD CA-S1: Provide and strengthen essential supporting services to support agriculture ecosystems (3/3)

Limited capacity and development of key supporting services is restricting productive capacity of farmers

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Ensure other support services in R&D, GAP certification, MSPO certification and related activities**
  o Improve access to R&D resources, technical expertise and innovation toward improving agricultural productivity
  o Enhance awareness and support for farmers in obtaining GAP and MSPO certification to enhance market competitiveness and sustainability safety standards
• **Strengthen and empower Farmers' Organisation**
  o Enhance the role of Farmers' Organisations as key enablers in the agricultural ecosystem by improving their capacity to deliver support services and represent farmer interests
  o Promote collaboration and resource-sharing among farmers through the Farmers' Organisation
	• **Improved livestock health and productivity of agricultural sectors**
	• **Increased output quality to meet international standards for export**
	• **Improved food security**
	• **Increased market access for smallholder farmers**
		• **60% Self-Sufficiency Level (SSL) for rice**
		• **25% Self-Sufficiency Level (SSL) for beef**
		• **RM6,000 median monthly income for smallholding farmers in key agriculture sector**
		• **100% MSPO certified**

BUILD Game changer: Ensure adequacy of veterinary services and enhance capacity building of local veterinary services (1/2)

Thematic area: Limited capacity and capability of critical supporting agriculture services

Context:

- *Sarawak has 98 veterinarians (including 15 government veterinarians) as of July 2024, with most trained to treat smaller animals instead of livestock*
- *There is a lack of local diagnostic laboratories, requiring samples to be sent to Peninsular Malaysia, which delays diagnosis*
- *Strengthening veterinary services is critical to improving animal health, disease control, and food safety and security*

Ensure adequacy of veterinary services and enhance capacity building of local veterinary services

Ensure the adequacy of veterinary services and enhance the capacity building of local veterinary services

This initiative aims to strengthen the veterinary services offered locally through:

1. Support the establishment of veterinary training facilities

Allocate resources to develop local veterinary capabilities with a focus on large-animal care and disease control. By developing a local talent pipeline of skilled veterinarians, Sarawak can address existing gaps while building capacity for future demands. One example of a veterinary training facility is the establishment of the Faculty of Veterinary Services and Animal Science in Sarawak.

2. Enhance diagnostic laboratory services

Facilitate an increase in the capacity and efficiency of diagnostic testing services in Sarawak. For example, this may involve equipping the Sarawak Infectious Disease Centre to carry out efficient veterinary laboratory testing and diagnostic services. This aims to enable timely and accurate disease detection, enhance health monitoring for livestock, and reduce reliance on Peninsular Malaysia for testing services.

Impact Example:

The Nipah Virus outbreak in Malaysia caused an economic loss estimated at $582 million, affecting sectors directly and indirectly related to the pork industry, underscoring the significant impact of overlooking animal health

Outcomes

- Improved livestock health and productivity
- Job opportunities for the local economy, e.g. the increase in the local veterinary workforce and expertise
- Increased output quality to meet international standards for export

Targets / Metrics

- Improved timeliness for diagnostic test results
- Number of veterinary practitioners in Sarawak

BUILD Game changer: Ensure adequacy of veterinary services and enhance capacity building of local veterinary services (2/2)

Use Case: ***Australian Centre for Disease Preparedness (ACDP)***

The ACDP, operated by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), is a high-containment facility located in Geelong, Victoria. It plays a crucial role in protecting Australia's multi-billion-dollar livestock and aquaculture industries, as well as the general public, from emerging infectious disease threats. The ACDP is equipped to conduct scientific research on some of the most dangerous infectious agents in the world.

Before ACDP opened, samples for exotic animal disease testing were sent overseas, causing delays and loss of control over trade-related information. Since its establishment, ACDP has enabled rapid in-country diagnosis, supported trade and confirmed Australia's freedom from various diseases while detecting new viral diseases.

Key laboratory services offered by ACDP include:

- **Animal Import and Export Testing:** Provides accredited diagnostic quarantine testing to facilitate the international transport of live animals, ensuring they meet disease-free requirements for import and export
- **Emergency Animal Disease Testing:** Critical diagnostic and disease response services, including surveillance programs and rapid outbreak control, using quality-assured, ISO-certified tests and a state-of-the-art Diagnostic Emergency Response Laboratory (DERL)
- **Innocuity Testing:** Offers a range of exclusion testing for pathogens of significance in veterinary vaccines, master cell seeds and biologicals
- **ACDP Fish Diseases Laboratory:** Focuses on diagnosing and researching aquatic animal diseases, developing diagnostic tests, providing export certification, training, and offering various services like PCR, sequencing, and pathogen identification

Source: Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia

NEW CA-S2: Increase yields by increasing the adoption of modern farming practices and technology

Low adoption of modern machinery and high-yield crop varieties, especially among smallholders due to concerns over cost-effectiveness

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Encourage the adoption of farming technologies and modern practices with a focus on mid- to large-scale farmers:**
  ○ Increase collaboration between foreign and domestic partners (through research institutes) to increase sharing of knowledge, undertaking collaborative projects or technology exchange
• **Support small-scale farmers in utilising high-yield crop varieties and encourage small-holder farmers to form a cooperative to buy low-cost and sustainable technology**
  ○ Provision of incentives for smallholder farmers to transition from low- to high-yielding crop varieties such as in the paddy industry
  ○ Collaborate with tech companies to introduce new modern farming technologies
• **Conduct research and development, and strengthen technology and knowledge transfer programmes for farmers:**
  ○ Develop technology and knowledge transfer programmes managed by private sector providers, offering farmers training support and equipment to adopt modern practices with fees subsidised for eligible participants
• **Allow the utilisation of state land for large scale paddy farming**
  ○ Unlock idle state land for the purpose of agriculture to boost SSL for rice
	• **Increased adoption of modern agricultural practices**
	• **Increased technology and knowledge transfer**
		• **60% Self-Sufficiency Level (SSL) for rice**
		• **RM6,000 median monthly income for smallholding farmers in key agriculture sector**

BUILD CA-S3: Improve farmers' access to financial services to adopt agricultural machinery and expand production

Many farmers lack familiarity with procedures and requirements for obtaining formal agricultural financing, and face limited access to financing

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Increase awareness and knowledge among farmers on the process of securing agricultural loans to bridge the gap between farmers and financial institutions:**
  ○ Conduct workshops to educate farmers on loan application processes, including eligibility, required documentation, and financial planning
  ○ Utilisation of media channels to increase awareness on available financing options such as the Sarawak Agro Fund, among others
• **Expand financial assistance offered to farmers such as grants, soft loans and subsidies:**
  ○ In addition to government funding, to act as the bridge between financial institutions and farmers, addressing funding needs for production expansion and a shift towards commercial farming
	• **Improved knowledge of farmers on financing options and processes**
	• **Increased access to diverse financial options**
	• **Enhanced funding support for production expansion**
		• **60% Self-Sufficiency Level (SSL) for rice**
		• **25% Self-Sufficiency Level (SSL) for beef**
		• **RM6,000 median monthly income for smallholding farmers in key agriculture sector**

Tourism, Arts, Culture & Creative Industries

Strategy	Initiative	Outcome
T-S1: Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption	✓ **Increase capability and capacity of Sarawak Forestry Corporation to work alongside the private sector for greater focus on key natural flagship attractions** • Local community partnerships: Involve local communities in eco-tourism initiatives by providing training and knowledge-transfer • Private company partnerships: Employment opportunities in tourism attractions and offerings • Increase collaboration of tourism and forestry efforts to enhance sustainable development while providing unique experiences for visitors • Leveraging on regional cooperation platforms to facilitate trade, tourism investment and foster economic growth in tourism sector • Strengthen digital infrastructure to support seamless inter-agency collaboration, real-time data sharing, and enhanced visitor management, creating a more efficient and connected tourism ecosystem • Strengthen Community-Based Ecotourism (CBET) by empowering local communities, promoting sustainable practices, and enhancing visitor experiences through capacity building, equitable benefit-sharing, digital integration, and strong governance frameworks to ensure long-term environmental, social, and economic sustainability.	• High quality and improved infrastructure and facilities at key flagship natural attractions • Enhanced financial sustainability of eco-tourism sector through increased tourism receipts • Improved conservation of natural assets • Empowerment of local communities, contributing to sustainable tourism

✓ **Indicates key initiatives/game changer**

Tourism, Arts, Culture & Creative Industries

Strategy	Initiative	Outcome
T-S2: Expand and deepen creative industries by empowered communities and responsible action	• Recognise creators and incorporate Intellectual Property (IP) management into the creative tourism industry to protect and preserve cultural expressions • Develop Sarawak Arts and Culture • Strengthen Sarawak's position as a culinary destination through the development of a unique food identity (e.g. leveraging Kuching's title as UNESCO Creative City of Gastronomy) • Attracting quality and impactful International events and festivals to be organised in Sarawak. • Improve and promote conservation, preservation and restoration of Sarawak heritage.	• Enhanced safeguarding and appreciation of cultural heritage • Increased recognition of Sarawak as a creative tourism destination
T-S3: Elevate both eco-tourism and luxury tourism offerings tapping into natural reserves and high-end market	• Establish a comprehensive ecosystem for luxury tourism by enhancing hospitality services such as high-end accommodation, exclusive dining experiences and tailored services • Develop niche tourism clusters, such as in areas of high-end eco-tourism and sports tourism to cater to specific market segments • Leveraging Hydro-dam lakes and other dams to facilitate the development of lake tourism investment and foster economic growth in tourism industry • Leverage the S-MM2H programme • Strengthen Sarawak's branding as Business Events destination	• Increased tourism receipts from affluent tourists • Enhanced diversification of Sarawak's tourism offerings

BUILD T-S1: Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption (1/4)

There is a critical need to address poor maintenance and lack of key facilities at key attractions to elevate the quality and appeal of Sarawak as a tourism destination

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Increase the capability and capacity of Sarawak Forestry Corporation to work alongside the private ecotourism operators for greater focus on key natural flagship attractions:** o Facilitate partnerships with private companies through concession arrangements to manage key natural sites, leveraging their expertise and resources o This enables SFC to focus on conservation and regulatory functions while private operators handle operations and development • **Local community partnerships: Involve local communities in eco-tourism initiatives by providing training and knowledge-transfer:** o Provide long-term support to help communities manage eco-tourism sites sustainably, such as through co-management models where communities actively contribute to decision-making and conservation efforts o Implement a transparent revenue-sharing mechanism to ensure fair income distribution among community members, with a portion allocated for conservation and community development	• **High quality and improved infrastructure and facilities at key flagship natural attractions** • **Enhanced financial sustainability of eco-tourism sector through increased tourism receipts** • **Improved conservation of natural assets** • **Empowerment of local communities, contributing to sustainable tourism**	• **7.5% annual growth in visitor arrivals in 2030** • **30% increase in community-based tourism by 2030**

✓ **Indicates key initiatives/game changer**

BUILD T-S1: Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption (2/4)

There is a critical need to address poor maintenance and lack of key facilities at key attractions to elevate the quality and appeal of Sarawak as a tourism destination

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Private company partnerships: Employment opportunities in tourism attractions and offerings:**
  ○ Encourage private sector collaboration with local communities, facilitating skill development and learning opportunities through their involvement in private tourism operations
  ○ This may involve hiring the local community for roles in operations or visitor engagement, as well as supporting local businesses such as craft makers, guides and food vendors
  ○ Include partnership with UN Tourism and international tourism bodies such as PATA and UNESCO
• **Increase collaboration of tourism and forestry efforts to enhance sustainable development while providing unique experiences for visitors:**
  ○ Efforts may include sustainable trail development with enhanced informative signboards, forest-based activities, and biodiversity education catered to all ages, promoting both environmental stewardship and sustainable development
  ○ Establish and promote sister tourism villages with BIMP-EAGA members to establish geotrail and UN Global Geopark inscription status.
	• **Enhanced financial sustainability of eco-tourism sector through increased tourism receipts**
	• **Improved conservation of natural assets**
	• **Empowerment of local communities, contributing to sustainable tourism**
		• **7.5% annual growth in visitor arrivals in 2030**
		• **30% increase in community-based tourism by 2030**

BUILD T-S1: Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption (3/4)

There is a critical need to address poor maintenance and lack of key facilities at key attractions to elevate the quality and appeal of Sarawak as a tourism destination

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Leveraging on regional cooperation platforms to facilitate trade, tourism investment, and foster economic growth in the tourism sector:** o Partnership with UN Tourism, PATA and UNESCO on responsible tourism and sustainable development in this region as part of the UN Tourism mission and promote Kuching city as a member of UNESCO's Creative Cities Network (UCCN) under the Category of "Gastronomy". o Seamless travel for cross-border tourism to allow tour bus crossing border seamlessly. o Joint tourism promotion between Brunei and Singapore, Sarawak and Sabah, especially through STATOS Brunei and STATOS. o Brunei Airport is an international travel hub to Sarawak, bringing in more tourists through internal or charter flights. Bekalalan as a new CIQS border gateway to Nusantara o Collaborate with airlines and AirBorneo to offer more flights into Sarawak for more convenient for tourists to travel o Joint tourism or sports events such as Regatta and Marathon through Tempurung Bridge from Brunei and Titian Muhibah from Indonesia. o Encourage local businesses and tour operators in Sarawak and BIMP EAGA, EATOF, SOSEK MALINDO to collaborate and create new tourism products and services and have more cultural exchange programmes o Build new hotels and accommodation options in Sarawak to accommodate the increased number of tourists o Build infrastructure, such as new roads and transportation options, to make it easier for tourists to travel, especially from and to Nusantara. o Work closely with Indonesian counterparts and with local communities to establish community-based ecotourism programmes and tourism villages located within Heart of Borneo (HOB)	• **Enhanced financial sustainability of eco-tourism sector through increased tourism receipts** • **Leveraging conservation of natural assets as tourism products** • **Empowerment of local communities, contributing to sustainable tourism**	• **7.5% annual growth in visitor arrivals in 2030** • **30% increase in community-based tourism by 2030**

BUILD T-S1: Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption (4/4)

There is a critical need to address poor maintenance and lack of key facilities at key attractions to elevate the quality and appeal of Sarawak as a tourism destination

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Strengthen digital infrastructure to support seamless inter-agency collaboration, real-time data sharing, and enhanced visitor management, creating a more efficient and connected tourism ecosystem:** o Community Engagement and Partnership through public-private partnerships and involving local communities to support agrotourism development and activity management. o Support the development of eco-friendly accommodations o Integrating agrotourism – geotourism: Integrating agrotourism and geotourism can create a rich, multifaceted experience that highlights both natural landscapes and agricultural heritage. Work with Technical Working Committees and Geopark Management Unit (GMU). o Sustainable Infrastructure Development: Develop eco-friendly pathways, signage, and resting points along agro-geo trails using natural materials. Install rainwater harvesting and solar-powered facilities to minimise environmental impact. o Agro-Geo Experience Trails: Develop guided trails that connect geosites with nearby farms, showcasing geological formations alongside agricultural practices • **Strengthen Community-Based Ecotourism (CBET) by empowering local communities, promoting sustainable practices, and enhancing visitor experiences through capacity building, equitable benefit-sharing, digital integration, and strong governance frameworks to ensure long-term environmental, social, and economic sustainability.** o Inclusive Revenue Sharing Model: Implement a transparent revenue-sharing mechanism to ensure fair income distribution among community members, with a portion allocated for conservation and community development.	• **Enhanced financial sustainability of eco-tourism sector through increased tourism receipts** • **Leveraging conservation of natural assets as tourism products** • **Empowerment of local communities, contributing to sustainable tourism**	• **7.5% annual growth in visitor arrivals in 2030** • **30% increase in community-based tourism by 2030**

BUILD Game changer: Increase the capability and capacity of Sarawak Forestry Corporation to work alongside the private sector for greater focus on key natural flagship attractions (1/2)

Thematic area:
Poor maintenance and lack of key facilities and amenities at tourist attractions

Context:

- *Infrastructure and facilities at eco-tourism sites are poorly maintained, insufficient and ageing*
- *SFC needs the capacity and a tourism focus to effectively manage these attractions*
- *Collaboration with the private sector and improvement of these facilities are crucial to enhancing the visitor experience and boosting Sarawak's tourism image*

Increase capability and capacity of Sarawak Forestry Corporation to work alongside the private sector for greater focus on key natural flagship attractions

Increase the capability and capacity of Sarawak Forestry Corporation to work alongside the private sector for greater focus on key natural flagship attractions

This initiative focuses on providing adequate and qualified resources and facilitating collaboration with the private sector to manage key natural sites. The initiative could explore concession arrangements, where the government appoints capable private companies to manage national/ natural attractions, including overseeing the upkeep of these sites.

SFC can leverage private companies' expertise, financial resources, and operational efficiency, ensuring that the infrastructure and facilities are well-maintained. This allows SFC to focus on core conservation and regulatory functions while the private sector handles day-to-day operations, maintenance and development of the eco-tourism sites.

Flagship attractions include:

Santubong National Park	**Semenggoh Nature Reserve**	**Piasau National Reserve**	**Niah National Park**
Bako National Park	**Damai Beach**	**Kuching Wetlands National Park**	**Gunung Mulu National Park***

**Borsarmulu Park Management Sdn Bhd (BPM) has been appointed by the Sarawak Government as the Managing Agent for the Tourism Zone in Gunung Mulu National Park*

Outcomes

- High quality and improved infrastructure and facilities at key flagship natural attractions
- Enhanced financial sustainability of the eco-tourism sector through increased tourism receipts
- Leveraging conservation of natural assets as tourism products

Targets / Metrics

- Visitor satisfaction ratings/reviews
- Visitor numbers at key flagship attractions
- Revenue generated from eco-tourism sites under the concession model

Source: Sarawak Tourism Federation, Sarawak Tourism Masterplan

BUILD Game changer: Increase the capability and capacity of Sarawak Forestry Corporation to work alongside the private sector for greater focus on key natural flagship attractions (2/2)

Use Case: ***Gunung Mulu National Park, Sarawak***

Since January 2020, Sarawak Forestry Corporation (SFC) has exercised direct stewardship over approximately 90% of the national park, designated as the wilderness zone, while the remaining 10%, identified as the tourism zone, is managed by Borsarmulu Park Management Sdn Bhd. This public–private arrangement ensures that conservation remains firmly under state control, with all development, operations and maintenance activities implemented by the private operator strictly in accordance with directives issued by the Sarawak Government.

Use Case: ***Kakadu National Park, Australia***

At Kakadu National Park, Australia's largest national park, private operators partner with the government to deliver guided tours, visitor activities, accommodation and transport services, enhancing overall park services and visitor facilities while maintaining public oversight.

Private sector involvement in national park management has proven to generate key benefits, including:

1. Increased revenue for park conservation
2. Improved infrastructure and accommodation services for visitors
3. Better management of activities

Source: Parks Australia, TTF Australia, Gunung Mulu National Park, IUCN World Heritage Outlook, UNESCO

BUILD T-S2: Expand and deepen creative industries by empowered communities and responsible action (1/3)

There is a need to diversify Sarawak's key tourism products by leveraging assets such as culinary practices, culture and heritage, among others to create new growth opportunities within the sector

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Recognise creators and incorporate Intellectual Property (IP) management into the creative tourism industry to protect and preserve cultural expressions:**
  ○ Expanding existing efforts to protect cultural expressions by formally documenting and securing IP rights for traditional knowledge and practices, offering recognition and ownership to local communities
  ○ This includes, but is not limited to, traditional medicines and cosmetics, crafts, culinary, heritage, digital content, film and festivals
• **Develop Sarawak Arts and Culture:**
  ○ Boosting tourism by planning the performance, literary and visual arts industry as a means to improve the creative economy.
  ○ Sarawak Arts Council's main focus is on preservation, conservation, and sustaining the arts and culture of Sarawak
  ○ Authenticity and Quality for own identity/branding – Sarawak's Arts and Culture for "High Arts"
  ○ Boost Tourism Industry
  ○ Development of Creative Economy
  ○ Development of Sarawak Creative Industry Blueprint
	• **Enhanced safeguarding and appreciation of cultural heritage**
	• **Increased recognition of Sarawak as a creative tourism destination**
		• **70% increase in crafts sales by 2030**
		• **30% increase in community-based tourism by 2030**

BUILD T-S2: Expand and deepen creative industries by empowered communities and responsible action (2/3)

There is a need to diversify Sarawak's key tourism products by leveraging assets such as culinary practices, culture and heritage, among others to create new growth opportunities within the sector

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Strengthen Sarawak's position as a culinary destination through the development of a unique food identity (e.g. leveraging Kuching's title as UNESCO Creative City of Gastronomy)**
  ○ Increases support towards new and existing efforts to position Kuching as a leading gastronomic destination through initiatives such as the establishment of the gastronomy centre, chef exchange programmes, stakeholder labs, and gastronomic conferences and events
  ○ Develop comprehensive communication strategies to promote gastronomic tourism products by engaging prominent social media influencers and travel vloggers to create compelling content that highlights the city's unique culinary offerings
 	
• **Attracting quality and impactful International events and festivals to be organised in Sarawak.**
  ○ Event Facilities: Invest in modern convention centre exhibition halls and outdoor venues that can accommodate large-scale international events.
  ○ Enhance Connectivity: Improve air connectivity by partnering with airlines to increase direct flights to Kuching and Miri from key international hubs.
  ○ Upgrade Existing Venues: Ensure that stadiums, arenas, and outdoor spaces meet international standards for acoustics, seating, and safety.
  ○ Build Multi-Purpose Venues: Construct versatile facilities that can host concerts, sports events, and exhibitions.
  ○ Create Unique Outdoor Venues: Leverage Sarawak's natural beauty by developing scenic outdoor concert venues, such as beachfront or rainforest settings.
  ○ Promote Sarawak as a Hub: Position Kuching or Miri as a regional hub for concerts in Southeast Asia, thus elevating Sarawak's status as a prime destination for international concerts and festivals.
	• **Enhanced safeguarding and appreciation of cultural heritage**
	• **Increased recognition of Sarawak as a creative tourism destination**
		• **7.5% annual growth in visitor arrivals in 2030**

BUILD T-S2: Expand and deepen creative industries by empowered communities and responsible action (3/3)

There is a need to diversify Sarawak's key tourism products by leveraging assets such as culinary practices, culture and heritage, among others to create new growth opportunities within the sector

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Improve and promote conservation, preservation and restoration of Sarawak heritage** o Conduct in-situ conservation, preservation, and restoration on artefacts, gazetted historical buildings, monuments, and sites. o Prepare Conservation Management Plan (CMP) for gazetted historical buildings, monuments, and sites. o Determine the buffer zone for gazetted historical buildings, monuments, and sites. o Enforce the Sarawak Heritage Ordinance 2019. o Launch mobile exhibition programs in both towns and rural areas. o Organise online exhibitions. o Develop new tourism products leveraging heritage, cultures, and history. o Collaborate with tourism service providers to create engaging, well-promoted, and accessible cultural experiences. o Enhance public safety for visitors by undertaking preventative and corrective maintenance on facilities such as museum and heritage buildings. o Provide top-tier hospitality by creating a well-managed and welcoming environment to encourage repeat visits.	• **Increased recognition of Sarawak as a creative tourism destination**	• **7.5% annual growth in visitor arrivals in 2030**

NEW T-S3: Elevate both eco-tourism and luxury tourism offerings, tapping into natural reserves and the high-end market (1/2)

Tapping into the high-end market segment, building upon Sarawak's growing business event scene, through personalisation and unique experiences

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Establish a comprehensive ecosystem for luxury tourism by enhancing hospitality services such as high-end accommodation, exclusive dining experiences and tailored services**
  ○ Incentivising the private sector to increase high-end offerings such as luxury accommodation and bespoke dining, supporting their efforts through linking it with the business event scene in Sarawak
• **Develop niche tourism clusters, such as in areas of high-end eco-tourism and sports tourism to cater to specific market segments**
  ○ Explore international opportunities to grow sports tourism by hosting world-class events such as the Ultra-Trail du Mont-Blanc, Asian Tour, attracting global participants and displaying Sarawak's natural beauty
  ○ Encourage golf clubs to form partnerships with golf training centres in other countries such as South Korea and China
  ○ Focus on luxury nature resorts and exclusive getaways targeted at affluent travellers seeking sustainable, personalised experiences
  ○ Capitalising Sarawak Delta Geopark Inscription and Branding to further upgrade geotourism and ecotourism
	• **Increased tourism receipts from affluent tourists**
	• **Enhanced diversification of Sarawak's tourism offerings**
		• **7.5% annual growth in visitor arrivals**
		• **11% Share of tourism receipts to GDP in 2030**
		• **50% increase in secured business events by 2030**

NEW T-S3: Elevate both eco-tourism and luxury tourism offerings, tapping into natural reserves and the high-end market (2/2)

Tapping into the high-end market segment, building upon Sarawak's growing business event scene, through personalisation and unique experiences

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Leveraging Hydro-dam lakes and other dams to facilitate the development of lake tourism investment and foster economic growth in tourism industry**
  ○ Build appropriate enablers and facilities to facilitate the development of lake-tourism areas
  ○ Partnership with Sarawak Energy Berhad (SEB), local communities and other stakeholders to develop sustainable tourism investment partnership and programmes
  ○ Introduce new product for lake-tourism (geotourism) to increase the tourism potential for Sarawak.
  ○ Undertake joint-promotion programmes at prominent regional marketing platforms or web-based marketing tools.
  ○ Give top priority to the interpretation of nature and culture of geosites, cultural sites, biosites and geotrails.
• **Leverage the S-MM2H programme**
  ○ Position Sarawak as the ultimate destination for individuals seeking luxury, privacy, and a unique lifestyle
• **Strengthen Sarawak's branding as Business Events destination**
  ○ Secure more business events aligned with PCDS 2030 to bring significant economic, social and environmental impact
	• Increased tourism receipts from affluent tourists
	• Enhanced diversification of Sarawak's tourism offerings
	• Strengthened Sarawak's positioning as business events destination in ASEAN
	• Increased venues and capacity to accommodate more and bigger business events
	• Strengthened global marketing and promotional initiatives nationally and internationally
	• Elevated the skills and capabilities of the industry partners through training and certification programmes
	• Continued business events industry advocacy programmes
	• Establishment of e-services platforms and data centralisation
		• **7.5% annual growth in visitor arrivals**
		• **11% Share of tourism receipts to GDP in 2030**
		• **50% increase in secured business events by 2030**
		• **Increased number of business events and delegates, satisfaction of event organisers, business event professionals and capabilities**
		• **Increase awareness of Business Events**
		• **Digitalisation of Business Events Sarawak Operations & Services**
		• **Securing 720 business events through bidding and development of homegrown events**
		• **Have 10 homegrown events by 2030**

Mining & Oil and Gas

Strategy	Initiative	Outcome
MOG-S1: To progress the OGSE sector along the value chain by fostering enhanced collaboration, driving innovation and developing skills	✓ **Progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills** • Promote collaboration among OGSE companies to upscale, diversify offerings and enhance competitiveness • Encourage technological development through increased support for R&D initiatives among local OGSE companies • Align workforce skills with industry needs by matching current and future skill demands in Sarawak's oil & gas sector with capacity-building programmes *[This initiative builds on S4; Refer HL6]* • Advocate for increased project allocation thresholds for Sarawakian companies to provide access to larger and greater opportunities	• Increased market opportunities for local vendors
MOG-S2: Explore partnerships with established industry players to identify and develop opportunities for value-added activities	• Explore potentials of joint venture or partnerships with established downstream companies to identify opportunities for downstream value adding activities • Facilitate business process and access to local resources necessary for downstream value adding activities	• Increased production of higher-value oil & gas products
MOG-S3: Explore and drive the development of Carbon Capture, Utilisation and Storage (CCUS) sector	• Support research and development initiatives focused on CCUS technologies, particularly for those suited to the local context. • Identify potential value chain enhancements/integrations with existing energy infrastructure	• Increased technological innovation and adoption • Technological leadership at the forefront of CCUS development • Economic growth and high-value job creation • Accelerated efforts on sustainable development

✓ **Indicates key initiatives/game changer**

BUILD MOG-S1: To progress the OGSE sector along the value chain by fostering enhanced collaboration, driving innovation and developing skills

OGSE companies are concentrated in low-complexity industry segments

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills** • **Promote collaboration among OGSE companies to upscale, diversify offerings and enhance competitiveness:** o Foster partnerships among Sarawak's OGSE companies to pool resources and enhance competitiveness through innovation and market diversification • **Encourage technological development through increased support for R&D initiatives among local OGSE companies:** o Support R&D in local OGSE firms with incentives and collaborations to drive technological advancements and maintain industry competitiveness. • **Align workforce skills with industry needs:** o Develop capacity-building programmes that match workforce skills with current and future demands of the oil and gas sector in Sarawak. • **Advocate increased project allocation:** o Advocate for increased project allocation thresholds to enable Sarawakian companies to participate in larger oil and gas projects, and to capitalise financial assistance provided by MPRC for OGSE development	• Increased market opportunities for local vendors	• **RM60 billion annual GDP impact** • **Creation of a total of 95,000 jobs with >50% Sarawakian representation in higher management**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills

Thematic area:
OGSE companies are concentrated in low-complexity industry segments

Context:

- *The Oil & Gas Services and Equipment (OGSE) sector in Sarawak remains a cornerstone of the region's economic framework, backed by its abundant resources and ongoing exploration activities.*
- *However, many companies in this sector are concentrated in lower-complexity segments, which limits their competitive edge and resilience in the face of global energy price fluctuations and environmental challenges.*

Progress the OGSE sector along the value chain by fostering enhanced collaboration, driving innovation and developing skills

Progress the Oil & Gas Services and Equipment (OGSE) sector by enhancing collaboration, innovation, and skills to enhance competitiveness and sustainability

Launching comprehensive training initiatives

- These training programs will prepare high-calibre workers to handle dynamic challenges, enhancing their ability to adapt and lead in the industry's evolution.
- This recognises the importance of equipping the workforce with the skills needed for advanced technologies and sustainable methods.

Outcomes

- Enhanced competitiveness and growth potential within the industry
- Improved sustainability practices with reduced environmental impact.
- A well-trained and adaptable workforce to handle advanced industry demands.

Targets / Metrics

- Increase in the number of companies participating in higher-complexity industry segments.
- Boost in Sarawak's OGSE sector's share and recognition in national and regional markets.

FIX MOG-S2: Explore partnerships with established industry players to identify and develop opportunities for value-added activities[1]

Limited downstream processing capabilities and key infrastructure

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Explore joint venture and collaboration opportunities:**
  ○ Explore potentials of joint ventures or partnerships with established downstream companies to identify opportunities for downstream value-added activities
• **Facilitate Business Processes:**
  ○ Facilitate business process and access to local resources necessary for downstream value-adding activities
	• Increased production of higher-value oil & gas products	• **RM60 billion annual GDP impact**

Note: [1]To support the implementation of Sarawak's Gas Roadmap

FIX MOG-S3: Explore and assist in the development of Carbon Capture, Utilisation and Storage (CCUS) sector[1]

Address the need for transition to a low carbon economy

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Invest in research and development of the CCUS sector:**
  ○ Support R&D initiatives focused on CCUS technologies, particularly those that are suited to the local context. By investing in innovation, Sarawak can develop technologies and processes that improve the efficiency and cost-effectiveness of CCUS efforts.
• **Identify value chain enhancements and integrations with existing energy infrastructure:**
  ○ Identifying potential value chain enhancements or integrations with existing energy infrastructure can optimising the development of CCUS. This will leverage on existing assets and systems, thereby reducing costs and accelerating implementation.
	• Increased technological innovation and adoption
	• Technological leadership at the forefront of CCUS development
	• Economic growth and high value job creation
	• Accelerated efforts on sustainable development
		• **RM60 billion annual GDP impact**
		• **Accelerate CCUS for hard-to-abate industry**
		• **Reduction of energy carbon intensity through the replacement of coal-generated power with gas**

Note: [1]To support the implementation of Sarawak's Gas Roadmap

Digital Transformation

Strategy	Initiative	Outcome
DT-S1: Drive digital business development and high-tech high-value investment in strategic industries	✓ **Develop a policy framework and industry masterplan to advance high-tech sectors in Sarawak, with a focus on the aerospace industry, satellite technology development, and the space economy** • Leverage partnerships with prominent technology companies to drive digital business development among MSMEs • Create attractive investment opportunities into the digital economy with the development of technology parks • Enhance policy, procedures and guidelines for domestic and foreign investments for digital economy, including the promotion of talent inflow via the Digital Nomad Visa	• Increased adoption of digital technologies by MSMEs • Increased investments and partnerships in the digital economy
DT-S2: Accelerate digitalisation in priority economic sectors	• Increase the adoption of digital technologies in Sarawak's agricultural sector through the Agrotechnology Park Development Programme and Smart Farming initiatives. • Establish Industry 4.0 (I4.0) testbeds and collaborative platforms	• Creation of semi and high-skilled digital jobs • Increased productivity in priority economic sectors • An average increase of 30% in labour productivity across all sectors
DT-S3: Catalyse Artificial Intelligence (AI) opportunities leveraging the Sarawak AI Centre (SAIC)	✓ **Harness AI technologies leveraging the Sarawak AI Centre, in various critical sectors such as healthcare, agriculture, education, and manufacturing** • Develop an AI adoption plan that includes a State-level AI framework • Develop an AI chatbot that can effectively translate the Bidayuh and Iban languages	• Increased adoption of AI among businesses and communities • Improved public and private sector competency in the use and development of AI

✓ **Indicates key initiatives/game changer**

NEW DT-S1: Drive digital business development and high-tech high-value investment in strategic industries

To achieve the ambitious targets outlined in the Sarawak Digital Economy Blueprint (SDEB), Sarawak needs to intensify efforts to attract high-value investments and talent into strategic industries

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Sarawak Aerospace Industry Development**: Formulate a policy framework and industry masterplan to develop the aerospace industry in Sarawak including satellite technology development and the space economy. • **Leverage partnerships with prominent technology companies to drive digital business development among MSMEs** to provide MSMEs with access to advanced technological solutions and industry expertise which they may not be able to independently acquire. • **Create attractive investment opportunities into the digital economy with the development of technology parks:** Infrastructure investments into technology parks provides facilities tailored to the needs of tech-driven industries, encouraging cluster development and further investments from businesses. The Kota Petra Green Technology Park focuses on developing Sarawak's green technology sector, whereas the Kuching High-Tech Park aims to facilitate investments into the electrical and electronics (E&E) sector. • Enhance policy, procedures and guidelines for domestic and foreign investments for digital economy, including SDEC's proposal to attract global remote workers and digital entrepreneurs via the **Digital Nomad Visa**, contributing to talent inflow and local economic stimulation	• Increased adoption of digital technologies by MSMEs • Increased investments and partnerships in the digital economy	**PCDS 2030 Targets:** • Full coverage settlement with access to Internet connectivity **SDEB Targets:** • Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Sarawak Aerospace Industry Development (1/3)

Thematic area: Technological advancements in strategic industries

Context:

- *Sarawak has expressed its interest in developing an aerospace sector; however, there is currently no established industrial policy framework.*
- *A clear plan for Sarawak's aerospace sector would signal commitment to the industry, attracting potential investors.*
- *A well-defined policy framework would also facilitate research and development while balancing industry growth with safety, security, and legal considerations.*

Sarawak Aerospace Industry Development

Sarawak is positioned to leverage its competitive advantages:

- **Equatorial proximity**: Its proximity to the equator enhances launch efficiency and provides direct access to geostationary orbits, making it an attractive site for satellite launches
- **Proximity to regional hubs**: Sarawak's geographical location in Southeast Asia, near regional aerospace hubs like Subang Aerotech Park and the Seletar Aerospace Park, offers significant logistical benefits and access to established aerospace networks, facilitating collaboration and integration into the global supply chain.
- **Cost advantages**: Sarawak's competitive cost advantages, including lower operational and labour costs compared to other regions supports the cost-effective production of aerospace components
- **Skilled workforce**: A skilled workforce, bolstered by strong educational initiatives in engineering and technical fields such as CENTEXS's Aerospace Academy, ensures that Sarawak can meet the demands of the aerospace industry

An industry strategic plan tailored for Sarawak would provide a structured approach to developing the aerospace industry. This includes building Sarawak's capability in deployment of satellite technologies to strengthen digital infrastructure ecosystem, as well as ecosystem development for space-related technologies and infrastructures. Growth can be unlocked further in space manufacturing, particularly advanced materials manufacturing for vehicles and infrastructures, in alignment to grow capabilities.

Outcomes

- **Stimulate economic growth** through the production and export of aerospace products and services
- **Creation of high-skilled jobs** in areas such as engineering, manufacturing, research and development, and operations

Targets / Metrics

- Increase the size of the aerospace economy
- Increased number of skilled workers employed in the aerospace economy

NEW Game Changer: Sarawak Aerospace Industry Development (2/3)

Thematic area: Technological advancements in strategic industries

Context:

- *Sarawak has expressed its interest in developing an aerospace sector; however, there is currently no established industrial policy framework.*
- *A clear plan for Sarawak's aerospace sector would signal commitment to the industry, attracting potential investors.*
- *A well-defined policy framework would also facilitate research and development while balancing industry growth with safety, security, and legal considerations.*

Sarawak Aerospace Industry Development

Case Study: Australian Civil Space Strategy 2019 – 2028

- The Australian Space Agency commenced operations in July 2018 intending to triple the size of the space sector to A$12 billion and create up to another 20,000 jobs by 2030.

Key Steps

- **Establishment of the Australian Space Agency**: Launched in July 2018, the agency is pivotal in implementing the strategy. It coordinates national space activities, fosters industry growth, and serves as Australia's primary interface with international space agencies.
- **Investment in infrastructure and technology:** The establishment of the National Space Infrastructure Fund, which supports the development of satellite and ground-based systems, showcases Australia's commitment to building a competitive space infrastructure.
- **International partnerships:** Australia has signed agreements with several major space agencies, including NASA and the European Space Agency. These partnerships facilitate collaboration on space missions and projects, integrating Australia into the global space economy.

Impact Example:

- According to the Australian Trade and Investment Commission, the Australian space sector has grown to A$6.4 billion and employs over 15,435 people as of 2024.

Outcomes

- **Stimulate economic growth** through the production and export of aerospace products and services
- **Creation of high-skilled jobs** in areas such as engineering, manufacturing, research and development, and operations

Targets / Metrics

- Increase the size of the aerospace economy
- Increased number of skilled workers employed in the aerospace economy

NEW Game Changer: Sarawak Aerospace Industry Development (3/3)

Thematic area: Technological advancements in strategic industries

Context:

- *Sarawak has expressed its interest in developing an aerospace sector; however, there is currently no established industrial policy framework.*
- *A clear plan for Sarawak's aerospace sector would signal commitment to the industry, attracting potential investors.*
- *A well-defined policy framework would also facilitate research and development while balancing industry growth with safety, security, and legal considerations.*

Sarawak Aerospace Industry Development

Key learnings to derive from Australia's aerospace strategy

- **Establish a dedicated aerospace agency:** Like Australia, Sarawak could benefit from a dedicated agency to coordinate and drive the development of its aerospace industry, supported by collaboration with the National Aerospace Industry Corporation (NAICO) Malaysia to ensure alignment with national strategies.
- **Develop Strategic Pillars**: Sarawak should identify strategic pillars that align with its strengths and opportunities, such as leveraging its geographical advantages or focusing on specific technologies.
- **Invest in infrastructure and R&D:** Significant investment in infrastructure and research can stimulate industry growth and attract private sector involvement.
- **Foster international partnerships:** Forming partnerships with international space agencies, like the Australian Space Agency, and regional companies in locations such as Subang and Seletar can strengthen Sarawak's capabilities and global competitiveness
- **Focus on education and workforce development:** Investing in STEM education and training programs such as CENTEXS's Aerospace Academy will ensure a skilled workforce to support the aerospace industry's growth.

Outcomes

- **Stimulate economic growth** through the production and export of aerospace products and services
- **Creation of high-skilled jobs** in areas such as engineering, manufacturing, research and development, and operations

Targets / Metrics

- Increase the size of the aerospace economy
- Increased number of skilled workers employed in the aerospace economy

BUILD DT-S2: Accelerate digitalisation in priority economic sectors

Sarawak needs to capitalise on emerging opportunities within the digital landscape

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Increase the adoption of digital technologies in Sarawak's agricultural sector through the Agrotechnology Park Development Programme and Smart Farming initiatives, as outlined within the Sarawak Digital Economy Blueprint:**
  ○ Implement IoT Smart Farming across all agricultural stations in Sarawak to accelerate the transformation of the agricultural sector. Additionally, establish a centralised open data platform to facilitate collaboration among industry players
  ○ Facilitate the planning and operation of agrotechnology parks in each district of Sarawak to establish an integrated foundation and ecosystem that enhances food security, improves efficiency and distribution, and increases farmer participation and sales in the digital marketplace.
• **Manufacturing**: Establish Industry 4.0 (I4.0) testbeds and collaborative platforms, particularly in partnership with technology partners. Additionally, develop programmes to support manufacturing subsectors, with a specific focus on MSMEs.
	• Increase in the number of MSMEs adopting digital platforms.
	• Greater access to key enabling I4.0 technologies and partners for local MSMEs, along with stronger collaboration in utilising new technologies across value chains.
	• Increase in overall productivity growth in the agricultural and manufacturing sectors.
		• Create between 39,000 to 48,750 new semi and high-skilled digital jobs
		• Achieve 50% growth in investment and partnerships
		• Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030
		An average increase of 30% in labour productivity across all sectors

NEW DT-S3: Catalyse Artificial Intelligence (AI) opportunities leveraging the Sarawak AI Centre (SAIC)

Sarawak needs to capitalise on emerging opportunities within the digital landscape

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Harness AI technologies leveraging the Sarawak AI Centre, in various critical sectors such as healthcare, agriculture, education, and manufacturing** • **Develop an AI adoption plan that incorporates a State-level AI framework** aligned with MOSTI's national AI framework, to ensure the ethical and trustworthy development of AI technologies. • **Develop an AI chatbot that can effectively translate the Bidayuh and Iban languages**	• Increased adoption of AI among businesses and communities • Improved public and private sector competency in the use and development of AI	**PCDS 2030 Targets:** • Full coverage settlement with access to Internet connectivity **SDEB Targets:** • Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Sarawak Artificial Intelligence Centre (SAIC)

Thematic area:
Catalysing AI opportunities

Context:

- *Through the establishment of the Sarawak AI Centre (SAIC), the Sarawak Government aims to drive research and innovation in Sarawak's key economic sectors.*

Sarawak Artificial Intelligence Centre (SAIC)

The Sarawak AI Centre will drive AI-related R&D in key economic sectors through strategic partnerships with academic institutions, industry leaders and government entities.

Flagship Projects planned:

- **Agriculture:** Sarawak aims to improve crop yields and promote sustainable farming practices through AI-powered data analytics.
- **Healthcare:** SAIC is also pioneering projects in healthcare, such as developing predictive analytics for early disease detection.
- **Energy**: SAIC aims to improve energy efficiency through AI-driven smart grid systems

Use Case: The Alan Turing Institute

- The Alan Turing Institute is a collaborative hub that brings together a diverse group of academics, researchers, and experts in the fields of data science and artificial intelligence.
- The institute works with academic, industry and public sector partners on a diverse range of research projects in data science and AI, while also providing AI expertise to the UK government.
- A significant aspect of the Institute's work involves exploring the ethical considerations and policy implications of AI and data science. It aims to ensure that the development and deployment of AI technologies are done responsibly.

Outcomes

- **Agriculture:** Increased crop yields from optimised planting, irrigation, and fertilisation strategies.
- **Healthcare:** Reduction in the incidence of advanced-stage diseases
- **Energy:** Optimisation of energy distribution and consumption

Targets / Metrics

- Increase in overall labour productivity
- Increased life expectancy in Sarawak
- Reduction in energy costs for consumers

Innovation

Strategy	Initiative	Outcome
IN-S1: Strengthen local and global linkages and partnerships, particularly between research institutions, innovation hubs and industries to maximise the value of R&D and commercialisation	✓ **Establish an integrated IP bank**	• Improved linkages between academia, startups and government agencies
IN-S2: Enhance facilitation services to support innovation and scaling up across borders	✓ **Partner with regional and global startup programmes while also enhancing cooperation with federal agencies** • **Capitalise on Federal Government R&D funding and partnerships**	• Increased partnerships with international startup agencies

✓ **Indicates key initiatives/game changer**

FIX IN-S1: Strengthen local and global linkages and partnerships, particularly between research institutions, innovation hubs and industries to maximise the value of R&D and commercialisation

The existing networks between academia and industry are fragmented, leading to ineffective commercialisation of research.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish an integrated IP bank** - designed to streamline the commercialisation of Sarawakian intellectual property and dynamically facilitate partnerships between startups, researchers, and government agencies. Leveraging the existing Sarawak IP repositories managed by the SRDC and SMA, alongside MyIPO's national IP data, this initiative aims to enhance research capabilities and ensure efficient collaboration and data sharing between stakeholders in the startup ecosystem, including researchers under SRDC.	• Improved linkages between academia, startups and government agencies	• Increase Sarawak's GERD as a % of GDP to 3.5%, as per National Science, Technology, and Innovation Policy (NSTIP) 2021-2030 • 500 high-technology startups and proof of concept (POC) projects successfully launched hubs and commercialised • Double the number of commercialisable intellectual property • 3,000 full-time equivalent (FTE) researchers in R&D per mil people in Sarawak

✓ **Indicates key initiatives/game changer**

FIX Game Changer: Establish an integrated IP bank (1/3)

Thematic area: Strengthen linkages between industry and academia

Context:

The current connections between academia and industry in Sarawak are fragmented, resulting in ineffective commercialisation of research. This initiative seeks to bridge that gap.

Establish an integrated IP bank

Sarawak should establish an integrated IP bank to streamline the commercialisation of Sarawakian intellectual property and dynamically facilitate partnerships

Leveraging the existing Sarawak IP repositories managed by the SRDC and SMA, alongside MyIPO's national IP data, this initiative aims to enhance research capabilities and ensure efficient collaboration and data sharing between stakeholders in the startup ecosystem, including between startups, researchers, and government agencies.

Key functions of the IP Bank should include:

- Access to Existing IPs: Researchers should be able to explore existing patents, trademarks, and other forms of IP to build upon existing work without starting from scratch.
- IP Management and Protection: The IP Bank should offer guidance on how to protect new innovations through patents and other IP rights, ensuring that inventors retain control over their creations.
- Commercialisation Support: Assisting innovators in navigating the commercialisation process, helping them to bring their technologies to market through appropriate licensing.

The IP bank will also complement MOSTI's STI Sandbox initiative

The Sarawak Technology and Innovation (STI) Sandbox was launched in 2024 as part of Sarawak's broader efforts to boost its technological capabilities and economic development through innovation and entrepreneurship.

The IP Bank will play an important enabling role in the STI Sandbox by providing researchers and entrepreneurs with access to a repository of intellectual properties.

Outcomes

- Improved linkages between academia, startups and government agencies
- Improvements in operational efficiency for businesses
- Improved employment prospects for graduates

Targets / Metrics

- Increased number of startups
- Improved productivity for businesses
- Reduction in graduate unemployment and under-employment rates

FIX Game Changer: Establish an integrated IP bank (2/3)

Thematic area: Strengthen linkages between industry and academia

Context:

The current connections between academia and industry in Sarawak are fragmented, resulting in ineffective commercialisation of research. This initiative seeks to bridge that gap.

Establish an integrated IP bank

Case Study: Innovation UK – Knowledge Transfer Partnerships

The Knowledge Transfer Partnerships (KTP) programme, managed by Innovate UK, is a UK-wide initiative aimed at enhancing innovation by facilitating collaboration between academia and industry.

Key Steps

- **Strategic Collaboration:** Innovation UK established partnerships between businesses and knowledge bases, such as universities and research organisations. This collaboration is designed to address specific business challenges through the application of academic expertise.
- **Funding and Support:** The programme offers financial support to businesses, covering a significant portion of the costs associated with employing a KTP Associate—a graduate or expert who works within the company on a dedicated project.
- **Tailored Projects:** Each KTP project is tailored to the unique needs of the business, ensuring that the knowledge transfer is relevant and impactful. Projects typically last between 12 and 36 months.

Impact Example:

- According to an independent estimate, for every pound invested, Innovate UK KTPs generated between £4.20 to £5.50 in net economic benefits.

Outcomes

- Improved linkages between academia, startups and government agencies
- Improvements in operational efficiency for businesses
- Improved employment prospects for graduates

Targets / Metrics

- Increased number of startups
- Improved productivity for businesses
- Reduction in graduate unemployment and under-employment rates

Sources: Knowledge Transfer Partnerships, Innovation UK

FIX Game Changer: Establish an integrated IP bank (3/3)

Thematic area: Strengthen linkages between industry and academia

Context:

The current connections between academia and industry in Sarawak are fragmented, resulting in ineffective commercialisation of research. This initiative seeks to bridge that gap.

Establish an integrated IP bank

What can Sarawak learn from the KTP programme?

Knowledge Transfer Partnerships (KTPs) embed a clear, professionally managed IP framework into the heart of every project, helping businesses and their academic partners to protect, exploit and commercialise new ideas:

- **Mandatory IP agreements**: Every KTP grant offer is conditional on having an appropriate IP agreement in place between the business and the knowledge-base partner. This ensures from day one that background IP (what each party brings in) and foreground IP (what's generated) are clearly allocated and governed.
- **Robust IP-management processes:** UKRI's funding principles require KTP participants to put in place "robust arrangements for … management of commercial applications including intellectual property." That means establishing procedures for identifying inventions, filing for protection, tracking ownership and handling licences or spin-outs.
- **Collaboration agreements & Joint Commitment Statements**: Universities negotiate IP terms with their business partners via formal collaboration agreements (and a "Joint Commitment Statement" at application). These set out who owns what, licensing rights (e.g. an academic licence to use background know-how), publication review periods, and obligations around exploiting the results.

Outcomes

- Improved linkages between academia, startups and government agencies
- Improvements in operational efficiency for businesses
- Improved employment prospects for graduates

Targets / Metrics

- Increased number of startups
- Improved productivity for businesses
- Reduction in graduate unemployment and under-employment rates

Sources: Knowledge Transfer Partnerships, Innovation UK

BUILD IN-S2: Enhance facilitation services to support innovation and scaling up across borders

Local entrepreneurs in Sarawak struggle to scale up beyond Sarawak due to knowledge gaps

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Partner with regional and global startup programmes** to enhance collaboration with international partners • **Capitalise on Federal Government R&D funding and partnerships**: Strengthen collaboration with federal agencies (e.g., MOSTI, Cradle, MDEC) to unlock national-level research grants, innovation programs, and commercialisation support for Sarawak-based startups and researchers.	• Increased partnerships with international startup agencies • Increased number of Sarawak-based startups operating internationally	• Increase Sarawak's GERD as a % of GDP to 3.5% (as per NSTIP) • 500 high-technology startups and proof of concept (POC) projects successfully launched hubs and commercialised • Double the number of commercialisable intellectual property • 3,000 full-time equivalent (FTE) researchers in R&D per mil people in Sarawak

✓ **Indicates key initiatives/game changer**

Sources: NSTIP (2021-2030)

BUILD Game Changer: Partner with regional and global startup programmes

Thematic area: Strengthen international startup partnerships

Context:

Currently, local entrepreneurs in Sarawak struggle to scale up beyond Sarawak due to knowledge gaps.

Partnering with regional and global startup alliances will enhance their access to international markets by providing them with exposure to international best practices, access to a wider network of potential partners and investors, and opportunities to participate in cross-border collaborations and market expansion initiatives

Establish an integrated IP bank

Use Case: EnterpriseSG – Global Innovation Alliance

- **Establishing global nodes**: The GIA established innovation nodes in key cities worldwide, serving as hubs for collaboration. These nodes offer Acceleration Programmes to expedite the market entry of Singaporean companies through workshops, mentorship, and connections with potential clients and partners
- **Organise market immersion programmes**: The GIA organised market immersion programmes that allow Singaporean entrepreneurs to gain insights into the local business landscape, consumer behaviour, and regulatory environment of partner cities.
- **Collaborate with local partners**: Collaboration with local governments, industry leaders, and academic institutions in partner cities was established to create co-innovation programmes, joint research initiatives, and business accelerator programmes.
- **Facilitate cross-border projects**: The alliance facilitated cross-border innovation projects that bring together companies from Singapore and partner cities to co-develop products and services.

Impact Example:

- Since the inception of GIA in 2019, EnterpriseSG has supported over 600 tech startups through such market access programmes, of which more than a quarter of projects achieved substantial business and market traction.

Outcomes

- Increased partnerships with international startup agencies
- Increased number of Sarawak-based startups operating internationally

Targets / Metrics

- Number of Sarawak-based startups operating internationally

2.4 HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

		Page
Overview		**130**
Business Services		***132***
BS-S1	Enhance foundational enablers to drive industry competitiveness	
BS-S2	Facilitate digitalisation of key public services for investors in the mining industry	
BS-S3	Streamline approval processes while enforcing robust post-approval standards	
BS-S4	Adopt a comprehensive and collaborative approach to integrate illegal tourism service providers into the formal economy effectively	
BS-S5	Strengthen regulations and guidelines in the tourism industry	
BS-S6	Review maritime cabotage policy	
BS-S7	Improve air connectivity and aviation facilities to establish an aviation hub in Sarawak	
BS-S8	Enhance the efficiencies of port equipment through targeted upgrades and replacement	
BS-S9	Enhance transparency and simplify processes to attract and support energy-related investors	
BS-S10	Accelerate technology adoption within the public sector to improve efficiency	

HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

		Page
Transport & Logistics		***150***
TL-S1	Develop, upgrade and expand freight and logistical infrastructure with dedicated driver facilities	
TL-S2	Collaborate with private sector players for data sharing on demand	
TL-S3	Expedite initiatives on improving maritime traffic management	
TL-S4	Review maritime cabotage policy	
Infrastructure & Utilities		***158***
IU-S3	Enhance asset management strategies for government buildings	

HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

		Page
Government Transformation		***160***
GT-S1	Empowering people-centric and integrated digital service delivery driven by the Whole of Government digital service approach	
GT-S2	Strengthen the digital capabilities of the SCS	
GT-S3	Establishing a conducive digital ecosystem for the digital work environment of civil servants	
GT-S4	Enhance data governance within the civil service	
GT-S5	Streamline policy/regulation and process/procedures to improve citizen-centric service delivery and ease of doing business	
GT-S6	Develop frameworks for effective collaboration between agencies to break down silos and enhance governance	
GT-S7	Improve integration between federal and state initiatives	
GT-S8	Improve career and well-being programmes to increase job satisfaction within the SCS	
GT-S9	Develop new revenue streams to reduce dependence on tax revenues from oil and gas related activities	
GT-S10	Sustainably preserve and grow the wealth of Sarawak	
GT-S11	Reform Sarawak's public finance management	
GT-S12	Strengthen digitalisation in state budgeting, e-procurement and financial management activities	

HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

		Page
Digital Transformation		***180***
DT-S4	Enhance the data governance landscape in Sarawak	
DT-S5	Enhance baseline cybersecurity and resilience of Sarawak's critical infrastructure	
DT-S6	Enhance public awareness on cybersecurity threats via CyberSarawak	
DT-S7	Strengthen capabilities and digital infrastructure in data centre operations and high-performance computing	
Energy Transition		***186***
ET-S8	Enhance transparency and simplify processes to attract and support energy-related investors	
Innovation		***189***
IN-S3	Facilitate private investment into the startup ecosystem, targeting strategic economic sectors of Sarawak	
IN-S4	Create and implement mechanisms to assess the innovation ecosystem in Sarawak	
Mining and Oil & Gas		***192***
MOG-S4	Foster development of the local downstream mining industry	

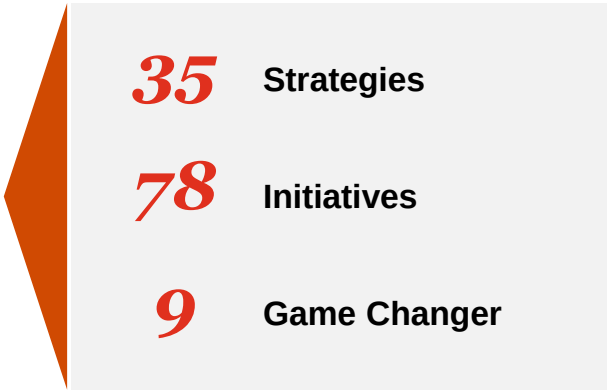
Overview
HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation

Building investor confidence and catalysing private sector growth through strategic governance enhancements and streamlined regulatory frameworks for resilient economic development and inclusive prosperity

To increase investor confidence and private sector participation, Sarawak is enhancing governance and regulatory processes through the Public-Private Partnership (PPP) framework. Enhancing foundational enablers for industry competitiveness through various sectors will be key, with a focus on improving infrastructure and utility policies, particularly for water and power supply to support energy transition. This involves upgrading port equipment and reviewing the maritime cabotage policy, while improving air connectivity to establish an aviation hub. Tourism strategies will integrate informal providers and streamline guidelines.

Digital transformation efforts will increase the use of digital technologies in the public sector to enhance business development and investment opportunities. This will help to bolster data governance and cybersecurity resilience while raising public awareness on cyber threats. Facilitating digitalisation for investors in the mineral industry and streamlining approval processes are additional focus areas.

Digital government initiatives will strengthen digital service delivery and public sector capabilities, with public service transformation enhancing career well-being and inter-agency collaboration. Public finance transformation seeks new revenue streams beyond oil and gas, emphasising digitalisation and financial management improvements. Innovation strategies target private investments in startups, while mining efforts foster local downstream industry growth.



HLS 3: Increase Investor Confidence and Attract Greater Private Sector Participation – Key Areas

Business Services

Key areas:

- Port equipment and marine framework enhancement
- Air connectivity development
- Digital technology adoption and process simplification
- Tourism integration and regulation strengthening
- Public services digitisation and streamlined approvals

Government Transformation

Key areas:

- People-centric digital service delivery
- Technology adoption and ecosystem establishment
- Data governance enhancement
- Process streamlining for citizen services
- Inter-agency collaboration frameworks
- Career development
- Revenue stream diversification
- Wealth preservation and growth strategies
- Financial management, public services digitisation and streamlined approvals

Energy Transition

Key areas:

- Policy and regulatory support enhancement

Innovation

Key areas:

- Startup investment and ecosystem assessment

Transport & Logistics

Key areas:

- Freight infrastructure development
- Private sector collaboration for data sharing
- Maritime traffic management and policy review

Digital Transformation

Key areas:

- Digital technology expansion in the public sector
- Data governance and cybersecurity improvement
- Digital infrastructure and computing capabilities enhancement

Mining & Oil and Gas

Key areas:

- Local downstream industry development

Tourism, Arts, Culture and Creative Industries

Key areas:

- Strengthen regulations and guidelines

Business Services

Strategy	Initiative	Outcome
BS-S1: Enhance foundational enablers to drive industry competitiveness	• Unlock the potential of underutilised or abandoned land to increase supply of sizeable industrial plots with good transport connectivity • Expand the Graduate Enhancement Training Scheme - Work Readiness Programme (GETS-WRP) with a greater focus on private sector involvement to better prepare talent for industry demands • Strengthen collaboration with relevant agencies to improve infrastructure and utility policies, prioritising reliable water and power supply	• Increased industrial land availability • Enhanced industry readiness of human capital • Improved reliability of water and power supply
BS-S2: Facilitate digitalisation of key public services for investors in the mining industry	• To develop the Sarawak Minerals Information System, providing investors with access to essential geological data, permit application and operations reporting, among other services • Implement a digital feedback loop mechanism to improve efficiency and transparency in application processes	• Improved access to essential geological data • Increased transparency of approval processes
BS-S3: Streamline approval processes while enforcing robust post-approval standards	• Optimise the permit application and review process by reducing delays, setting up mineral-specific roadmaps with clear timelines for required actions • Enforce stringent post-approval requirements and monitoring, ensuring companies fulfil commitments such as financial investments and operation standards within a fixed timeframe	• Increased efficiency of permit review processes • Ensure resources are allocated to committed, genuine investors

Business Services

Strategy	Initiative	Outcome
BS-S4: Adopt a comprehensive and collaborative approach to effectively integrate illegal tourism service providers into the formal economy	• Gather data on illegal operators to better understand the services they provide, and their impact on the economy and local communities • Engage industry stakeholders to understand the challenges faced by illegal operators • Conduct a legalisation programme amongst key tourism operators (eg. ground transport operators, tour operators, tour guides)	• Enhanced insights into economic and social impact of illegal tourism operations • Improved quality of tourism services provided • Improved legal protection and access to government support for businesses
BS-S5: Strengthen regulations and guidelines in the tourism industry	• Review and reduce unnecessary barriers in tour guide licensing application and renewals • Improve enforcement of regulations of illegal operations to safeguard registered operators	• Streamlined application processes • Reduced number of illegal tourism operators • Improved quality of tourism services provided
BS-S6: Review maritime cabotage policy	• Measure and evaluate the impact of cabotage policy on local shipping industry and analyse its broader economic implications • Conduct periodic review on freight forwarding rates through a market intervention mechanism (i.e. taskforce, commission), to maintain fair pricing that supports both the industry and the development of the broader economy	• Policy adjustments may be proposed if the analysis reveals adverse economic impacts • Policy impact on key stakeholders • Fair pricing of forwarding rates, improved costs of business, sustainable growth of the freight forwarding industry

Business Services

Strategy	Initiative	Outcome
BS-S7: Improve air connectivity and aviation facilities to establish an aviation hub in Sarawak	✓ **Establish a multimodal Kuching: Global Gateway to Borneo Hub incorporating a new international airport and deep seaport complemented by investments into enhanced air connectivity to key markets through establishment of Sarawak's own airline** • Strengthen Sarawak's international air connectivity by expanding direct routes and increasing flight frequencies through strategic airline partnerships, including Sarawak's own airline • Develop airport infrastructure to enhance air connectivity	• Increased tourist arrivals, boosting demand for both existing and new flight routes • Diversified tourism sector with a stable influx of business travellers, supporting year-round demand for flights • Enhanced transport connectivity • Enhanced public services
BS-S8: Enhance efficiencies of port equipment through targeted upgrades and replacement	✓ **Expedite adoption of technology to digitalise manual processes** ✓ **Upgrade port facilities and modernise cargo handling equipment**	• Improved productivity of port equipment • Improved transactional efficiency
BS-S9: Enhance transparency and simplify processes to attract and support energy-related investors	✓ **Increase transparency for prospective investors by streamlining processes and providing information of energy infrastructure plans**	• Improved investor confidence in Sarawak's energy sector • Better coordination between Sarawak Government and investors
BS-S10: Accelerate technology adoption within the public sector to improve efficiency	• Conduct a comprehensive study and implementation of blockchain, AI and cloud computing solutions across government platforms	• Efficient, effective, and secure service delivery

✓ **Indicates key initiatives/game changer**

FIX BS-S1: Enhance foundational enablers to drive industry competitiveness

Sarawak faces challenges in growing industry-ready talent, unlocking land, and enhancing utility supplies, which are essential to support competitiveness and drive sustainable industry growth

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Unlock the potential of underutilised or abandoned land to increase supply of sizeable industrial plots with good connectivity**:
  ○ Identify and map underutilised or abandoned land suitable for investment activity
  ○ Collaborate with authorities to set up necessary policies or regulatory mechanisms to acquire abandoned land
  ○ Invest in the necessary infrastructure to improve connectivity and access to land located in rural areas
• **Expand the Graduate Enhancement Training Scheme - Work Readiness Programme (GETS-WRP) with a greater focus on private sector involvement to better prepare talent for industry demands:**
  ○ Regularly engage private sector companies across industries to participate in the programme as well as provide feedback on training needs, ensuring the programme's success
	• **Increased industrial land availability**
	• **Enhanced industry readiness of human capital**
		• **Contribute 30% to Sarawak GDP by 2030**
		• **RM80 billion approved investments in the manufacturing sector (2021-2030)**

NEW BS-S2: Facilitate digitalisation of key public services for investors in the mining industry

The absence of digitalisation and consolidation across functions reduces business efficiency, as applicants are required to navigate different departments and forms

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **To develop the Sarawak Minerals Information System, providing investors with access to essential geological data, permit application and operations reporting, among other services**:
  o This digital platform is designed to include functional tabs for service delivery, geological mapping, mineral data, investor resources, general information, publications, reports, promotions, internal monitoring analytics and contact nodes
• **Implement a digital system for feedback loop mechanism to improve efficiency and transparency in application processes**:
  o The feedback loop allows for real-time communication for clarifications, as well as status updates, reducing delays and uncertainty
	• **Improved access to essential geological data**
	• **Increased transparency of approval processes**
		• **RM7.35 billion private investment from minerals-based industry (2022-2030)**
		• **RM2 billion of additional direct annual GDP from mining upstream industry by 2030**

FIX BS-S3: Streamline approval processes while enforcing robust post-approval standards

Lengthy approval processes and red tape are slowing down industry activity

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Optimise the permit application and review process by reducing delays, setting up mineral-specific roadmaps with clear timelines for required actions:**
  ○ This includes the establishment of clear policies and criteria, consistent application of policies and criteria, and streamlining of processes for various groups of minerals to ensure predictable and timely experiences
• **Enforce stringent post-approval requirements and monitoring, ensuring companies fulfil commitments such as financial investments and operation standards within a fixed timeframe, in line with the upcoming Sarawak Investment Policy (SIP):**
  ○ Alongside process streamlining, enforce strict post-approval guidelines and monitoring to ensure companies meet commitments within the committed timeline
  ○ This prevents unproductive outcomes from investors lacking expertise.
	• **Increased efficiency of permit review processes**
	• **Ensure resources are allocated to committed, genuine investors**
		• **RM7.35 billion private investment from minerals-based industry (2022-2030)**
		• **RM2 billion of additional direct annual GDP from mining upstream industry by 2030**

FIX BS-S4: Adopt a comprehensive and collaborative approach to effectively integrate illegal tourism service providers into the formal economy (1/2)

Rampancy of illegal tourism operators is negatively impacting the safety and reputation of the tourism industry and competitiveness of registered businesses

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Gather data on illegal operators to better understand the services they provide, and their impact on the economy and local communities:**
  ○ Collect detailed information on the services offered by illegal operators, their operational scale, and economic and social impacts on local communities and registered businesses
• **Engage industry stakeholders to understand the challenges faced by illegal operators:**
  ○ Collaborate with tourism stakeholders to identify the root causes of illegal operations, uncover challenges faced by unregistered operators, and explore solutions to integrate them into the formal sector
	• **Enhanced insights into economic and social impact of illegal tourism operations**
	• **Improved quality of tourism services provided**
	• **Improved legal protection and access to government support for businesses**
		• **7.5% annual growth in visitor arrivals in 2030**
		• **11% Share of tourism receipts to GDP in 2030**

FIX BS-S4: Adopt a comprehensive and collaborative approach to effectively integrate illegal tourism service providers into the formal economy (2/2)

Rampancy of illegal tourism operators is negatively impacting the safety and reputation of the tourism industry and competitiveness of registered businesses

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Conduct a Legalisation Programme amongst key tourism operators (eg. ground transport operators, tour operators, tour guides):**
  ○ Emphasise a non-punitive approach to encourage illegal operators to come forward, highlighting the benefits of legalisation, such as access to industry support, better credibility, and opportunities for growth
  ▪ Introduce a grace period during which illegal operators can obtain the necessary licenses without penalty, allowing them time to comply with regulations
  ○ Develop a structured programme to formalise key tourism operators by facilitating registration processes and offering support through training and resources
  ▪ Provide clear guidance on how to obtain necessary permits based on established regulations and standards. Create accessible licensing process to encourage illegal operators to become compliant
	• **Enhanced insights into economic and social impact of illegal tourism operations**
	• **Improved quality of tourism services provided**
	• **Improved legal protection and access to government support for businesses**
		• **7.5% annual growth in visitor arrivals in 2030**
		• **11% Share of tourism receipts to GDP in 2030**

FIX BS-S5: Strengthen regulations and guidelines in the tourism industry

Addressing the shortage of tour guides in Sarawak through streamlining of key processes, as well as the need to strengthen enforcement of industry regulations surrounding illegal operations

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Review and reduce unnecessary barriers in tour guide licensing application and renewals**
  ○ Streamline park guide and tour guide applications through a unified application system, ensuring a quicker and simpler process for applicants
  ○ Introduce a tiered renewal system based on experience and performance, and reduce financial burdens with subsidies or payment plans
• **Improve enforcement of regulations of illegal operations to safeguard registered operators**
  ○ Enhance enforcement measures to ensure compliance, including regular inspections and penalties for continued illegal operations
	• **Streamlined application processes**
	• **Reduced number of illegal tourism operators**
	• **Improved quality of tourism services provided**
		• **7.5% annual growth in visitor arrivals in 2030**
		• **11% Share of tourism receipts to GDP in 2030**

FIX BS-S6: Review maritime cabotage policy

The cabotage policy restricts international vessels from operating within Malaysia, requiring local vessels for domestic shipping to protect the local industry. However, logistics users in Sarawak have raised concerns about cartel-like practices among local freight forwarders, alleging collusion and exorbitant surcharges since the policy's reinstatement. This has increased costs and inefficiencies, impacting businesses and consumers.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Measure and evaluate the impact of cabotage policy on local shipping industry and analyse its broader economic implications:** Initiate an engagement process involving all relevant stakeholders, including industry players, logistics companies, and consumer groups. This review should include public consultations, surveys, and workshops to gather a wide range of perspectives and insights on the effectiveness of the policy, and whether there is a need to review the policy. Identify weaknesses and ineffectiveness (if any) and amend the policy to ensure equitable market access with fair pricing mechanisms. • Conduct periodic review on freight forwarding rates through a market intervention mechanism (i.e. taskforce, commission), to maintain fair pricing that supports both the industry and the development of the broader economy	• **Inclusive and transparent** review process that takes into consideration insights of all stakeholders • **Fair market pricing** of freight forwarding costs, with anti-collusion measures • **Sufficient forwarding capacity** that meets the needs of the market • **Reduced costs of doing business**	• N/A

BUILD BS-S7: Improve air connectivity and aviation facilities to establish an aviation hub in Sarawak

All major airports in Sarawak are nearing or exceeding their design capacity, necessitating expansion to accommodate the increasing number of passenger arrivals.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish a multimodal Kuching: Global Gateway to Borneo Hub:** Incorporating a new international airport and deep seaport complemented by investments into enhanced air connectivity to key markets through the establishment of Sarawak's own airline. • **Strengthen Sarawak's international air connectivity** by expanding direct routes and increasing flight frequencies through strategic airline partnerships, including Sarawak's own airline. Leverage bilateral air service agreements and collaborate with regional and global carriers to boost accessibility for business, tourism, and cargo. Implement targeted incentives to attract airlines and support sustainable route development. • **Develop airport infrastructure to enhance air connectivity:** Invest in the development and modernisation of key infrastructure, including upgrading all major airports in Sarawak, as they have exceeded their design capacities even pre-pandemic. In addition to airports, focus on developing high-quality public tourist facilities. o This includes establishing and maintaining visitor information centres, improving public transportation networks to major tourist destinations, and enhancing the availability of clean and accessible public restrooms in tourist areas. o Development of the new Kuching International Airport (KIA) to enhance Sarawak's role as a regional aviation hub.	• **Increased tourism** through upgrading of major airports and improving public tourist facilities can attract more visitors to Sarawak, making travel more convenient and enjoyable. • **Economic growth** stemming from enhanced air connectivity • **Improved public services** through the development of high-quality public facilities, such as visitor information centres and clean restrooms, enhance the overall experience for both tourists and residents. • Increased international flight frequencies, enhanced global accessibility and strengthened Sarawak's position as a regional aviation hub.	• Capacity target of airport (passengers per annum): Kuching: 8,000,000 Miri: 4,000,000 Sibu: 2,500,000

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Establish a multimodal Kuching: Global Gateway to Borneo Hub

Thematic area:
Increasing traffic volume on the ground

Context:

- *Transform Sarawak's transportation infrastructure into an integrated, sustainable, and accessible system that supports economic growth, enhances the quality of life, and promotes environmental sustainability for all Sarawakians.*

Integrated infrastructure and connectivity advancement

Establishing a multimodal Kuching: Global Gateway to Borneo Hub, incorporating a new international airport and deep seaport, complemented by investments into enhanced air connectivity to key markets through the establishment of Sarawak's own airline.

This initiative involves the development of a comprehensive multimodal transportation hub that connects the region to critical nodes in global and regional networks. This hub will feature a state-of-the-art international airport, alongside a deep-seaport, facilitating seamless integration between various modes of transportation.

By modernising existing infrastructure and investing in new developments, the initiative aims to create an efficient transit system that supports both passenger and freight movement, ultimately enhancing economic activity and accessibility. Establishing Sarawak's own airline helps to improve direct links to vital international markets.

Throughout this initiative, Sarawak can:

- offer more direct flights;
- strengthen its position in global trade and tourism;
- drawing businesses and travellers alike to the region;
- support local economies; and
- attracting foreign investments in the long run.

Outcomes

- Improved public services
- Increased tourism
- Increased international flight frequencies
- Less traffic congestion and reduced environmental impact
- Enhanced urban connectivity and economic growth

Targets / Metrics

- Public transport ridership
- On-time performance, average wait time, service frequency
- Improve integration of different transport modes

FIX BS-S8: Enhance efficiencies of port equipment through targeted upgrades and replacement

Efficiency, digitalisation, and emission reduction targets are off track due to inadequate upgrades and modernisation of port facilities.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Expedite the Adoption of Technology:** Develop a robust digital platform that integrates all port operations, from documentation to customs clearance, facilitating real-time data sharing among stakeholders. Engage with technology partners to co-develop solutions and ensure suitability to Sarawak. ✓ **Upgrade Port Facilities and Modernise Cargo Handling Equipment:** Prioritise investment in upgrading port infrastructure to enhance the speed and efficiency of cargo handling by replacing outdated equipment with digital and automated systems. This approach will also support the achievement of emission reduction goals within the port sector, promoting a more sustainable approach to port management and operations.	• **Improved productivity of port equipment** (i.e. increase in gross moves per hour, reduced ship turnaround time, higher port throughput) • **Improved transactional efficiency** (i.e. reduction in customs clearance time, reduction in operational costs, digitalisation of transactions)	• 2.2 million tonnes of aggregate cargo by 2030 • Average 50% decrease in vessel turnaround time • Average 50% reduction in waiting time at anchorage • Average 25% increase in ship-to-shore container handling rate • 90% paperless transaction • Implementation of Integrated Port Monitoring System (IPOMS)

✓ **Indicates key initiatives/game changer**

FIX Game Changer: Expedite the adoption of technology to digitalise manual processes and upgrade crucial port facilities to improve logistical efficiency (1/2)

Thematic area: Insufficient Port Modernisation Efforts, Outdated Port Policies

Context:

- *In Sarawak, port operations face significant challenges due to a lack of digitalisation efforts and outdated equipment. Despite the region's strategic location and potential as a key logistics hub, ports still rely on manual processes and old equipment, leading to inefficiencies and delays.*

Digitise Manual Port Operations, Upgrade Port Facilities and Equipment

Adopting technology to **digitalise processes** like transaction documentation and customs clearance will **streamline operations**, reduce processing times, and **enhance accuracy**

Upgrading port facilities with advanced cranes, automated vehicles, and improved storage systems will **increase cargo capacity**, **speed**, and **reliability**

These improvements support **just-in-time manufacturing** and **reduce business costs** by providing efficient logistics services

Potential Impact Example: Netherlands Port of Rotterdam

30% ***Vessel turnaround time reduction***

with introduction of high-tech customs scan (containers' contents are analysed remotely)

up to 80% ***Reduction of complaints by freight forwarders***

on the delayed release of their containers due to inspections

Outcomes

- Improved productivity of port equipment (i.e. increase in gross moves per hour, reduced ship turnaround time, higher port throughput)
- Digitalisation of port transactions, improved transactional efficiency

Targets / Metrics

- Degree of port digitalisation
- Average turnaround time for a vessel/transaction, port throughput
- Crane productivity by assessing the time for loading and unloading

FIX Game Changer: Expedite the adoption of technology to digitalise manual processes and upgrade crucial port facilities to improve logistical efficiency (2/2)

Digitise Manual Port Operations, Upgrade Port Facilities and Equipment

Case Study:

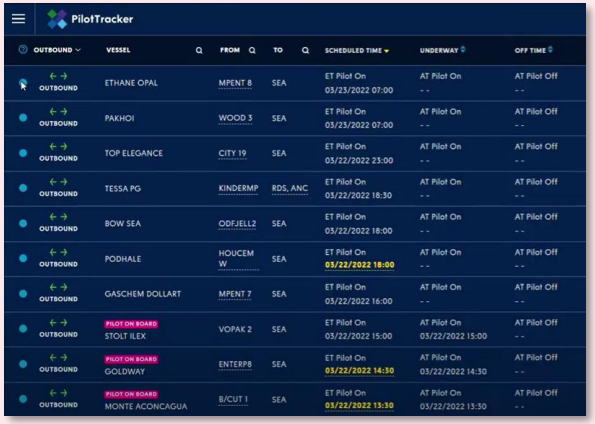
The Port of Rotterdam, one of the largest and most advanced ports globally, has consistently focused on enhancing its operational efficiency through technological upgrades and equipment modernisation. The port's strategic initiatives have set benchmarks in port efficiency and capacity enhancement.

Key Initiatives by the Government of the Netherlands:

- **Advanced Automation Systems**: The Port of Rotterdam has invested in smart cranes and automated guided vehicles (AGVs) to enhance the efficiency of container handling, reducing turnaround times and labour costs.
- **PortXchange Platform:** This digital collaboration platform enhances operational efficiency by providing real-time data exchange between shipping lines, terminals, and service providers, optimising port calls and reducing waiting times.
- **Digital Infrastructure**: Development of a digital platform for real-time tracking and management of cargo, integrating data analytics for predictive maintenance. The platform is supported by smart devices, such as IoT sensors, to monitor equipment health and optimise resource allocation.

Key Outcomes:

- **Increased Throughput**: The port saw a significant increase in cargo handling efficiency, with faster turnaround times and reduced bottlenecks.
- **Cost Reduction**: Operational costs decreased in the long term due to reduced manual labour and lower energy consumption.
- **Environmental Impact**: Emission levels were notably reduced, aligning with the port's sustainability goals.



Port of Rotterdam utilises the PortXchange platform to plan, execute, and monitor all activities during a port call on a standardised data exchange

FIX BS-S9: Enhance transparency and simplify processes to attract and support energy-related investors

Access to clear information, such as key regulations and government plans, would greatly boost investor confidence and reduce uncertainty. This could enhance the ease of doing business and reduced start-up period for investors

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Increase transparency for prospective investors by streamlining processes and providing information of energy infrastructure plans:** Establish a centralised information portal or a "one-stop centre" that streamlines access to key information such as regulatory requirements, incentives, and project opportunities. This could be with existing investment arm (InvestSarawak) or the proposed energy regulator.	• **Improved investor confidence** in Sarawak's energy sector • **Ensure ease of doing business** with faster approval process as well as enhanced preparedness for investors • **Better coordination** between Sarawak Government and investors	• **Cumulative RM9 billion** committed investment by 2030

✓ **Indicates key initiatives/game changer**

FIX Game changer: Enhance transparency and simplify processes to attract and support energy-related investors

Thematic area:
Realising committed or announced investments in the clean and new energy sectors

Context:

Feedback from private sector engagements highlights the need for clearer information on regulations and strategic plans, which would provide credible signals on government policy.

Increase transparency for prospective investors by streamlining processes and providing information of energy infrastructure plans

Description: Creating a centralised information portal or a "one-stop centre" can make the investment landscape more accessible, while establishing a dedicated agency will expedite project approvals. Consistent energy policies, clear grid plans, and financial incentives for renewable projects will further boost investor confidence. Capacity-building workshops and feedback mechanisms will support continuous improvement.

Key points:

- **Boost investor confidence** by making the regulatory framework more investor-friendly.
- **Foster trust and collaboration** through transparency and open dialogue.
- **Enhance strategic alignment** with long-term grid planning.
- **Encourage continuous improvement** and investor engagement.

Outcomes

- Improved investor confidence in Sarawak's energy sector
- Better coordination between the Sarawak Government and investors

Targets / Metrics

- Committed investment and revenue from energy projects/initiatives: **Cumulative RM9 billion by 2030**
- Number of new jobs created in the energy sector (excluding the construction phase)

Note: Refer to Sarawak Investment Policy (MINTRED)

BUILD BS-S10: Accelerate technology adoption within the public sector to improve efficiency

Enhancements of digital tools are crucial to improving government productivity

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Conduct a comprehensive study and implementation of blockchain, AI and cloud computing solutions across government platforms** to expedite public sector processes in identity management, financial management, and procurement	• Efficient, effective, and secure service delivery	**PCDS 2030 Targets:** • 100% online government services by 2030 **SDEB Targets:** • 100% digitally literate civil servants by 2027 **Other Targets:** • 80% satisfaction rating from users of government services (individuals and businesses)

Transport & Logistics

Strategy	Initiative	Outcome
TL-S1: Develop, upgrade and expand freight and logistical infrastructure with dedicated driver facilities	• **Conduct needs assessment on current freight and logistical demand to ascertain infrastructure demands** ✓ **Create hub and spoke distribution network to optimise cargo distribution** • **Develop dedicated lorry and driver facilities along Pan-Borneo Highway**	• Lowered logistics costs through optimisation of logistic flows • Enhanced safety and traffic management in urban areas
TL-S2: Collaborate with private sector players for data sharing on demand	• Develop formal agreements for data sharing between government and private sector to address ownership concerns on logistical data • Offer incentives to private sector players to share data	• Data-driven decisions • Improved route planning and resource allocation • Strengthened public-private partnerships
TL-S3: Expedite initiatives on improving maritime traffic management	• Adopt and fully utilise VTMS to enable real-time vessel tracking across all major ports, enhancing maritime safety and traffic management. • Adopt a Port Community System (PCS) to facilitate seamless information exchange among port users	• Reduction in maritime and riverine incidents • Coverage of VTMS on all major ports
TL-S4: Review policies and ordinances governing the port sector	• Review of port ordinances to ensure alignment with international safety standards and sustainable development goals • Formulate strategic long-term master plan for the port sector to project future cargo demand and determine requisite infrastructure	• Policies and regulations aligned with international operating standards • Long-term plan to anticipate future cargo demand and infrastructure requirements

✓ **Indicates key initiatives/game changer**

BUILD TL-S1: Develop, upgrade and expand freight and logistical infrastructure with dedicated driver facilities

The absence of a centralised data gathering system results in insufficient information on goods movement across sectors, causing logistical development to be driven by individual commercial needs and leading to fragmented, inefficient facilities.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Conduct needs assessment on current freight and logistical demand**: Engage with freight operators to identify logistical challenges and future needs. Analyse existing infrastructure and market trends to highlight inefficiencies and project future demand to guide infrastructure needs. ✓ **Create a hub and spoke distribution network to optimise cargo distribution:** Utilise Pan-Borneo Highway to establish a hub and spoke network by partnering with the private sector to create distribution networks, including air cargo facilities, efficient cargo handling and leverage public-private partnerships and incentives to attract investment. • **Develop dedicated lorry and driver facilities along Pan-Borneo Highway**: Enhance driver welfare by developing rest facilities along the Pan-Borneo Highway, offering essential amenities, lorry terminal facilities in major towns and lorry parking bays in smaller towns to support efficient cargo deliveries and improve driver conditions.	• **Lowered logistics costs** through the optimisation of logistic flows and the minimisation of facility duplication by utilising shared facilities. • **Enhanced safety and traffic management** in urban areas, as trucks can avoid entering city centres for essential services. • **Enhanced driver welfare** as drivers have access to necessary amenities whenever required	• N/A

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Assess the logistical needs of Sarawak and create a hub and spoke distribution network to optimise cargo distribution (1/2)

Thematic area: Insufficient Logistical Infrastructure & Data

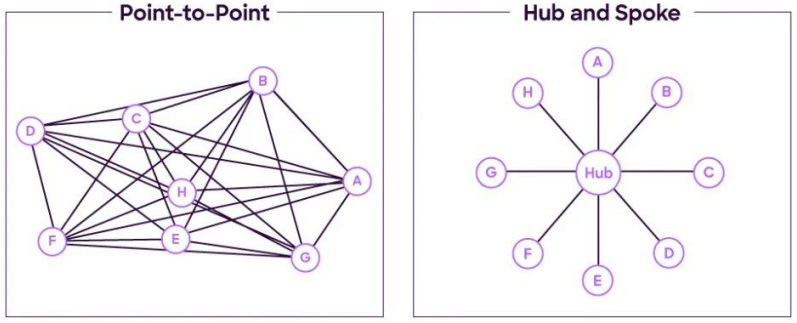
Context:

- *The lack of a centralised data gathering system results in insufficient information on goods movement across economic sectors.*
- *Consequently, logistical development is driven by individual commercial needs, leading to gaps in shared infrastructure like logistic hubs and lorry terminals, resulting in fragmented and inefficient facilities that do not meet broader economic needs.*

Assess Sarawak's Logistical Needs and Develop a Hub and Spoke Distribution Network

The hub and spoke distribution model is a system designed to streamline the transportation and distribution of goods by centralising key operations at strategic locations (hubs) and using these hubs to direct shipments to various destinations (spokes). Sarawak's vast land area and dispersed population centres present logistical challenges that a hub and spoke model can effectively address. By centralising operations at strategically located hubs, Sarawak can streamline the distribution of goods across its diverse regions by providing the necessary hub-and-spoke infrastructure to logistics companies to benefit from this distribution model.

With the ongoing development of infrastructure such as the Pan-Borneo Highway, Sarawak is well-positioned to implement this model. The enhanced road network provides the necessary connectivity between hubs and spokes, facilitating smoother movement of goods, reducing transit times and freight costs.



Point-to-point (business as usual) vs hub and spoke distribution model

Outcomes

- Lowered logistics costs through the optimisation of logistic flows
- Targeted logistical infrastructure development
- Enhanced safety and traffic management in urban areas

Targets / Metrics

- Average cargo delivery time, on-time fulfilment rate, cargo lead time variability at major distribution centres

BUILD Game Changer: Assess the logistical needs of Sarawak and create a hub and spoke distribution network to optimise cargo distribution (2/2)

Assess Sarawak's Logistical Needs and Develop a Hub and Spoke Distribution Network

Case Study:

Australia, with its vast distances and reliance on road transport, has developed its logistical infrastructure around major road connections. This has been integral in supporting the efficient movement of goods across the country.

Key Initiatives by the Government of Australia:

- **Establishment of Road Freight Terminals**: Major freight terminals have been developed along the Hume Highway, such as the Melbourne Intermodal Terminal, to facilitate efficient cargo transfer and consolidation
- **Dedicated Rest Areas**: The government has constructed dedicated rest areas along the Hume Highway, equipped with secure parking, restrooms, dining facilities, and sleeping quarters to ensure driver welfare and compliance with rest regulations

Key Outcomes:

- **Enhanced Road Safety**: Reduction in road accidents involving freight vehicles, promoting safer roadways
- **Reduced Transit Times**: Decreased transit times, improving delivery schedules and customer satisfaction
- **Economic Development**: Economic growth in areas along the highway, with increased investment in logistics-related industries and job creation

Potential Impact:

- **Cost Efficiency:** By consolidating shipments at the hub, companies can achieve economies of scale and reduce transportation costs
- **Improved Service Levels:** The model enables faster transit times and more frequent deliveries to outlying locations.
- **Reduced Inventory Levels:** Centralised inventory at the hub can lead to lower inventory holding costs for the entire network.

BUILD TL-S2: Collaborate with private sector players for data sharing on demand

The absence of data on goods movement prevents the government from assisting in logistics infrastructure planning.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop formal agreements and platforms for data sharing for all transport and logistics data, including land transport, sea, river and air transport**: Forge formal agreements with private sector entities to establish clear protocols for data sharing, addressing concerns about data ownership and usage. This will create a foundation for informed logistical planning and sector-wide cooperation • **Offer incentives for data sharing**: Encourage data sharing by providing incentives such as better financing rates or preferential access to government projects. This will motivate private sector players to collaborate, enhancing the overall efficiency and competitiveness of Sarawak's logistics sector.	• **Data-driven decisions** through accurate recognition of traffic patterns, demand hotspots, and logistic bottlenecks • **Improved route planning and resource allocation** through shared data • **Strengthened public-private partnerships** with transparent and mutually beneficial data-sharing frameworks	• N/A

FIX TL-S3: Expedite initiatives on improving maritime traffic management

Navigational safety and traffic management for vessels is inadequate due to a lack of port upgrades, leading to increased congestion and risk of accidents.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Adopt and fully utilise VTMS to enable real-time vessel tracking across all major ports, enhancing maritime safety and traffic management.** • **Adopt a Port Community System (PCS) to facilitate seamless information exchange among port users**: Develop or adopt a PCS to facilitate seamless information exchange among port users such as shipping lines, terminal operators, and customs. This system can improve coordination and streamline processes, reducing delays and enhancing traffic flow.	• **Integrated safety and efficiency enhancement** as VTMS provides real-time monitoring and management of maritime traffic, reducing collision risks and optimising vessel movements to minimise congestion and waiting times. • **Operational streamlining and cost reduction** through digitising documentation and facilitating seamless information exchange among stakeholders, reduces administrative delays, accelerates cargo handling, and provides real-time access to information, enhancing decision-making and transparency.	• Safe navigation channel approximately 560km of upstream waterways with reduction in the number of riverine accidents per annum

FIX Example: Expedite initiatives on improving maritime traffic management

Expedite Adoption of Technology for the Port Sector

Case Study:

The Port of Singapore, a key maritime hub, has been at the forefront of implementing advanced traffic management systems through the Maritime and Port Authority of Singapore (MPA) to streamline maritime operations, ensuring safe and efficient vessel movements.

Key Initiatives by the Government of Singapore:

- **Next-Generation Vessel Traffic Management System (VTMS):** As of the end of 2024, MPA is implementing a cutting-edge VTMS that provides comprehensive real-time vessel tracking that utilises data analytics to pinpoint traffic hotspots and machine learning algorithms capable of predicting potential collisions.
- **Digital Port Clearance**: MPA has introduced the Maritime Single Window System to streamline port clearance processes by allowing shipping companies to submit regulatory documents electronically, reducing administrative delays.
- **Just-in-Time (JIT) Platform**: MPA utilises a JIT system that optimises vessel arrival times to minimise anchorage time and reduce port congestion by facilitating direct berthing on arrivals and on-time departures to enhance ship turnaround time as well as reduce dwell time at anchorages.
- **AIS Data Utilisation**: MPA uses enhanced AIS data to monitor vessel movements and improve situational awareness for maritime traffic management.
- **Collaborative Stakeholder Engagement**: MPA actively collaborates with shipping lines and other stakeholders to refine traffic management strategies and ensure efficient vessel operations.

Key Outcomes:

- **Reduced Congestion**: The port saw a reduction in vessel waiting times, leading to smoother maritime traffic flow.
- **Enhanced Maritime Safety**: Improved navigational safety resulted in fewer maritime incidents.
- **Operational Efficiency**: Streamlined operations with quicker turnaround times for vessels.

FIX TL-S4: Review policies and regulations governing the port sector

Current port sector regulations fail to require port operators to adhere to international operating standards, do not mandate sustainable development practices, and lack mechanisms to anticipate future cargo needs

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Review of port ordinances to ensure alignment with international safety standards and sustainable development goals:** Conduct a thorough review of port ordinances to align with international safety standards and sustainable development goals, mandating environmental assessments for development projects and enforcing sustainable practices across operations. • **Development of a Long-Term Port Sector Master Plan:** : Formulate a strategic long-term master plan to accurately project future cargo demand and guide infrastructure development, ensuring each port's roles align to complement rather than compete. This involves conducting detailed market analysis and using economic data and evidence to support development or expansion decisions, thereby avoiding the creation of white elephant projects.	• **Enhanced safety and compliance** by aligning port ordinances with international safety standards to ensure safer operations and compliance with global regulations • **Sustainable development** by mandating environmental assessments and enforcing sustainable practices to promote eco-friendly development, reducing the environmental impact of port operations and contributing to global sustainability goals. • **Strategic infrastructure development** through a long-term master plan that will assist in accurately projecting future cargo demand and guide infrastructure development	• 25% reduction of emissions from port operations • 2.2 million tonnes of aggregate cargo by 2030 • Average 50% decrease in vessel turnaround time • Average 50% reduction in waiting time at anchorage • Average 25% increase in ship-to-shore container handling rate • 90% paperless transaction

Infrastructure & Utilities

Strategy	Initiative	Outcome
IU-S3: Enhance asset management strategies for government buildings	• Develop frameworks for revenue generating activities and optimisation in terms of cost-savings. • Establish clear guidelines for building management • Establish a centralised approval approach for new government building development proposal.	• Efficient management of state-owned buildings • Sustainable income sources for the maintenance of state government buildings

FIX IU-S3: Enhance asset management strategies for government buildings

Current building management processes are not sufficiently integrated between ministries

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop frameworks for revenue generating activities and optimisation in terms of cost-savings.** • **Establish clear guidelines for building management** (registration, ownership, responsibilities, operation and maintenance plan) through the Building Maintenance Management Guideline (BMMG) to be introduced by Unit Pentadbiran. • **Establish a centralised approval approach for new government building development proposal:** Strengthen revenue collection and monitoring mechanisms to ensure efficiency, transparency, and accountability in the management of state funds	• Sustainable income sources for the maintenance of state government buildings • Efficient management of state-owned buildings	• **Note:** Public Service Delivery was not included in PCDS 2030.

Government Transformation

Strategy	Initiative	Outcome
GT-S1: Empowering people-centric and integrated digital service delivery driven by the Whole of Government digital service approach	• Strengthen the capabilities of integrated service platforms • Increase integrated digital service solutions and minimise silos through collaborative efforts across agencies	• 100% online government services by 2030 • 80% satisfaction rating from users of government services (individuals and businesses)
GT-S2: Strengthen the digital capabilities of the SCS	• Enhance competency development for digital-focused roles • Cultivate a digital-first mindset within the Sarawak Civil Service (SCS)	• 100% digitally literate workforce by 2027 to drive the digital transformation of the public sector • Increased digital readiness in the SCS
GT-S3: Establishing a conducive digital ecosystem for the digital work environment of civil servants	• Enhance the ICT infrastructure available for civil servants • Enhance the development of shared services using SCSMobile+	• 100% SCS onboard common service platforms • 100% state government agencies have access to SarawakNet
GT-S4: Enhance data governance within the civil service	• Enhance the current data governance framework, policies and guidelines • Build expertise in the use of data tools within the SCS ✓ **Establish the Sarawak Data Exchange (SDX)**	• Improved public sector governance through standardised data management • Seamless data sharing and integration across government agencies

✓ **Indicates key initiatives/game changer**

Government Transformation

Strategy	Initiative	Outcome
GT-S5: Streamline policy/regulation and process/procedures to improve citizen-centric service delivery and ease of doing business	• Enhance bureaucratic process mapping and simplification through Business Process Reengineering (BPR) • Formulate evidence-based policy and revisit policy using Regulatory Impact Analysis (RIA) • Foster a culture that embraces public sector innovation • Development of Guidelines for the Sarawak Building Design Committee (SBDC)	• Increased ease of doing business • Clearer processes and streamlined procedures • Enhanced policy/regulation • Enhanced adaptability and acceptance of change initiatives among SCS • Effective development project implementation monitoring with improved operational efficiency, and comprehensive guidelines
GT-S6: Develop frameworks for effective collaboration between agencies to break down silos and enhance governance	• Hold inter-agency collaboration forums • Design standardised communication protocols • Centralised Sarawak communication and feedback management through Talikhidmat • Enhanced integration One-stop Government Service Delivery through Service Sarawak • Effective development project implementation monitoring with improved operational efficiency and comprehensive guidelines • Establish centre for Integrity and Governance Certified Integrity Officer (CeIO) empowering and leadership	• Increased effectiveness of cross-agency collaborations • Enhanced good governance and compliance with rules and regulations • Structured and systematic public feedback management • Increased satisfaction rating by 85% • Integrated One-stop Government Service Delivery

Government Transformation

Strategy	Initiative	Outcome
GT-S7: Improve integration between federal and state initiatives	• Enhance SAMUDAH, a state-level counterpart to PEMUDAH, aimed at enhancing the public delivery system.	• Increased ease of doing business
GT-S8: Improve career and well-being programmes to increase job satisfaction within the SCS	• Integrated Talent Management Framework • Holistic Employee Well-being Framework	• Enhanced organisational agility and performance • Enhanced employee well-being, fitness and satisfaction • Elevating organisational success through effective talent management
GT-S9: Develop new revenue streams to reduce dependence on tax revenues from oil and gas related activities	• Identify new sources of revenue, including by leveraging carbon trading and the carbon capture industry as new revenue sources for Sarawak • Formulate policy guidelines and frameworks on transformation of GLCs and Statutory Bodies to become financially self-sufficient	• Reduced proportion of state revenue from oil and gas related activities • Increase strategic alignment
GT-S10: Sustainably preserve and grow the wealth of Sarawak	• Sustainably preserve and grow the wealth of Sarawak via strategic investments from the Sarawak Sovereign Wealth Future Fund (SSWFF)	• Increased AUM under SSWFF
GT-S11: Reform Sarawak's public finance management	✓ **Implement Integrated Results-Based Management (IRBM)** • Enhance existing accounting practices by implementing accrual accounting and MPSAS for local authorities	• Improved expenditure efficiency • Increased accuracy of Sarawak Government's financial position

✓ **Indicates key initiatives/game changer**

Government Transformation

Strategy	Initiative	Outcome
GT-S12: Strengthen digitalisation in state budgeting, e-procurement and financial management activities	• Enhance the Integrated Asset Management System (IAMS), State e-Procurement, and Financial Performance, Efficiency & Compliance (FinPEC) systems	• Increased efficiency and transparency in Sarawak's financial management

BUILD GT-S1: Empowering people-centric and integrated digital service delivery driven by the Whole of Government digital service approach

Integrated service delivery improves the ease of navigation for users, creating confidence in digital technologies

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Strengthen the capabilities of integrated service platforms**, including e-payment systems like SPay and unified login solutions such as MyDigitalID/SarawakID. • **Increase integrated digital service solutions and minimise silos through collaborative efforts across agencies** by transitioning from manual and paper-based processes to digital systems, along with integrating back-end services across agencies to create a more efficient, effective, and seamless customer journey in accessing government services.	• 100% online government services by 2030 • 80% satisfaction rating from users of government services (individuals and businesses)	**PCDS 2030 Targets:** • 100% online government services by 2030 **SDEB Targets:** • 100% digitally literate civil servants by 2027 **Other Targets:** • 80% satisfaction rating from users of government services (individuals and businesses)

BUILD GT-S2: Strengthen the digital capabilities of the Sarawak Civil Service

To effectively drive digitalisation in the public sector, civil servants require digital expertise and embrace a digital-first culture

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Enhance competency development for digital-focused roles such as:**
  ○ Data Officers and Analysts
  ○ AI Specialists
  ○ ICT Project Managers
  ○ Social Media Officers
  ○ Cybersecurity Specialists
• **Cultivate a digital-first mindset within the Sarawak Civil Service (SCS)** by fostering a culture of innovation, promoting digital adoption, and supporting a mobile working workforce. Simultaneously, enhance cybersecurity awareness within the SCS to ensure that the transition to digital practices is secure and resilient.
	• 100% digitally literate workforce by 2027 to drive the digital transformation of the public sector
	• Increased digital readiness in the SCS
		PCDS 2030 Targets:
		• 100% online government services by 2030
		SDEB Targets:
		• 100% digitally literate civil servants by 2027
		Other Targets:
		• 80% satisfaction rating from users of government services (individuals and businesses)

FIX GT-S3: Establishing a conducive digital ecosystem for the digital work environment of civil servants

A comprehensive suite of digital tools allows civil servants to work more efficiently.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance the ICT infrastructure available for civil servants,** including the provision of robust network connectivity, modern equipment, advanced software solutions to enable adoption of digital technology and cultivate digital-first mindset. • **Enhance the development of shared services using SCSMobile+,** which is a secure digital workplace application designed for the SCS, integrating features such as chat, digital business cards, event management, and correspondence handling into a single system. By deploying systems that can be utilised across multiple agencies, this approach eliminates the need for each agency to independently develop redundant services.	• 100% state government agencies have access to SarawakNet • 100% SCS onboard common service platforms	**PCDS 2030 Targets:** • 100% online government services by 2030 **SDEB Targets:** • 100% digitally literate civil servants by 2027. • 80% satisfaction rating from users of government services (individuals and businesses)

FIX GT-S4: Enhance data governance within the civil service

Significant gaps in data management and data silos across ministries prevents effective data-driven decision making

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance the current data governance framework, policies and guidelines** with a focus on data quality, data stewardship, data protection and compliance, and data management. • **Build expertise in the use of the Sarawak Data Management System and other data analytics tools among the SCS** through data familiarisation and data cataloguing programmes. ✓ **Establish the Sarawak Data Exchange (SDX) -** a secure data exchange platform that enables various parties, including federal agencies and private sector stakeholders, to connect their information systems and exchange data efficiently and securely.	• Improved public sector governance through standardised data management • Seamless data sharing and integration across government agencies	**PCDS 2030 Targets:** • 100% online government services by 2030 **SDEB Targets:** • 100% digitally literate civil servants by 2027 **Other Targets:** • 80% satisfaction rating from users of government services (individuals and businesses)

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Sarawak Data Exchange (1/2)

Thematic area:
Addressing data silos

Context:

- *Data silos across ministries remain a key barrier to effective data-driven decision making.*
- *To improve data integration across ministries, SCSDU is developing the Sarawak Data Exchange (SDX) platform to standardise integration management through APIs.*

Sarawak Data Exchange & Sarawak Data Management System

The Sarawak Data Exchange aims to breach data silos across government

Overview: The Sarawak Data Exchange is an extension of the Sarawak Data Management System (SDMS). It leverages data catalogued within the SDMS to establish a platform for data exchange. This platform facilitates the internal exchange of data among various state government agencies and enables external data sharing with federal agencies and private sector stakeholders.

Critical components for success:

- **Secure legal and regulatory framework:** Implementing a strong legal framework to support digital transactions, data protection, and privacy is crucial for gaining trust and ensuring compliance with international standards.
- **Foster public-private collaboration:** Encourage collaboration between government, private sectors, and academia to leverage expertise, foster innovation, and ensure the system addresses diverse needs of different government agencies.
- **User experience:** Design services with a user-centric approach to maximise adoption and satisfaction, along with tracking user-centric outcomes to ensure continuous improvement and alignment with user needs and expectations
- **Emphasise data security and privacy:** Prioritising robust security measures and educating civil servants about data privacy will build trust and encourage widespread use of digital services.

Outcomes

- Seamless data sharing and integration across government agencies
- Data-driven public service delivery
- Improved public sector governance through standardised data management

Targets / Metrics

- Increased time-savings for government agencies and citizens
- Increased satisfaction rating from users of government services (individuals and businesses)

BUILD Game Changer: Sarawak Data Exchange (2/2)

Thematic area:
Addressing data silos

Context:

- *Data silos across ministries remain a key barrier to effective data-driven decision making.*
- *To improve data integration across ministries, SCSDU is developing the Sarawak Data Exchange (SDX) platform to standardise integration management through APIs.*

Sarawak Data Exchange & Sarawak Data Management System

Case Study: E-Estonia – X-Road

E-Estonia is renowned for its advanced digital society, with X-Road being a central component of this digital transformation. X-Road is a secure data exchange layer that allows various public and private sector organisations to link their information systems and exchange data efficiently and securely.

Key Steps

- **Technical Framework:** X-Road was developed as a decentralised, secure backbone for data exchange. It uses Internet-based technologies and supports various data formats, ensuring interoperability between different systems.
- **Data Security Laws:** Strong emphasis was placed on data protection and privacy, aligning with EU regulations to bolster citizen trust in digital services.
- **Public-private partnerships:** The development and implementation of X-Road involved collaboration between government agencies and local private sector entities such as Cybernetica, fostering innovation and expertise sharing.

Impact Example:

- *X-Road has accelerated the digitalisation of government services and led to substantial time savings for both the government and citizens. The Estonian government estimates that X-Road saves approximately 1885 years of working time annually.*

Outcomes

- Seamless data sharing and integration across government agencies
- Data-driven public service delivery
- Improved public sector governance through standardised data management

Targets / Metrics

- Increased time-savings for government agencies and citizens
- Increased satisfaction rating from users of government services (individuals and businesses)

FIX GT-S5: Streamline policy/regulation and process/procedures to improve citizen-centric service delivery and ease of doing business

Cumbersome processes reduces citizen satisfaction with government services and ease of doing business

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance bureaucratic process mapping and simplification through Business Process Reengineering (BPR):** Revamp workflows within the State Civil Service (SCS) to improve coordination and implement efficiency metrics. Map existing workflows, identify inefficiencies, and redesign processes by incorporating automation to expedite approval procedures. • **Formulate evidence-based policy and revisit policy using Regulatory Impact Analysis (RIA):** Review outdated/ archaic rules and regulation using RIA. • **Foster a culture that embraces public sector innovation by promoting collaborative problem-solving through the Innovative and Creative Circle**. This platform identifies inefficiencies and encourages the co-creation of innovative solutions. • **Development of Guidelines for the Sarawak Building Design Committee (SBDC):** To enhance the process and procedures of SBDC	• Increased ease of doing business • Clearer processes and streamlined procedures • Enhanced policy/regulation • Enhanced adaptability and acceptance of change initiatives among SCS • Effective development project implementation monitoring with improved operational efficiency, and comprehensive guidelines	• **Note**: Public Service Delivery was not included in PCDS 2030.

FIX GT-S6: Develop frameworks for effective collaboration between agencies to break down silos and enhance governance

Silos across ministries hinder the effective delivery of policies

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Organise Inter-agency Collaboration Forums**: Hold regular meetings to align goals, share updates, and address cross-agency challenges. • **Effective Information Management and Dissemination Protocols**: Design unified frameworks for consistent information sharing and response timelines • Centralised Sarawak communication and feedback management through **Talikhidmat** • Enhanced integration of One-stop Government Service Delivery through **Service Sarawak** • Effective **development project implementation monitoring** with improved operational efficiency and comprehensive guidelines • Establish **Centre for Integrity and Governance Certified Integrity Officer (CeIO)** empowering and leadership	• Increased effectiveness of cross-agency collaborations • Enhanced good governance and compliance with rules and regulations • Structured and systematic public feedback management • Increased satisfaction rating by 85% • Integrated One-stop Government Service Delivery	• **Note**: Public Service Delivery was not included in PCDS 2030.

BUILD GT-S7: Improve integration between federal and state initiatives

Insufficient collaboration between Sarawak and federal agencies hinder effective service delivery

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance SAMUDAH, a state-level counterpart to PEMUDAH, aimed at enhancing the public delivery system**. SAMUDAH will focus on improving the ease of doing business through public-private collaboration, specifically addressing areas such as property registration, permits, licensing, and e-payments.	• Increased ease of doing business	• **Note**: Public Service Delivery was not included in PCDS 2030.

BUILD GT-S8: Improve career and well-being programmes to increase job satisfaction within the SCS (1/2)

A lack of a structured career programme hinders effective career progression for civil servants, while well-being initiatives can improve physical and mental well-being.

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Integrated Talent Management Framework:**
  • Establish a future-ready talent ecosystem by integrating recruitment, career development, and training into a cohesive, data-driven framework.
  • Enhance workforce quality through AI-driven selection processes and psychometric screening, ensuring a competency-based approach to hiring.
  • Strengthen career progression with a structured performance management system that aligns talent development with organisational priorities.
  • Empower leaders and employees through targeted upskilling, talent intelligence analytics, and leadership acceleration programs to drive innovation, agility, and long-term retention within the Sarawak Civil Service (SCS).
	• A highly skilled, future-ready workforce driven by data-informed recruitment, structured career progression, and continuous development.
	• Enhanced talent retention, leadership readiness, and workforce agility ensure the Sarawak Civil Service remains adaptive, innovative, and aligned with organisational goals
		• **Note**: Public Service Delivery was not included in PCDS 2030.

BUILD GT-S8: Improve career and well-being programmes to increase job satisfaction within the SCS (2/2)

A lack of a structured career programme hinders effective career progression for civil servants, while well-being initiatives can improve physical and mental well-being.

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Holistic Employee Well-being Framework:**
  • Build a resilient and engaged workforce by integrating psychological support, workplace wellness, and retirement planning into a data-driven, future-ready framework.
  • Strengthen mental health services through a centralised psychological management platform that leverages digital counselling, real-time analytics, and early intervention strategies to enhance employee well-being.
  • Foster a sustainable work environment by establishing well-being centres, recreational spaces, and proactive wellness programs that support physical, mental, and emotional health.
  • Future-proof retirement management with an AI-driven system that streamlines transition planning, financial preparedness, and post-service engagement, ensuring employees remain valued contributors beyond active service.
	• A high-performing, healthier, more engaged, and resilient workforce with improved well-being, work-life balance, and retirement preparedness.
	• By improving employee satisfaction, promoting overall wellness, and ensuring seamless transition planning, we drive long-term productivity, retention, and sustained contributions to the Sarawak Civil Service
		• **Note**: Public Service Delivery was not included in PCDS 2030.

FIX GT-S9: Develop new revenue streams to reduce dependence on tax revenues from oil and gas-related activities

Current state government revenue is highly dependent on oil & gas related activities

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Identify new sources of revenue, including by leveraging carbon trading and the carbon capture industry as new revenue sources for the state:** Sarawak will impose a Forest Ecosystem Fee (FEF) of 5% on the value of traded carbon to promote sustainable forest management and combat climate change. • **Formulate policy guidelines and frameworks on transformation of GLCs and Statutory Bodies to become financially self-sufficient:** Sarawak Economic Development Corporation (SEDC) and Bintulu Development Authority (BDA) to stop receiving funding from Sarawak Government from 2027 to improve Sarawak Government's financial standing.	• Reduced proportion of state revenue from oil and gas related activities • Increase strategic alignment	• **Note:** Public Finance Transformation was not included in PCDS 2030.

NEW GT-S10: Sustainably preserve and grow the wealth of Sarawak

Current state government revenue is highly dependent on oil & gas related activities

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Sustainably preserve and grow the wealth of Sarawak via strategic investments from the Sarawak Sovereign Wealth Future Fund (SSWFF)** through prudent investments in diversified financial assets.	• Increased AUM under SSWFF • Increased risk-adjusted investment returns	• **Note:** Public Finance Transformation was not included in PCDS 2030.

NEW GT-S11: Reform Sarawak's public finance management

Current budgeting processes are project-driven rather than outcome-driven. A transition to an outcome-driven approach would be key to ensuring more effective and efficient resource allocation

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Implement Integrated Results-Based Management (IRBM)** to enhance the focus of state ministries, departments, and agencies on achieving Sarawak's development outcomes. • **Enhance existing accounting practices by implementing accrual accounting and MPSAS for local authorities,** which provides a more comprehensive view of the government's financial position and performance.	• Improved efficiency, transparency and governance in Sarawak's financial management	• **Note:** Public Finance Transformation was not included in PCDS 2030.

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Integrated Results-Based Management (IRBM)

Thematic area:
Enhancing financial management

Context:

- *Traditionally, Sarawak's financial budgeting has been focused on monitoring expenditures, activities and outputs, which can potentially lead to inefficiencies and a lack of accountability over macro-outcomes.*
- *Thus, Sarawak is looking to implement the IRBM to improve public sector efficiency and accountability.*

Integrated Results-Based Management (IRBM)

The Sarawak Government is aiming to implement IRBM by 2026 with support from the World Bank

Outline: Integrated Results-Based Management (IRBM) is an umbrella term referring to any programme or intervention that provides rewards to individuals or institutions after agreed-upon results are achieved and verified. IRBM aims to improve accountability and make more effective use of public resources

Component	Description	Relevant Agencies
Integrated Development Planning	Systematic & structured approach to development planning	EPU
Results-Based Budgeting	Shifting budget management from inputs to tangible outputs and outcomes associated with public policy objectives	SFS
Personnel Performance	Linking personnel performance systematically with substantive programme performance, which supports strategic HR planning	HRDMU
Monitoring & Evaluation	Structured monitoring and evaluation to support systematic programme performance management	SIMU
Management Information & DSS	Support informed decision making for programme improvement and strategies / policies adjustments	All

Outcomes

- Enhance public sector efficiency and accountability
- Improve decision-making processes by providing evidence-based insights
- Foster a results-oriented culture within government agencies

Targets / Metrics

- Increased cost-effectiveness from the state budget
- Increased number of key macro-outcomes achieved

Source: SFS RBB Circular, World Bank

BUILD GT-S12: Strengthen digitalisation in state budgeting, e-procurement and financial management activities

Current state financial processes are not sufficiently digitalised compared to global standards

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance the Integrated Asset Management System (IAMS), State e-Procurement, and Financial Performance, Efficiency & Compliance (FinPEC) systems:** o The Integrated Asset Management System (IAMS) aims to establish a comprehensive database of government assets and digitalise the asset management process, thereby providing accurate and timely information to support effective decision-making. o State e-Procurement: The e-Procurement process aims to enhance transparency and efficiency in state procurement by implementing a systemic online platform. o FinPEC: An index to track and monitor the performance of Sarawak's financial compliance.	• Improved expenditure efficiency • Increased accuracy of Sarawak Government's financial position	• **Note:** Public Finance Transformation was not included in PCDS 2030.

Digital Transformation

Strategy	Initiative	Outcome
DT-S4: Enhance the data governance landscape in Sarawak	• Develop a state-level data governance framework • Enhance the Sarawak Intelligent Operations Centre (SIOC)	• Efficient centralised management of cities in Sarawak
DT-S5: Enhance baseline cybersecurity and resilience of Sarawak's critical infrastructure	✓ **Establish the Sarawak Cyber Security Centre**	• Increased cyber resilience • Effective crisis management • Increased awareness and skills
DT-S6: Enhance public awareness on cybersecurity threats via CyberSarawak	• Provide guidelines and best practices in cyber security for the public and private sectors through CyberSarawak Initiatives	• Increased cyber awareness and skills among the public and private sectors • Reduced financial losses from cyber crime
DT-S7: Strengthen capabilities and digital infrastructure in data centre operations and high-performance computing	• Establish energy efficient tier three and four data centre hubs through the Sarawak High-Tech Technology Park • Establish a high-performance computing facility	• Increase in potential foreign investment in data centres in Sarawak

✓ **Indicates key initiatives/game changer**

BUILD DT-S4: Enhance the data governance landscape in Sarawak

Sarawak's digital government services are not as seamless and efficient as those of globally leading peers

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop a state-level data governance framework** in 2025 to ensure the effective management, security, and utilisation of data across various governmental departments and agencies. • **Enhance the Sarawak Intelligent Operations Centre (SIOC),** a central data analytics platform for the SCS that will leverage emerging technologies such as artificial intelligence to enhance data predictive analytics capabilities for smart city management and other functions.	• Improved data governance across government agencies • Improved management of critical information infrastructure	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

BUILD DT-S5: Enhance baseline cybersecurity and resilience of Sarawak's critical infrastructure

In response to increasingly prevalent cybercrimes against individuals and government agencies in Sarawak, the Sarawak Government is setting up CyberSarawak, an agency dedicated exclusively to enhancing cyber security for Sarawak.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish the Sarawak Cyber Security Centre** - which will play a key role in enhancing the government's cybersecurity capabilities, as well as enhancing public awareness on cybersecurity threats.	• **Increased cyber resilience** due to Sarawak's ability to withstand and recover from cyber threats, ensuring the continuity of critical services • **Effective crisis management** through the creation of a cyber crisis management centre, which will enable Sarawak to respond swiftly and effectively to cyber incidents, reducing recovery time and impact. • **Increased awareness and skills** via cyber security training programmes will improve the capabilities of both public and private sector stakeholders, fostering a culture of security awareness and proactive risk management.	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Sarawak Cyber Security Centre

Thematic area: Insufficient Port Modernisation Efforts, Outdated Port Policies

Context:

- *Cybercrimes targeting individuals and government agencies in Sarawak have become increasingly prevalent, with financial losses from cybercrime escalating from RM39.4 million in 2021 to RM75.8 million in 2023.**

Sarawak Cyber Security Centre

The Sarawak Cyber Security Centre will play a key role in protecting Sarawak's critical information infrastructure, as well as enhancing public awareness on cybersecurity threats

Key initiatives planned:

- **Cyber security framework:** Implement a robust framework to enhance cyber security practices across Sarawak.
- **Centralised infrastructure mapping:** Develop a centralised infrastructure mapping system to improve threat responses for critical information infrastructure
- **Cyber Intelligence Sharing Platform:** Create a state-level platform for sharing cyber intelligence and provide cybersecurity training for stakeholders in both public and private sectors.
- **Governance, Risk, and Compliance (GRC) Platform:** Implement a state-level GRC platform to manage cyber risks and ensure alignment with industry standards.
- **Real-time Cybersecurity Monitoring:** Establish a system for real-time monitoring to improve incident detection and response.
- **Cyber Crisis Management Centre:** Set up a dedicated centre for managing cyber crises, ensuring swift and effective incident response
- **Cyber Range Training Centre**: Provide a platform for cybersecurity practitioners (public and private) to train on attack simulations in hyper-realistic scenarios to have them prepared for real-world cyber incidents

Outcomes

- **Creating a secure digital environment** within Sarawak
- **Increasing cybersecurity awareness**, especially among underserved communities
- **Improving the cybersecurity posture of critical information infrastructures**.

Targets / Metrics

- Improved incident detection and response time
- Reduced financial and reputational costs from cybersecurity incidents

Source: DOSM

FIX DT-S6: Enhance public awareness on cybersecurity threats via CyberSarawak

In response to increasingly prevalent cybercrimes against individuals and government agencies in Sarawak, the Sarawak Government is setting up CyberSarawak, an agency dedicated exclusively to enhancing cyber security for Sarawak.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Provide guidelines and best practices in cybersecurity for the public and private sectors through CyberSarawak Initiatives:** ○ **Stay Smart:** The "Stay Smart" programme focuses on raising cybersecurity awareness, particularly among underserved communities, to combat emerging cyber threats. ○ **Stay Secure:** The "Stay Secure" programme is dedicated to assessing and improving the cybersecurity posture of critical information infrastructures (CII), including government agencies within Sarawak. ○ **Stay Safe:** The "Stay Safe" programme focuses on immediate protective measures for the public and businesses. It includes the establishment of a cyber incident helpdesk, known as the "CyberSarawak Helpdesk". This helpdesk enables individuals to report cybersecurity incidents, receive expert guidance, and access essential support resources.	• Increased cyber awareness and skills among the public and private sectors • Reduced financial losses from cyber crime	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

NEW DT-S7 Strengthen capabilities and digital infrastructure in data centre operations and high-performance computing

Sarawak's green energy mix is attractive for data centre operators looking to reduce their carbon footprint

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Establish energy efficient tier three and four data centre hubs through the Sarawak High-Tech Technology Park:** The data centre hubs are designed to meet the increasing demand for digital infrastructure in Sarawak by supporting both local businesses and international clients. • **Establish a high-performance computing facility** to enhance big data analytics, accelerate AI adoption, and boost R&D, commercialisation, and productivity	• Increase in potential foreign investment in data centres in Sarawak • Catalyse the development of high-value spin-off industries through the established presence of digital infrastructure	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

Energy Transition

Strategy	Initiative	Outcome
ET-S8: Enhance policy and regulatory environment to grow clean and new energy capacity as part of Sarawak's energy transition strategy	✓ **Enhance regulatory environment and competitiveness of energy sector by setting up an energy regulator** • Establish integrated Sarawak energy planning and standards database to enhance transparency and predictability to investors • Provide long-term electricity tariff mechanism for investors and consumers or introduce green tariff	• Enhanced investment environment and ensure fair competition in the energy sector • Strengthened capability to support the state's goal in achieving energy security, inclusivity and sustainability

✓ **Indicates key initiatives/game changer**

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

NEW ET-S8: Enhance policy and regulatory environment to grow clean and new energy capacity as part of Sarawak's energy transition strategy

Regulatory environment for clean energy development could be enhanced to create a competitive and efficient energy market

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance regulatory environment and competitiveness of energy sector by setting up an energy regulator:** Establishing an independent energy regulator is vital to create a fair and competitive market for various energy players to attract more investment, protect consumers and safeguard sustainable long-term energy security. • **Establish integrated Sarawak energy planning and standards database to enhance transparency and predictability to investors:** Create a centralised database to consolidate energy planning data, regulatory standards, and performance metrics, providing stakeholders with reliable information to boost investor confidence and support strategic planning. • **Provide long-term electricity tariff mechanism for investors and consumers or introduce green tariff:** Implement a long-term electricity tariff mechanism to offer pricing stability for investors and consumers, alongside a green tariff to promote renewable energy adoption and sustainable energy consumption.	• **Increased investment** and ensure fair competition in the energy sector • **Strengthen capability** to support the state's goal in achieving energy security, inclusivity and sustainability	• **Cumulative RM9 bil committed investment** by 2030 • **10 GW power generation capacity** by 2030

FIX Game changer: Enhance policy and regulatory environment to grow clean and new energy capacity as part of Sarawak's energy transition strategy

Thematic area:
Enhancement of regulatory environment in an evolving energy landscape

Context:

- Recent discussions with private sector stakeholders emphasised the need for an independent regulatory body in Sarawak's energy market, particularly in the competitive segment of the energy sectors.

Enhance regulatory environment and competitiveness of energy sector by setting up an energy regulator

Description: Establishing an independent energy regulator in Sarawak is essential for fostering investment, enhancing consumer outcomes, and ensuring long-term energy security and sustainability. This would ensure fair competition between Sarawak Energy Berhad (SEB) and Independent Power Producers (IPPs), protect consumers through fair tariffs and high service standards, and drive innovation and investment in renewable energy.

Key Points

- **A stable regulatory environment** draws local and international investment, particularly in renewable energy
- **Ensures equitable tariffs and high service quality** with mechanisms for complaint resolution and transparency
- **Reduces reliance on single energy sources**, enhancing energy security
- **Enforces strong regulations** and supports clean technologies to support the energy policy objectives
- **Develop the energy industry by piloting and supporting innovative technologies** even at the nascent stage or start-ups to ensure materialisation of new energy technologies in Sarawak e.g., through Energy Transition Fund or Climate Financing Facility
- **Promotes initiatives to lower costs and reduce environmental impacts**, aligning with sustainability goals

Outcomes

- Increased investment and ensure fair competition in the energy sector
- Strengthen capability to support Sarawak's goal in achieving energy security, inclusivity and sustainability

Targets / Metrics

- Committed investment and revenue from energy projects/initiatives
- Electricity intensity per GDP of the energy sector (*pending SET-P finalisation*)

Innovation

Strategy	Initiative	Outcome
IN-S3: Facilitate private investment into the startup ecosystem, targeting strategic economic sectors of Sarawak	• Develop industry-specific accelerators and incubators via the Sarawak Digital and Innovation Ecosystem • Support the ongoing Sarawak Venture Capital Fund Study to unlock private investment	• Increased investments from VC and PE firms into Sarawakian startups
IN-S4: Create and implement mechanisms to assess the innovation ecosystem in Sarawak	• Develop the Sarawak Innovation Index (SARii)	• Provide valuable insights for policymakers through the identification of strengths and weaknesses of Sarawak's innovation ecosystem

BUILD IN-S3: Facilitate private investment into the startup ecosystem, targeting strategic economic sectors of Sarawak

Funding sources that are available for Sarawakian startups are typically from government-related initiatives, with insufficient private investment driving the innovation ecosystem

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop industry-specific accelerators and incubators through the Sarawak Digital Innovation Ecosystem**, in partnership with Government-Linked Companies (GLCs) or corporate partners, to encourage startups to enter established outbound industries in Sarawak, such as timber and oil and gas. Private sector stakeholders have observed that industry-specific programmes are generally more effective, and startups that integrate into existing supply chains tend to perform better in Sarawak. • **Support the ongoing Sarawak Venture Capital Fund Study to unlock private investment**: Collaborate with stakeholders to assess mechanisms for mobilising venture capital in Sarawak, with the aim of catalysing private sector participation in strategic startup sectors	• Increased investments from VC and PE firms into Sarawakian startups	• Increase Sarawak's GERD as a % of GDP to 2% • 500 high-technology startups and proof of concept (POC) projects successfully launched hubs and commercialised • Double the number of commercialisable intellectual property • 3,000 full-time equivalent (FTE) researchers in R&D per mil people in Sarawak

BUILD IN-S4: Create and implementing mechanisms to assess the innovation ecosystem in Sarawak

A better understanding of Sarawak's innovation ecosystem can help policymakers identify gaps

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop the Sarawak Innovation Index (SARii),** modelled on the Global Innovation Index (GII) to develop a better understanding of Sarawak's innovation ecosystem.	• Provide valuable insights for policymakers through the identification of strengths and weaknesses of Sarawak's innovation ecosystem	• Increase Sarawak's GERD as a % of GDP to 2% • 500 high-technology startups and proof of concept (POC) projects successfully launched hubs and commercialised • Double the number of commercialisable intellectual property • 3,000 full-time equivalent (FTE) researchers in R&D per mil people in Sarawak

Mining & Oil and Gas

Strategy	Initiative	Outcome
MOG-S4: Foster development of the local downstream mining and oil & gas industry	• Collaboration with relevant agencies to plan and provide for essential infrastructures and facilities for the mineral industry including road network, utility supplies and land plots • Introduce mineral-specific targeted incentives to attract private sector investment in the downstream mining sector • Create hub and spoke model to connect infrastructure network including gas distribution and power supply alongside general logistic	• Improved infrastructure readiness to support the downstream mining and oil & gas industry • Increased private sector investment

FIX MOG-S4: Foster development of the local downstream mining and oil & gas industry

Developing a well-integrated downstream sector is crucial to capitalise on upstream resources and create further value add

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Guided by the Sarawak Mining and Quarrying Masterplan (2024), collaborate with relevant agencies to plan and provide for essential infrastructures and facilities for the mineral industry including road network, utility supplies and land plots:** ○ Work closely with relevant agencies to strategically plan and address essential requirements for downstream sectors, aligning requirements with factors such as location and minerals of the upstream industry • **Introduce mineral-specific targeted incentives to attract private sector investment in the downstream mining sector** • Create hub and spoke model to connect infrastructure network including gas distribution and power supply alongside general logistic	• **Improved infrastructure readiness to support the downstream mining industry** • **Increased private sector investment** • **Integrated oil & gas value chain that enables state-wide access to affordable domestic gas**	• **RM2 billion of additional direct annual GDP from mining upstream industry by 2030** • **5,300 jobs creation (from incremental new production & new operators)**

2.5 HLS 4: Optimise Land Use to Drive Growth

HLS 4: Optimise Land Use to Drive Growth

		Page
Overview		**197**
Business Services		***199***
BS-S11	Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production	
Infrastructure & Utilities		***203***
IU-S4	Provide incentives and support for BIM upskilling initiatives	
IU-S5	Mandate the application of BIM in building lifecycle	
IU-S6	Strengthen project management capabilities of Public Works Department (JKR)	
IU-S7	Collaborate with private sector through Public-Private-Partnerships (PPP) for improved project management	
IU-S8	Centralise procurement, bulk purchase, and long-term supply contracts	
IU-S9	Local material sourcing and development	
IU-S10	Development of utility infrastructure database and integrate utility planning into all development approval process	
IU-S11	Renewal of ageing pipes and digitalisation efforts to tackle NRW	
IU-S12	Enhance and establish additional water treatment facilities	

HLS 4: Optimise Land Use to Drive Growth

		Page
IU-S13	Review existing water tariffs for sustainable water sector development	
IU-S14	Streamline water sector governance by empowering SWA to be the single authority for water supply and resources	
IU-S15	SWA to be supported by an organisational setup with an executive team to help execute the regulatory functions of SWA	
Forestry, Natural Asset Management & Conservation		***229***
FNAM-S1	Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation	
Transport & Logistics		***232***
TL-S5	Develop Sarawak's Aerospace Ecosystem	
TL-S6	Implementation of aids to navigation (AtoN) for major maritime and riverine routes	
TL-S7	Review existing policies and regulations governing maritime and riverine transport	
TL-S8	Maritime study for potential development of the riverine economy	
TL-S9	Enhance training and competency for maritime and riverine personnel	

Overview
HLS 4: Optimise Land Use to Drive Growth

Propelling economic growth by optimising land use in agriculture, industry, and urban development for sustainable progress and community prosperity

Sarawak's strategy to optimise land use and drive economic growth focuses on transforming underutilised land into industrial plots with strong transport links, employing collaborative models for NCR land, and enhancing agricultural land for increased production. Efficient governance through improved feedback loops and quicker conversions complements these efforts. Additionally, the revitalisation of paddy irrigation aims to boost rice self-sufficiency, with technology adoption and ecosystem development in livestock and fertilizer production supporting overall sustainability and growth.

Infrastructure initiatives aim to support BIM upskilling, mandating its application in building lifecycles, and strengthening project management within the Public Works Department and centralise procurement. Integrating utility planning into the development approval process will be facilitated through a utility infrastructure database.

Strategies on utilities sector will prioritise renewing aging pipes digitalising efforts to address non-revenue water issues and enhancing or establishing additional water supply facilities. Water sector governance will be streamlined by empowering SWA as the sole authority for water supply and resources, supported by a dedicated executive team.

The approach extends to sustainable forestry through research and community involvement to enhance the yield and sustainability of planted forests. In the transportation sector, the development of Sarawak's aerospace ecosystem will be prioritised, along with implementation of navigation aids for major maritime and riverine routes, and a review of existing policies governing these sectors.

19 **Strategies**

44 **Initiatives**

5 **Game Changer**

HLS 4: Optimise Land Use to Drive Growth – Key Areas

Business Services

Key areas:

- Agricultural land optimisation
- Infrastructure enhancement
- Increased production capacity

Infrastructure & Utilities

Key areas:

- BIM upskilling and application
- Project management strengthening
- Centralised procurement processes
- Pipe renewal and digitalisation
- Water supply facility enhancement
- Sustainable water tariff review

Transport & Logistics

Key areas:

- Aerospace ecosystem development
- Navigation aid implementation
- Maritime policy and regulation review

Forestry, Natural Asset Management & Conservation

Key areas:

- Yield enhancement
- Sustainability initiatives
- Community participation
- Water governance streamlining
- Regulatory support infrastructure
- Executive team empowerment

Business Services

Strategy	Initiative	Outcome
BS-S11: Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production	✓ **Facilitate and promote the adoption of technologies and the deepening of ecosystems** • Introduce collaborative models between Government and communities (natives) for optimising the use of NCR land for agriculture purposes • Efficient governance of land matters: improve feedback loops (i.e. correcting and reacting to stakeholders), approval processes, and land conversion time • Collaborate with various agencies to upgrade key agricultural infrastructure such as drainage and irrigation systems for paddy fields • Facilitate the improvement of road access conditions to remote agricultural areas • Accommodate aquaculture activities through covering waterbody areas	• Optimised use of agricultural resources (land* and water bodies) • Improved efficiency of governance processes • Increased agricultural areas equipped with tertiary infrastructure • Enhanced accessibility to remote agricultural developments

✓ **Indicates key initiatives/game changer**

**Land includes both State and NCR land*

BUILD BS-S11: Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production (1/2)

The expansion of the agriculture sector faces interconnected challenges in land access, infrastructure readiness and road connectivity

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Facilitate and promote the adoption of technologies and the deepening of ecosystems** o Highlight technology adoption in key areas such as livestock rearing, animal feed, fertiliser, and seedling production • **Introduce collaborative models between Government and communities (natives) for optimising the use of NCR land** o The following models are proposed: ▪ Joint Venture (JV model): Landowners (30%), private companies (60%) and the government (10%) share ownership of the JV ▪ Leasing model: Landowners lease their land to private companies for agricultural production • **Efficient governance of land matters: improve feedback loops (i.e. correcting and reacting to stakeholders), approval processes, and land conversion time** o Streamline land use and conversion processes by addressing delays in implementation with relevant agencies, ensuring faster approvals and project execution o Expedite land conversion for areas designated for agricultural research to commercial use to reduce project delays	• **Improved livestock health and productivity** • **Optimised use of agricultural resources (land* and water bodies)** • **Improved efficiency of governance processes**	• **25% Self-Sufficiency Level (SSL) for beef** • **>RM1 billion / year state's net food export** • **60% Self-Sufficiency Level (SSL) for rice** • **RM6,000 median monthly income for smallholding farmers in key agriculture sector**

✓ **Indicates key initiatives/game changer**

**Land includes both State and NCR land*

BUILD BS-S11: Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production (2/2)

The expansion of the agriculture sector faces interconnected challenges in land access, infrastructure readiness and road connectivity

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Collaborate with various agencies to upgrade key agricultural infrastructure such as drainage and irrigation systems for paddy fields**
  ○ Prioritise resource allocation to complete drainage and irrigation infrastructure in paddy areas identified as having high suitability and potential
• **Facilitate the improvement of road access conditions to remote agricultural areas**:
  ○ Identify priority rural farming clusters to improve road connectivity, improving post-harvest distribution and connectivity to processing facilities
• **Accommodate aquaculture activities through covering waterbody areas**
  ○ Aquaculture Industrial Zone - Batang Ai, Sundar Awat-Awat & Loba Stoh Rambungan
  ○ Aquaculture Park (announced by MFICORD)
	• **Increased paddy areas equipped with tertiary infrastructure**
	• **Enhanced accessibility to remote agricultural developments**
		• **25% Self-Sufficiency Level (SSL) for beef**
		• **>RM1 billion / year state's net food export**
		• **60% Self-Sufficiency Level (SSL) for rice**
		• **RM6,000 median monthly income for smallholding farmers in key agriculture sector**

**Land includes both State and NCR land*

BUILD Game changer: Facilitate and promote the adoption of technologies and the deepening of ecosystems

Thematic area:
Limited capacity and development of key supporting services is restricting productive capacity of farmers

The expansion of the agriculture sector faces interconnected challenges in land access, infrastructure readiness

Context:

Enhance the agricultural sector by integrating technological innovations and infrastructure development to create a robust ecosystem that supports productivity and sustainability

Facilitate and promote the adoption of technologies and the deepening of ecosystems

1. Strengthen Supporting Services and Infrastructure:

- Ensure adequacy of veterinary services and enhance capacity building of local veterinary services.
- Expand logistics services, including transportation and storage facilities, to support post-harvest activities.

2. Promote Ecosystem Deepening and Market Connectivity:

- Strengthen biosecurity standards and control mechanisms, thus improving market access mechanisms for farmers through the creation of systems or platforms that connect agricultural producers with suppliers and buyers across the supply chain.

3. Optimise Land Use and Infrastructure Development:

- Introduce collaborative models between the Government and communities (natives) for optimising the use of NCR land for agricultural purposes.
- Efficient governance of land matters: improve feedback loops (i.e., correcting and reacting to stakeholders), approval processes, and land conversion time.
- Collaborate with various agencies to upgrade key agricultural infrastructure, such as drainage and irrigation systems for paddy fields

4. Facilitate Technological Adoption in Infrastructure Improvements:

- Facilitate the improvement of road access conditions to remote agricultural areas.

Outcomes

- Improved livestock health and productivity
- Job opportunities for the local economy, e.g. the increase in local veterinary workforce and expertise
- Increased output quality to meet international standards for export

Targets / Metrics

- Increase in productivity output due to the technology adoption

Infrastructure & Utilities

Strategy	Initiative	Outcome
IU-S4: Provide incentives and support for BIM upskilling initiatives	✓ **Offer financial support through grants or subsidies for upskilling initiatives aimed at private sector entities adopting BIM** ✓ **Partner with educational institutions and BIM experts to design and offer subsidised training programmes**	• Increased BIM competency through the measurement of number of BIM certified professionals • Improved project coordination, time and cost savings throughout building lifecycle • Reduced number of projects experiencing scope changes after BIM utilisation
IU-S5: Mandate the application of BIM in building lifecycle	• Assess existing regulations to enforce the mandatory application of BIM for construction projects exceeding a specified size threshold • Collaborate with JKR to establish clear guidelines and standards for BIM implementation at Sarawak • Set up a monitoring system to ensure compliance with BIM mandates	
IU-S6: Strengthen project management capabilities of Public Works Department (JKR)	• Conduct frequent talent development programs including workshops and trainings to enhance project management skills of JKR personnel • Implement stricter performance metrics and accountability • Introduce performance-based incentives that rewards personnel that exceeds performance targets, vice versa	• Improved project delivery time, reduction in project delays and revision of scope • Increased in employee competency in project management, accountability and performance improvement of employees • Improved access to strategic economic sectors, rural settlements, and facilities • Resource optimisation through higher private sector participation
IU-S7: Collaborate with private sector through Public-Private-Partnerships (PPP) for improved project management	• Establish a framework for PPPs, outlining roles and responsibilities of all stakeholders including risk-sharing arrangements and dispute resolution mechanisms • Identify projects that are well-suited for PPPs and prioritise projects where private sector involvement can add significant value	

✓ **Indicates key initiatives/game changer**

Infrastructure & Utilities

Strategy	Initiative	Outcome
IU-S8: Centralise procurement, bulk purchase, and long-term supply contracts	✓ **A platform for centralised procurement across government-driven projects** • Organise cooperative purchasing agreements where multiple contractors aggregate to purchase construction materials in bulk	• Reduction in project cost revisions • Reduction in fluctuation of construction material prices, predictable project costs
IU-S9: Local material sourcing and development	• Encourage private sector investment in establishing mining and processing facilities for construction materials • Fund and support research initiatives aimed at improving the quality and applicability of local materials	• Reduction in import of construction materials • Increase in competitiveness of locally sourced construction materials • Increase in capabilities and expertise of local SMEs
IU-S10: Development of utility infrastructure database and integrate utility planning into all development approval process	✓ **Identify or develop a platform that incorporates utility mapping and real-time geospatial data for increased accessibility by all stakeholders involved in infrastructure development** • Strengthen the development approval process for projects of all sizes to include mandatory utility assessments	• Increased transparency and accessibility of utility information • Improved project planning and decision-making for development projects
IU-S11: Renewal of ageing pipes and digitalisation efforts to tackle NRW	• Expedite the replacement of ageing and damaged water pipes to control and reduce NRW • Promote the installation of smart water meters for all new water connections to ensure accurate water billing and collection	• Increased revenue collection by water agencies • Reduction in NRW

✓ **Indicates key initiatives/game changer**

Infrastructure & Utilities

Strategy	Initiative	Outcome
Water Sector		
IU-S12: Enhance and establish additional water treatment facilities	• Expand the capacity of existing water treatment facilities and construct new plants to enhance treated water storage capacity and strengthen the reserve margin to prevent unplanned water disruptions	• Sufficient treated water storage and water reserve margin aligning with international standards
IU-S13: Review existing water tariffs for sustainable water sector development	• Revise water tariffs to foster sustainable development within the water sector, ensuring cost recovery for water supply operators, reducing reliance on government subsidies, and curbing water wastage by consumers	• Sustainable business operations for water supply operators • Heightened awareness for water conservation efforts • Reduction in water consumption per capita
IU-S14: Streamline water sector governance by empowering SWA to be the single authority for water supply and resources	• Amend regulations for SWA to have absolute jurisdiction over both upstream and downstream supported by enforcement powers	• Cohesive regulatory response through a single source of jurisdiction to avoid fragmented governance • Full water cycle management to be made more effective through a single regulator where governance is timely, streamlined, transparent, and effective • The industry development for power generation and supply will contribute to Sarawak's objective towards 10 gigawatts (GW) of electricity by 2030 and 15 GW by 2035.
IU-S15: SWA to be supported by an organisational setup with an executive team to help execute the regulatory functions of SWA	• Establish a structured organisational framework for SWA to assist in executing regulatory functions vested under SWA	

BUILD IU-S4: Provide incentives and support for BIM upskilling initiatives

The adoption of advanced building methodologies like BIM is hindered by a lack of skilled personnel and insufficient government initiatives to develop the necessary workforce. Without targeted training programs, the effective implementation of modern infrastructure solutions remains challenging.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Financial Support & Performance Evaluation:** Offer financial support through grants or subsidies for upskilling initiatives aimed at private sector entities adopting BIM to help offset the costs associated with training and technology adoption. Enforce the implementation of these initiatives to ensure compliance and maximise the benefits, simultaneously evaluating the performance metrics before and after BIM adoption to measure the impact on efficiency and cost savings. ✓ **Education & Training Programmes:** Partner with educational institutions and BIM experts to design and offer subsidised or free training programs for professionals in the construction industry. These programs can cover various aspects of BIM, from basic principles to advanced applications, ensuring that professionals at all levels have access to the knowledge they need.	• **Increased BIM competency:** Track the number of professionals obtaining BIM certification to gauge industry expertise and readiness. • **BIM adoption rate:** Monitor the percentage of construction projects utilising BIM to understand its penetration and acceptance. • **Impact on project scope:** Evaluate the percentage of projects experiencing scope changes after BIM implementation to assess its effectiveness in reducing uncertainties and enhancing control.	• 40% cost savings through the utilisation of advanced building technologies throughout the building lifecycle • 100% public projects to utilise BIM • Compulsory BIM utilisation for Category 1 & 2 buildings for privately-funded projects • Sarawak's localised BIM policy • Establishment of Sarawak Building Technology Board

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Incentivising organisations to upskill employees is essential to ensure a sustained supply of skilled builders (1/2)

Thematic area:
Technological Adoption in Building Lifecycle

Context:

In Sarawak, the construction industry faces significant challenges due to a lack of skilled personnel, particularly in advanced areas such as Building Information Modelling (BIM). The adoption of BIM in Sarawak lags significantly behind other regions, with only about 6% uptake compared to central Peninsular's 78%. This skills gap has led to inefficiencies in project management and execution, particularly frequent project scope revisions, which in turn lead to increased project costs and extended timelines.

Support BIM Adoption Through BIM Upskilling Programmes and Incentives

Provide financial support through grants or subsidies for BIM upskilling initiatives	Offset training and software adoption costs, making it accessible for small firms
Evaluate performance metrics before and after BIM adoption	To measure efficiency, cost savings, and project outcomes
Collaborate with local institutions (UNIMAS and Swinburne) and BIM experts to offer training programs	Offer subsidised/free training programs (basic to advanced BIM topics) to address the skills gap in Sarawak's construction industry

Potential Impact Example: Singapore's SkillsFuture and BIM adoption

SkillsFuture, Singapore's programme aimed at developing their workforce, has benefited over 500,000 Singaporeans and 20,000 enterprises since 2016

> 80%
Grade A1 contractors

99%
Panel 1 public sector consultants

utilises BIM for their projects (highest tendering limit for both groups)

Outcomes

- Reduction in project scope and costs through better clash detection
- Higher productivity with reduced project turnaround time
- Long-term cost savings

Targets / Metrics

- BIM professionals and graduates
- BIM adoption rate throughout multiple building phases
- Percentage of projects experiencing scope changes

Source: Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia

BUILD Game Changer: Incentivising organisations to upskill employees is essential to ensure a sustained supply of skilled builders (2/2)

Support BIM Adoption Through BIM Upskilling Programmes and Incentives

Use Case:

Singapore has been a global leader in mandating BIM across its construction sector, recognising the importance of digital transformation to enhance productivity and sustainability. The Building and Construction Authority (BCA) spearheaded efforts to integrate BIM into all stages of the building lifecycle.

Key Initiatives by the Government of Singapore:

- **BIM Integration into Regulatory Framework:** BCA incorporated BIM requirements into the regulatory framework by mandating the use of BIM for compliance with building regulations. Specifically, the use of BIM is required for projects involving gross floor area larger than 5,000m^2 to ensure that digital models are part of the submission process for regulatory approvals.
- **BIM Fund:** The BCA created the BIM Fund, offering financial incentives to firms adopting BIM. The fund covered costs for software, training, and consultancy services, lowering barriers to entry, reducing time taken for RFI's to be completed, and the eventual reduction in number of RFI's.
- **BIM Submission System:** BCA implemented the e-Submission system, requiring digital submissions of building plans in BIM format for regulatory approval. This mandate ensured that BIM was integrated into the planning and design stages.

Key Outcomes:

- **Increased BIM Adoption:** Over 50% of construction projects had adopted BIM, reflecting widespread integration across construction firm of all sizes.
- **Streamlined Approval:** The e-Submission system reduced the time for regulatory approvals, facilitating faster project commencement and completion.

BUILD IU-S5: Mandate the application of BIM in building lifecycle

Although JKR has policies for advanced building technologies like BIM, they are not widely adopted due to a lack of mandating regulations. This leads to inefficiencies, higher costs, and missed opportunities for developing the construction sector.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Regulatory Evaluation and BIM Requirements:** Evaluate current regulations to mandate BIM implementation for projects meeting a specified size. This involves reviewing existing policies and identifying opportunities to integrate BIM requirements, ensuring that larger and more complex projects benefit from the efficiencies and improvements BIM offers. • **Establishing BIM Guidelines and Standards:** Collaborate with JKR to develop clear guidelines and standards for BIM implementation in Sarawak. These guidelines should cover all stages of the building lifecycle, from design and construction to maintenance, ensuring consistency and quality in BIM practices across the region. • **Monitoring & Compliance System:** Set up a local monitoring system to ensure compliance with BIM mandates, to track the adoption and implementation of BIM in projects, evaluate the performance of BIM-integrated projects, and provide feedback for continuous improvement. Regular audits and performance assessments can help maintain high standards and identify areas for further support and training.	• **Improved project coordination, time, and cost savings** throughout the building lifecycle, leading to more efficient project planning and execution, reducing delays and minimising errors. • **Compulsory BIM application** for buildings of certain categories by the private sector, leading to higher standards of construction quality and efficiency.	• 100% public projects to utilise BIM • Compulsory BIM utilisation for Category 1 & 2 buildings for privately-funded projects • Sarawak's localised BIM policy • Establishment of Sarawak Building Technology Board

BUILD Example: Mandate BIM applications

Regulatory Evaluation & BIM Requirements

Use Case:

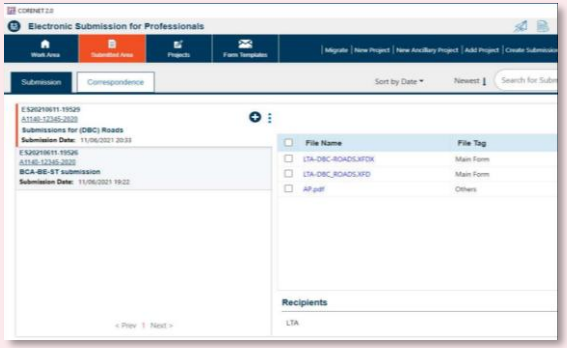
Singapore has been a global leader in mandating BIM across its construction sector, recognising the importance of digital transformation to enhance productivity and sustainability. The Building and Construction Authority (BCA) spearheaded efforts to integrate BIM into all stages of the building lifecycle.

Key Initiatives by the Government of Singapore:

- **BIM Integration into Regulatory Framework:** BCA incorporated BIM requirements into the regulatory framework by mandating the use of BIM for compliance with building regulations. Specifically, the use of BIM is required for projects involving a gross floor area larger than 5,000m^2 to ensure that digital models are part of the submission process for regulatory approvals.
- **BIM Fund:** The BCA created the BIM Fund, offering financial incentives to firms adopting BIM. The fund covered costs for software, training, and consultancy services, lowering barriers to entry, reducing the time taken for RFI's to be completed, and the eventual reduction in the number of RFI's.
- **Corenet, BIM Submission System:** BCA implemented the e-Submission system through Corenet, requiring digital submissions of building plans in BIM format for regulatory approval. This mandate ensured that BIM was integrated into the planning and design stages.

Key Outcomes:

- **Increased BIM Adoption:** Over 50% of construction projects had adopted BIM, reflecting widespread integration across construction firms of all sizes.
- **Streamlined Approval:** The e-Submission system reduced the time for regulatory approvals, facilitating faster project commencement and completion.



Corenet is an internet-based e-service that facilitate the electronic submission and processing of building-related applications

FIX IU-S6: Strengthen project management capabilities of Public Works Department (JKR)

Although JKR has policies for advanced building technologies like BIM, they are not widely adopted due to a lack of mandating regulations. This leads to inefficiencies, higher costs, and missed opportunities for developing the construction sector.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Talent Development Programmes:** Conduct frequent talent development programs including workshops and trainings to enhance project management skills of JKR personnel, strengthen the leadership and management structures to ensure competent leaders in place to provide sufficient guidance and mentorships. • **Performance Metrics & Accountability:** Implement stricter performance metrics and accountability for JKR personnel, regularly assess their performance against set metrics and hold the department accountable for meeting these metrics. • **Targeted Incentives:** Introduce performance-based incentives that rewards personnel that exceeds performance targets and conversely introduce penalties for failing to achieve set objectives**.**	• **Improved project delivery time, reduction in project delays and revision of scope** through better project coordination and management • **Increased in employee competency in project management** to be better equipped to handle complex projects, make informed decisions, leading to better project execution	• Full road connection to strategic areas commercial and residential areas

FIX Example: Strengthen project management capabilities

Talent Development Programme

Use Case:

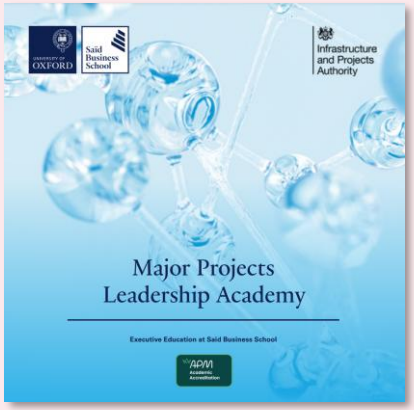
The UK has long recognised the importance of effective project management in delivering infrastructure projects. The proposed establishment of a new National Infrastructure and Service Transformation Authority (NISTA) by the UK government at end-2024 marked an effort to boost oversight and delivery of government's infrastructure plans.

Key Initiatives by the Government of the UK:

- **National Infrastructure Strategy:** The UK government will formulate and publish a 10-year national infrastructure strategy that defines the direction of multiple infrastructure-dependent sectors, namely Transport, Energy, and Housing, as well as Social Infrastructure.
- **Major Projects Leadership Academy (MLPA):** The UK government collaborates with the University of Oxford to offer advanced leadership training to senior project managers, equipping them with project management, commercial, and technical skills needed to lead complex projects.
- **Government Major Projects Portfolio (GMPP):** The UK government publishes an annual report each year that tracks the progress of major government projects, providing oversight and accountability. Projects are regularly reviewed to ensure they meet key performance indicators.

Key Outcomes:

- **Improved Project Delivery:** The UK government reported an increase in the percentage of projects delivered on time and within budget, demonstrating enhanced project management capabilities.
- **Enhanced Public Sector Leadership:** Graduates of the MPLA have taken on senior roles in project delivery, contributing to a more competent and confident leadership team within the public sector.



The MLPA is commissioned by the UK Infrastructure and Projects Authority to equip major project leaders with the skills to tackle challenges faced by project managers

NEW IU-S7: Collaborate with private sector through Public-Private-Partnerships (PPP) for improved project management

Significant backlogs have arisen due to the high number of projects managed by the JKR and their insufficient capacity. The situation is further worsened by the lack of private sector participation, which hinders the prompt resolution of capacity constraints and delays.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Public-Private Partnership Framework:** Develop a PPP framework detailing stakeholder roles, responsibilities, and expectations, including guidelines for project selection, risk-sharing, and dispute resolution. • Identify and prioritise projects where private sector involvement adds significant value. Incorporate capacity-building initiatives within PPP agreements to leverage private sector expertise for JKR's benefit.	• **Accountability and enhanced project delivery,** faster and more efficient project completion due to potentially better expertise in project management • **Innovation and efficiency** by leveraging on private-sector technology and innovation into public projects, leading to improved operational efficiency and timely project completion	• Full road connection to strategic commercial centres and rural areas • 549 settlements connected with approximately 2,338 km of road • Construction of border security road • Road Quality Index of 5.0 for all state roads

NEW IU-S8: Centralise procurement, bulk purchase, and long-term supply contracts

Local builders face significant challenges due to high construction material costs, driven by low procurement volumes and expensive import fees. These financial pressures can increase project costs and cause delays, impacting the efficiency and feasibility of infrastructure projects.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Development of Centralised Procurement Platform:** Develop a platform where all procurement activities are managed, including tendering, contract management, and supplier engagement. This centralisation helps in maintaining consistency and transparency across all procurement processes, and by leveraging collective purchasing power, the platform can negotiate better pricing and terms with suppliers. • **Long-Term Supplier Contracts**: The agency can play a crucial role in negotiating long-term contracts with suppliers on behalf of multiple contractors. Long-term contracts can provide stability and predictability in material costs, which is beneficial for both contractors and suppliers.	• **Financial savings** by leveraging economies of scale and negotiating better deals. • **Streamlines purchasing decisions,** making them more efficient and effective. • **Increase the participation of SMEs in public sector contracts,** enhancing competition and driving better value for money. • Expanding the list of approved suppliers ensures **a diverse range of options for public sector bodies.**	• N/A

✓ **Indicates key initiatives/game changer**

NEW Game Changer: A centralised procurement platform for the building industry can ensure a consistent supply of materials at stable prices (1/2)

Thematic area:
Elevated Construction Costs

Context:

In Sarawak, the construction industry faces significant challenges due to a lack of skilled personnel, particularly in advanced areas such as Building Information Modelling (BIM). The adoption of BIM in Sarawak lags significantly behind other regions, with only about 6% uptake compared to central Peninsular's 78%. This skills gap has led to inefficiencies in project management and execution, particularly frequent project scope revisions, which in turn lead to increased project costs and extended timelines.

Development of a Centralised Procurement Platform for Construction Industry

Establish a centralised procurement platform for Sarawak's construction industry to **streamline procurement activities** and **supplier engagement**

This platform can **leverage collective purchasing power** to **negotiate better prices** and **terms**, reducing costs and **improving material availability**

It will also **enhance inventory management** and **forecasting**, ensuring timely access to high-quality materials and **reducing delays**

Potential Impact Example:

United Kingdom's Crown Commercial Service (CCS)

Crown Commercial Service

The UK's centralised platform for procurement CCS, has achieved benefits such as reduced costs compared to market prices and better value in terms of contract T&Cs

> £2.8 billion

commercial benefits

for public sector organisations through the use of CCS agreements

Outcomes

- Better pricing and terms with material suppliers through collective purchasing
- Transparency in the procurement process
- Improved material availability with better inventory management

Targets / Metrics

- Percentage reduction in material costs
- Time taken to complete the procurement process
- Project timeliness
- Supplier performance (i.e. delivery times, quality of materials)

Source: 2022 CCS Annual Report

NEW Game Changer: A centralised procurement platform for the building industry can ensure a consistent supply of materials at stable prices (2/2)

Development of a Centralised Procurement Platform for Construction Industry

Use Case:

The United Kingdom has been a pioneer in implementing collaborative procurement strategies to optimise public sector spending, particularly in the construction industry. These efforts have been led by various governmental bodies to ensure efficient allocation of resources and mitigate construction costs.

Key Initiatives by the Government of the UK:

- **Establishment of the Crown Commercial Service (CCS):** The CCS was created to centralise procurement across government departments. It facilitates bulk purchasing agreements for construction materials, leveraging the collective purchasing power of multiple agencies.
- **Creation of the Government Construction Strategy:** Managed by the Infrastructure and Projects Authority, this strategy outlines collaborative procurement practices to enhance value for money and reduce costs across public sector construction projects.
- **Formation of the Construction Leadership Council (CLC):** The CLC works with industry partners to promote collaborative approaches to procurement, including bulk purchasing agreements for standardised construction components.
- **Implementation of Aggregated Demand Model**: The Department for Business, Energy & Industrial Strategy (BEIS) utilises this model to forecast and aggregate demand for construction materials, facilitating joint purchasing agreements.

Key Outcomes:

- **Cost Savings: The** UK reported savings of over £2 billion in construction procurement costs over five years due to collaborative purchasing agreements.
- **Enhanced Procurement Efficiency:** Procurement processes have become more efficient, with project delivery times reduced by an average of 15% due to streamlined supply chain management.

Construction Leadership Council

One of UK CLC's mission is to improve productivity through digital adoption, industrialisation and innovation by collaborating with industry partners

BUILD IU-S9: Local material sourcing and development

Due to insufficient mining and supply of local materials, builders are forced to import materials, incurring high logistic costs

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Encourage private sector investment in establishing mining and processing facilities for construction** materials to ensure a stable supply of essential resources, promote the utilisation of locally sourced materials, and decrease long-term reliance on imports. • **Fund and support research initiatives** aimed at improving the quality and applicability of local materials. This can be done through grants or partnerships with universities and research institutions.	• **Stable prices for construction materials** • **Increase in competitiveness of locally sourced construction materials** • **Reduction in import of construction materials** • **Increase in capabilities and expertise of local SMEs**	• N/A

BUILD Example: Local content policies to promote the use of domestic materials

Private Sector Investment & Research Support

Use Case:

Australia has implemented robust local content policies to promote the use of domestic materials in construction, thereby supporting local industries and reducing dependency on imports. This initiative has been part of a broader strategy to enhance the sustainability and self-sufficiency of the construction sector.

Key Initiatives by the Government of Australia:

- **Australian Industry Participation (AIP) Plans:** The Australian Industry Participation Authority administers the AIP requirements under the Australian Jobs Act to provide guidance on regulatory obligations for local industry participation on major projects with costs exceeding $500 million
- **Funding for Local Material Research:** The Cooperative Research Centres (CRC) Programme funds collaborative research between industry and academia, focusing on the research and development into commercial, economic, social, and environmental outcomes.
- **Northern Australia Infrastructure Facility (NAIF):** The Commonwealth government established the NAIF as a financier for the development of infrastructure projects in the form of concessional loans for development across sectors like natural resources, energy, and agriculture.

Key Outcomes:

- **Growth of Local Industry:** Australia reported an increase in employment rate within local material processing sectors, driven by demand for domestic materials.
- **Industry Participation:** Fair and reasonable opportunity for local industry to compete for work in major projects, while also showcasing the capability of local industries for international projects.

The NAIF is a Commonwealth Government entity offering up to $7 billion in concessional finance to encourage and complement private sector investment that benefits northern Australia.

NEW IU-S10: Development of utility infrastructure database and integrate utility planning into all development approval process

The absence of a central repository of utility data to inform on utility availability hampers infrastructure development, leading to unintended project scope changes that incur additional costs and delays.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Utility Mapping and Geospatial Data Platform:** Identify or developing a platform that incorporates utility mapping and real-time geospatial data can significantly enhance infrastructure development and reduce NRW. This platform would integrate various data sources to provide accurate and up-to-date maps of underground utilities like water pipelines, gas lines, and electricity cables to inform accurate infrastructure development. • **Strengthen Development Approval Process:** Strengthening the development approval process to include mandatory utility assessments for projects of all sizes is crucial. This involves requiring developers to conduct thorough assessments of existing utilities before any construction begins to ensure that all potential impacts on utility networks are identified and addressed early in the planning stages	• **Improved accuracy in infrastructure planning** and better-informed project decisions through thorough utility assessments. • **Increased accessibility to utility data** for all stakeholders ensuring compatibility of new developments with existing infrastructure. • **Streamlined maintenance and repair activities** through real-time data access, reducing project delays and costs associated • **Reduced disruptions to utility services** during construction, leading to improved reliability and efficiency of utility services	• One system for water, electricity, and gas under e-Utilities, one utility bill • Integrated water supply command centres state-wide with an intelligent system • At least 75% of the pipeline in Sarawak to be digitally mapped • More than 50% of consumers' consumption can be digitally monitored and captured • Potential savings of up to RM1.6 billion through the avoidance of utility relocation

✓ **Indicates key initiatives/game changer**

NEW Game Changer: A utility database can inform the availability of utilities, support infrastructure development and reduce utility relocation costs (1/3)

Thematic area:
Elevated Construction Costs

Context:

- *In Sarawak, the water supply infrastructure faces significant challenges due to ageing and damaged water pipes, leading to high NRW rate of 43%. Additionally, the lack of accurate records on the location and condition of existing pipes complicates maintenance efforts.*
- *To overcome this, the development of a utility mapping and geospatial data platform is essential to provide accurate maps of underground utilities for pipe replacement efforts.*

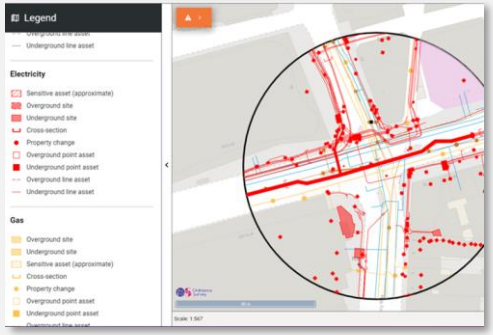
Development of Utility Infrastructure Database and Renewal of Ageing Water Pipes

Developing a platform with utility mapping and real-time geospatial data can enhance infrastructure development and reduce NRW

This platform would provide accurate maps of underground utilities, aiding in precise planning and execution

Prioritising replacement of ageing or damaged water pipes will address NRW losses, leading to cost savings and improved water supply sustainability

Potential Impact Example: United Kingdom's National Underground Asset Register (NUAR)



*Total value of on-site project savings of approximately £122 millions per annum from cost of orienting maps on-site, resuming projects after discovering unexpected underground assets, and cost of abandoning projects due to underground assets**

Outcomes

- Reduction in NRW
- Accurate infrastructure planning with informed availability on utilities
- Enhanced system efficiency and reliability of utility infrastructure
- Lower maintenance and repair costs due to fewer pipe failures

Targets / Metrics

- Reduction in NRW percentage
- Number of pipe bursts due to unintended construction damage
- Financial savings from reduced water production

NEW Game Changer: A utility database can inform the availability of utilities, support infrastructure development and reduce utility relocation costs (2/3)

Development of Utility Infrastructure Database

Use Case:

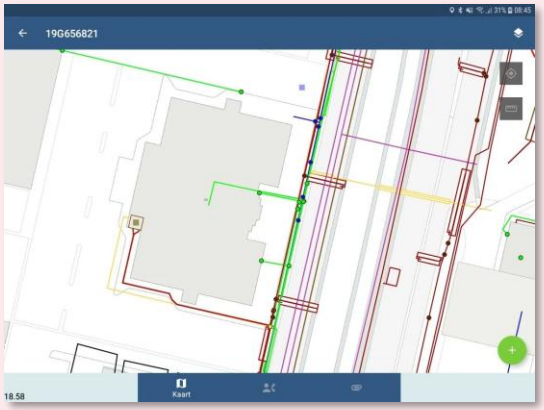
The Netherlands has been a pioneer in creating a comprehensive utility infrastructure database through its "KLIC-WIN" system. This initiative has significantly improved the management and accessibility of underground utility data, benefiting both public and private stakeholders involved in infrastructure development.

Key Initiatives by the Government of the Netherlands:

- **Implementation of the KLIC-WIN System:** The Dutch Land Registry and Mapping Agency, Kadaster, has implemented the KLIC-WIN digital system that provides detailed mapping and information on underground utilities, accessible to contractors, developers, and government agencies.
- **Mandatory Registration of Underground Utilities:** Legislation requires all operators to register their underground utilities in the KLIC-WIN system, ensuring comprehensive data coverage.
- **Integration with the National Spatial Data Infrastructure (NSDI):** Geonovum, the Dutch National Spatial Data Infrastructure Executive Committee, ensures that utility data is integrated with NSDI to standardise geo-information infrastructure, enhancing planning capabilities across various sectors

Key Outcomes:

- **Decreased Excavation Incidents:** The comprehensive and accessible data provided by KLIC-WIN has led to a reduction in excavation-related incidents, improving safety and reducing project delays.
- **Improved Project Planning and Cost Efficiency:** Access to accurate utility data has enhanced the efficiency of project planning and execution, with a noted reduction in unanticipated utility conflicts that also leads to significant cost savings for construction projects.



KLIC-WIN's mobile application, where users can trace underground cables and pipes through their mobile phone

NEW Game Changer: A utility database can inform the availability of utilities, support infrastructure development and reduce utility relocation costs (3/3)

Renewal of Ageing Water Pipes to tackle NRW

Use Case:

Singapore is actively addressing the issue of water infrastructure and the associated non-revenue water through aggressive renewal and digitalisation initiatives. The Public Utilities Board (PUB), Singapore's national water agency, is spearheading efforts to modernise the water distribution system to minimise water loss and enhance efficiency.

Key Initiatives by the Government of Singapore:

- **Pipe Renewal Programme:** PUB has adopted a pre-emptive leak management approach to proactively replace older or leak-prone pipes under their Pipe Renewal Programme, where pipe condition are determined with data analytics to determine the health status of pipes and notify replacements.
- **Advanced Leak Detection Technologies:** Deployment of smart tools for accurate and effective leak detection, such as leak monitoring sensors and inline pipe inspection tools, and even sensors that are connected to smartphones to locate pipe leaks.
- **Smart Water Meter Program:** PUB has been implementing the Smart Water Meter Program since 2022 in both existing and new housing estates. This initiative enables daily remote water meter readings and offers users a platform to monitor their water usage.

Key Outcomes:

- **Low NRW Rate:** Singapore has one of the lowest NRW rates globally at 5%.
- **Wireless Monitoring:** Smart water meters are connected to a central system monitored by PUB wirelessly. It provides instant feedback on water usage trends, the ability to identify inefficiencies, and provides the necessary data to inform policy decisions.
- **Improved Leak Detection**: PUB currently records 5 leaks per 100km of pipes per year, down from 10 leaks per 100km of pipes in 2014, and amongst the lowest incidence in the world.

FIX IU-S11: Renewal of ageing pipes and digitalisation efforts to tackle NRW

Insufficient funding for replacing ageing pipes and implementing smart meters to enhance revenue collection directly contributes to the high NRW that Sarawak is facing

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Expedite the Replacement of Ageing & Damaged Water Pipes:** By focusing efforts to replace ageing or damaged water pipes, Sarawak can immediately and effectively control and reduce NRW, leading to direct cost savings due to reduced water production. • **Promote the Installation of Smart Water Meters:** Promoting the installation of smart meters for all new water connections will ensure accurate water billing and collection, enhancing the overall efficiency of the water supply system. By implementing this initiative, Sarawak can also support water conservation efforts, improve customer satisfaction through accurate billing, and reduce operational costs for utility providers.	• **Reduction in NRW** where expedited pipe replacement will directly reduce NRW • **Enhanced billing accuracy** through increased adoption of smart water meters • **Improved operational efficiency** whereby water production can be reduced due to reduced water loss	• Reduce NRW to at least 25% • Renewal of 2,742 km of ageing pipes

FIX Example: Renewal of ageing water pipes and digitalisation efforts for the water sector

NRW Initiatives

Use Case:

Singapore is actively addressing the issue of water infrastructure and the associated non-revenue water through aggressive renewal and digitalisation initiatives. The Public Utilities Board (PUB), Singapore's national water agency, is spearheading efforts to modernise the water distribution system to minimise water loss and enhance efficiency.

Key Initiatives by the Government of Singapore:

- **Pipe Renewal Programme:** PUB has adopted a pre-emptive leak management approach to proactively replace older or leak-prone pipes under their Pipe Renewal Programme, where pipe condition are determined with data analytics to determine the health status of pipes and notify replacements.
- **Advanced Leak Detection Technologies:** Deployment of smart tools for accurate and effective leak detection, such as leak monitoring sensors and inline pipe inspection tools, and even sensors that are connected to smartphones to locate pipe leaks.
- **Smart Water Meter Program:** PUB has been implementing the Smart Water Meter Program since 2022 in both existing and new housing estates. This initiative enables daily remote water meter readings and offers users a platform to monitor their water usage.

Key Outcomes:

- **Low NRW Rate:** Singapore has one of the lowest NRW rates globally at 5%.
- **Wireless Monitoring:** Smart water meters are connected to a central system monitored by PUB wirelessly. It provides instant feedback on water usage trends, the ability to identify inefficiencies, and provides the necessary data to inform policy decisions.
- **Improved Leak Detection**: PUB currently records 5 leaks per 100km of pipes per year, down from 10 leaks per 100km of pipes in 2014, and amongst the lowest incidence in the world.

FIX IU-S12: Enhance and establish additional water supply facilities

Water treatment plants in major cities lack sufficient reserve margins to handle sudden surges or disruptions, failing to meet international standards for water reserves.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Expand Water Supply Facilities**: Expand the capacity of existing water treatment facilities and construct new plants to enhance treated water storage capacity and strengthen the reserve margin. This will ensure a reliable water supply and prevent unexpected water interruptions by providing a buffer of treated water for peak periods and emergencies.	• **Reliable water supply** through enhanced capacity and reserve margin ensure continuous water availability. • **Demand management** with increased storage to meet industrial demand and supports urban and industrial growth. • **Reduced interruptions** through strengthened infrastructure to minimise the risk of unexpected water supply disruptions.	• Full water coverage throughout Sarawak • Reduce NRW to at least 25%

FIX IU-S13: Review existing water tariffs for sustainable water sector development

The current water tariff framework, unchanged since 1992, results in Sarawak having one of the lowest tariffs in Malaysia. This has led to water wastage by consumers and has forced water operators to rely on government subsidies due to insufficient cost recovery

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Revision of Water Tariffs**: The current water tariffs have not been revised since 1992, which does not reflect the true cost of water supply and is still heavily dependent on government subsidy. The revision of water tariffs is crucial to ensure cost recovery for water supply operators, allowing them to maintain and improve infrastructure without relying heavily on government subsidies. By adjusting the tariffs, the government can also encourage consumers to use water more responsibly, thereby curbing wastage. This approach will support the long-term sustainability of Sarawak's water resources and ensure a reliable supply for future generations.	• **Sustainable operations of water supply operators** due to improved cost recovery, leading to reduced dependency on government funding and subsidies • **Water conservation** as higher tariffs encourages consumers to use water more responsibly, reducing wastage and promoting sustainable water use • **Reduction in NRW** as water wastage will be reduced	N/A

FIX IU-S14: Streamline water sector governance by empowering SWA to be the single authority for water supply and resources

The current governance across the whole water value chain is fragmented, with unclear and overlapping regulatory powers, resulting in ineffective management of the water sector.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
Amend regulations for SWA to have absolute jurisdiction over both upstream and downstream supported by enforcement powers • **Regulatory Reforms**: Amend regulations* to enable SWA to have sole jurisdiction over water supply and integrated water resources management, collaborating with other state agencies. SWA will be the primary coordinating agency, with absolute decision-making and enforcement powers on all water-related matters, including pollution control. SWA's approval will be required for activities impacting water resources, and it will be included in land use planning committees. Additionally, SWA will oversee the gazettement of water catchment, protection, and conservation areas, and can mobilise state agencies to enforce actions against water pollution, providing regulatory inputs for policy formulation and implementation. • **Policy Interventions**: Introduce an integrated masterplan to translate Integrated Water Resource Management (IWRM) into practice, establish a complete policy feedback loop to facilitate broad participation in policy formulation, and establish a clear reporting framework and information process flow to provide public progress reporting.	• **Effective full cycle water management with clear roles and responsibilities** of water governance through a single regulator • **Cohesive regulatory response** through improved alignment and accountability • **Holistic policy planning** with standardised KPI and regular public reporting • **Holistic reporting** by SWA on the performance of Sarawak's water industry and water supply operators based on annual reports of WSA • **Streamlined avenue** for various parties to escalate issues that requires cross-ministerial collaboration	• A regulatory body corporate as the SWA to carry out the general control and supervision of all water supply authorities and the management of all water resources and water catchment areas in Sarawak through IWRM approach • A uniformed way to ensure all water bodies are monitored and enforcement of any non-compliance is carried out

FIX IU-S15: SWA to be supported by an organisational setup with an executive team to help execute the regulatory functions of SWA

The current arrangement designates the PS of MUT as SWA but lacks a dedicated organisational structure to effectively execute SWA's functions.

Key Initiatives	Key Outcomes	PCDS 2030 Targets

Establish a structured organisational framework for SWA to assist in executing regulatory functions vested under SWA
• **Organisational Setup of SWA**: SWA has to be supported by an organisation setup spread across 3 main sectors in order to perform its mandated functions effectively:
  • **Regulatory Sector:** Responsible for strategic planning, water resource management, industry development and audit, water regulations, consumer affairs and protection
  • **Enforcement Sector:** Responsible for regulatory enforcements, legal and secretarial services
  • **Enabling Sector**: Responsible for corporate planning, corporate management services, internal support services
	• **Effective execution of SWA's roles and responsibilities** supported by a dedicated team to be the regulatory body for water-related matters
	• **Better equipped for enforcement** powers on water pollution or activities
	• **Frontline enforcer** of water-related regulations, guaranteeing compliance for the overall well-being of community
	• **Sufficient capacity for liaison** with other relevant agencies for regulatory activities
		• A regulatory body corporate as the SWA to carry out the general control and supervision of all water supply authorities and the management of all water resources and water catchment areas in Sarawak through IWRM approach
		• A uniformed way to ensure all water bodies are monitored and enforcement of any non-compliance is carried out

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S1: Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation	• Encourage harvesting of currently mature plantation while separately harvesting over-aged low-quality plantations • Increased investment into R&D projects towards increase yields from planted trees • Establish partnership models with Bumiputera for land utilisation • Promote planting of non-timber forest produce (NTFP) such as bamboo, ratan, medical plant, rubber tree	• Increased yields of forest plantations • Improved quality of timber from planted forests • Increased local supply of raw materials for downstream processing

FIX FNAM-S1: Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation (1/2)

Low yield from planted forests due to lack of R&D, land claims and encroachment issues highlights the need for targeted initiatives production and ensure sustainable forest management

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Encourage harvesting of currently mature plantation while separately harvesting over-aged low-quality plantations**
  ○ Increase prompt harvesting of currently mature plantations to prevent further over-aging, ensuring that timber resources are utilised before they deteriorate, prioritising species of trees that cannot be grown past rotation age such as Acacia
  ○ Implementation of policy to allow establishment mill in LPF
• **Increased investment into R&D projects towards increase yields from planted trees**
  ○ Prioritise replantation efforts on identified suitable land while conducting R&D on the suitability of remaining land
  ▪ Develop pilot-scale plantations testing for alternative species to identify optimal soil conditions
  ○ Increase R&D on developing high-quality planting material and addressing pest and disease challenges
  ○ Development of Sarawak Timber Excellence Centre
  ○ Promote utilisation of forest remnants for biomass industry
	• **Increased yields of forest plantations**
	• **Improved quality of timber from planted forests**
	• **Increased local supply of raw materials for downstream processing**
		• **Increase timber & non wood forest products export earnings - Annual export value of RM8 billion by 2030**

FIX FNAM-S1: Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation (2/2)

Low yield from planted forests due to lack of R&D, land claims and encroachment issues highlights the need for targeted initiatives production and ensure sustainable forest management

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Establish partnership models with Bumiputera for land utilisation**
  ○ Introduce a co-investment model whereby Bumiputera have an economic interest in the timber crop or continued occupation of the land by timber licences
  ○ This may involve setting up a joint venture or leasing model between the government, private companies and the community where returns are shared with Bumiputera
• **Promote planting of non-timber forest produce (NTFP) such as bamboo, ratan, medical plant, rubber tree**
  ○ Implementation of Sarawak bamboo industry policy
  ○ Develop new NTFP based industry
  ○ Encourage community participation in NTFP planting through collaboration with potential investors (LPF with community, community with investors, community with GLCs)
	• **Increased yields of forest plantations**
	• **Improved quality of timber from planted forests**
	• **Increased local supply of raw materials for downstream processing**
	• **Increase yields from planted trees and NTFPs**
	• **Improved quality of timber and NTFPs from planted forests**
		• **Increase timber & non wood forest products export earnings - Annual export value of RM8 billion by 2030**

Transport & Logistics

Strategy	Initiative	Outcome
Aviation Transportation		
TL-S5: Develop Sarawak's Aerospace Ecosystem	• Conduct feasibility studies to determine the commercial demand for the setting up of aircraft MRO and private jet facilities • MRO and aerospace manufacturing development • Establish an aviation training academy centre • Establish drone and unmanned aerial vehicle services	• Developments that align with actual market demands, avoiding the creation of underutilised infrastructure projects • Well-planned MRO and private jet facilities can improve the overall aviation infrastructure • Development of skilled workforce

Transport & Logistics

Strategy	Initiative	Outcome
Maritime & Riverine Transport		
TL-S6: Implementation of aids to navigation (AtoN) for major maritime and riverine routes	• Expedite the deployment of AtoN systems to support the safe and efficient navigation of existing vessels along riverine routes	• Improved visibility and awareness of navigational paths, reduction in riverine incidents, enhances the safety of vessels and crews
TI-S7: Review existing policies and regulations governing maritime and riverine transport	• Amend existing regulations to improve the management and maintenance of rivers and waterways, to support efforts to maintain the navigability of rivers while minimising environmental impact • Develop policies that encourage the maritime and riverine sectors to adopt energy-efficient and environmentally friendly technologies	• Enhances the safety of vessels and crews • Reduction of the ecological impact of riverine infrastructure projects or activities
TL-S8: Maritime study for potential development of the riverine economy	• Viability of Riverine Developments: Assess the economic, social, and environmental viability of riverine developments to ensure projects align with regional demands • Conduct detailed mapping of riverbeds to identify navigational hazards	• Ensure developments are aligned with demand and not underutilised • Enhances the safety of vessels and crews
TL-S9: Enhance training and competency for maritime and riverine personnel	• Partner with training institutions to provide courses on navigation, safety protocols, and emergency response • Educating Small-Scale Boat Operators • Distribute safety guides and conduct workshops with coastal communities on maritime safety	• Reduction in maritime and riverine incidents

BUILD TL-S5: Develop Sarawak's Aerospace Ecosystem

Sarawak has demonstrated a keen interest in developing aircraft maintenance, repair, and overhaul (MRO) and private jet facilities. However, this development must be underpinned by comprehensive feasibility economic studies to ensure its viability.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Feasibility Study:** Conducting a feasibility study is crucial for the Sarawak Government to ensure that the development of aircraft MRO and private jet facilities aligns with genuine commercial demand. This study would help avoid the creation of underutilised and costly infrastructure projects. By assessing market demand, the study can determine the potential for these facilities to attract sufficient business, ensuring their economic viability. • **MRO and aerospace manufacturing development** to create an efficient network of facilities, skilled workers and modern technologies to deliver high-quality maintenance services and parts for aircraft • **Establish aviation training academy centre** to develop aviation skillsets • **Establish drone and unmanned aerial vehicle services**	• **Detailed analysis of the potential demand and operational requirements** for MRO and private jet facilities. • Well-planned MRO and private jet facilities can improve the overall aviation infrastructure, **attract more air traffic** and position the region as a strategic hub for aviation services. • A feasibility study can assess the **environmental and safety implications** of developing such facilities, ensuring that they meet national and international standards. • Developing skilled workforce by increasing the number of trained aviation skillsets (licensed aircraft engineers, operational staff)	• Accessibility to MRO facilities in BIMP-EAGA region at competitive rates to serve aircrafts • Private investment of RM1 billion and 10,000 direct/indirect job creation for MRO and supporting industries/facilities • Private investment of RM500 million and 1,000 direct/indirect jobs for private jet facilities

FIX TL-S6: Implementation of aids to navigation (AtoN) for major maritime and riverine routes

Sarawak's riverine ecosystem is complex and underdeveloped, with issues such as erosion along riverbanks and timber debris clogging major rivers. This poses significant challenges for vessels navigating the waterway

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Expedite Deployment of AtoN:** This initiative involves installing and upgrading navigational aids, such as buoys, beacons, and lights, which provide vital information regarding safe passage, potential hazards, and optimal routes.	• **Enhanced safety** through the deployment of AtoN systems that will significantly reduce the risk of accidents by providing clear navigational information, ensuring the safety of vessels and crews. • **Economic efficiency** with improved navigation aids that will facilitate more efficient and reliable transportation routes, reducing delays and operational costs for shipping and trade • **Environmental protection** through clear marking of safe passages and potential hazards, AtoN systems help minimise environmental damage from vessel groundings and collisions	• Enhanced availability of AtoN by 97% (Lighthouse coverage increased from 18 to 24 Nautical Miles in accordance with international standards) • Safe navigation channel approximately 560km of upstream waterways with reduction in the number of riverine accidents per annum

FIX TL-S7: Review existing policies and regulations governing maritime and riverine transport

The current policies and regulations governing riverine transport are outdated and do not align with international standards regarding safety, infrastructure, and maintenance. Additionally, there is a significant lack of enforcement on riverine pollution, rendering many rivers unnavigable

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Amending Regulations for River Management:** Amend existing regulations to improve the management and maintenance of rivers and waterways. This includes updating safety protocols, standardising maintenance procedures, and facilitating the removal of shipwrecks and obstructions to ensure clear navigation channels. These regulatory updates will enhance the safety and efficiency of riverine transport, benefiting both commercial and recreational users. • **Supporting Environmental Sustainability**: Develop policies that encourage the maritime and riverine sectors to adopt energy-efficient and environmentally friendly technologies. Regulations should support efforts to maintain river navigability while minimising environmental impact. This involves developing policies that encourage the maritime and riverine sectors to adopt energy-efficient and environmentally friendly technologies. By promoting sustainable practices, Sarawak can protect its rich biodiversity and ensure the long-term health of its waterways.	• **Improved safety and efficiency** with updated regulations and standardised procedures will ensure safer and more efficient navigation, reducing the risk of accidents and delays. • **Environmental protection** by encouraging the adoption of eco-friendly technologies will help minimise pollution and preserve the natural environment.	• Safe navigation channel approximately 560km of upstream waterways with reduction in the number of riverine accidents per annum

FIX TL-S8: Maritime study for potential development of the riverine economy

Sarawak is exploring the development of the riverine economy to facilitate freight movement, aiming to reduce road congestion and emissions. However, there is a noticeable lack of feasibility studies to support the viability of this initiative

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Viability of Riverine Developments:** Sarawak should evaluate the economic, social, and environmental viability of riverine developments to ensure they meet regional demands and are sustainable. This includes assessing potential transportation and trade benefits, improving access to services for remote communities, and minimising ecological disruption to protect biodiversity. • **Mapping of Riverbeds:** Detailed mapping of riverbeds is crucial for identifying navigational hazards and designing safe infrastructure projects. In Sarawak, technologies like GIS can create accurate maps, highlighting unnavigable areas and potential hazards. These maps ensure safe navigation, efficient development, and environmental protection by identifying sensitive areas needing conservation.	• **Enhanced Safety**: Detailed mapping of riverbeds will identify navigational hazards, reduce the risk of accidents and improve the safety of vessels and crews. • **Economic Growth**: By ensuring development projects are technically viable and economically sound, these initiatives can attract investments, reduce costs, and boost local economies, leading to more successful and cost-effective developments.	• Increase in river usage to approximately 500,000 vessel movement a year

BUILD TL-S9: Enhance training and competency for maritime and riverine personnel

A significant portion of maritime and riverine users are small boat operators who lack sufficient safety knowledge and equipment, thereby posing risks to both themselves and other users

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Partnering with Training Institutions:** Sarawak should provide comprehensive courses on navigation, safety protocols, and emergency response. This initiative would enhance the skills and knowledge of maritime personnel, ensuring they are well-prepared for various maritime operations. • **Educating Small-Scale Boat Operators**: Focus on educating small-scale boat operators about basic safety practices and the importance of navigational aids through awareness programs and knowledge sharing. This is crucial for reducing accidents and improving overall maritime safety. • **Distributing Safety Guides and Conducting Workshops:** Workshops would cover essential topics such as emergency procedures, the use of safety equipment, and environmental protection. By engaging with local communities, Sarawak can ensure that maritime safety practices are widely understood and implemented.	• **Enhanced Safety:** By partnering with training institutions and educating small-scale boat operators, the initiatives would significantly reduce the risk of accidents, ensuring safer navigation for vessels and crews. • **Economic Benefits:** Safer and more reliable transportation routes can lower costs and enhance trade, benefiting businesses and communities. • **Community Development**: Educating and engaging local communities through workshops and safety guides can improve access to essential services and economic opportunities. • Produce **skilled and competent workforce** for boat operation (captaincy, certificate of competency, search and rescue operation, boat maintenance), riverine safety and navigation.	• Safe navigation channel approximately 560km of upstream waterways with reduction in the number of riverine accidents per annum

2.6 HLS 5: Build a High-quality Living Environment and Inclusive Society for All Communities

HLS 5: Build a High-quality Living Environment and Inclusive Society for all Communities

		Page
Overview		**242**
Social Services		***244***
SS-S1	Increasing supply of affordable housing, particularly in urban areas	
SS-S2	Strengthening planning, coordination and monitoring of housing development in Sarawak	
SS-S3	Introduce a comprehensive and integrated approach to urban renewal planning and policymaking that prioritises suitability, inclusivity and resilience for all Sarawakians	
SS-S4	Facilitating home ownership or rental, particularly for households in need	
SS-S5	Improving accessibility to healthcare facilities and services	
SS-S6	Raising awareness and education on health and lifestyles	
SS-S7	Formalising strategic partnerships and alliances in the healthcare sector	
SS-S8	Advancing infrastructure and innovation related to health	
SS-S9	Enhancing income generation opportunities through targeted support	
SS-S10	Strengthening implementation of social welfare programmes	
SS-S11	Improving access to essential services	
SS-S12	Creating a conducive environment for family establishments	
SS-S13	Enabling workforce participation and equal access to economic and leadership opportunities for women	
SS-S14	Enhancing access, equity and quality early childhood care, education and special needs early intervention	

HLS 5: Build a High-quality Living Environment and Inclusive Society for all Communities

		Page
SS-S15	Enhancing social protection and support systems for the elderly community	
SS-S16	Creating economic opportunities that harness the potential of healthy and productive PWDs	
SS-S17	Leveraging partnerships to drive community development, outreach and support	
SS-S18	Strengthening healthcare and social services infrastructure	
Education & Human Capital		***289***
EHC-S1	Introducing a dedicated and holistic youth policy in Sarawak	
EHC-S2	Promoting accessibility to sports offerings and infrastructure for the general public	
Digital Transformation		***293***
DT-S8	Provide high-speed, reliable and affordable internet connectivity to improve regional and global connectivity	
DT-S9	Facilitate adoption of digital technologies among Sarawakian communities	
Transport & Logistics		***296***
TL-S10	Establish a centralised transport data management system to improve public transport planning	
TL-S11	Enhance public transport infrastructure and services; implement improved traffic management and road safety initiatives with integrated infrastructure and connectivity advancement	

Overview
HLS 5: Build a High-quality Living Environment and Inclusive Society for all Communities

Cultivating an inclusive society by enhancing living environments and providing equitable opportunities for all communities to thrive and prosper

To build a high-quality living environment and create an inclusive society for all communities, Sarawak will focus on fostering equal opportunities in economic advancement, education, and social well-being. This includes developing regional medical hubs to enhance healthcare capabilities and attract medical tourism, alongside improving accessibility and infrastructure in healthcare. The Sarawak Family First Initiative supports families with resources on parenting and mental health, while expanding services such as Geriatrik Komuniti and Pusat Aktiviti Warga Emas for the elderly and vulnerable. The Sarawak Women@Work Initiative promotes gender equality, affordable childcare and flexible work arrangements.

Housing strategies aim to increase affordable housing supply, improve urban planning and home ownership facilitation. To combat poverty, enhancing income opportunities and strengthening social welfare will be prioritised. Vulnerable communities will benefit from initiatives that create economic opportunities, enhance social protection for the elderly and improve early childhood care and education. Youth development initiatives will nurture future leaders to thrive, fostering active participation in national development and driving long-term socio-economic growth. Enhance sports accessibility and infrastructure to all communities can foster a healthy lifestyle, nurture athletic talent from the grassroots level, and contributing to the vision of Sarawak as a nation sports powerhouse.

Digital transformation efforts will provide high-speed internet connectivity, supported by SMART, JENDELA, and MySRBN projects, while public transport improvements such as the Kuching Urban Transportation System (KUTS) aim to enhance accessibility and efficiency. A centralised transport data system will optimise planning, along with improved traffic management and road safety.

HLS 5: Build a High-quality Living Environment and Inclusive Society for all Communities

Social Services

Key areas:

- Affordable housing supply
- Housing development planning and monitoring
- Urban renewal and policymaking
- Healthcare accessibility improvement
- Health awareness and education
- Strategic partnerships and infrastructure
- Income generation opportunities
- Social welfare programme implementation
- Access to essential services
- Family support and establishment
- Economic opportunities and participation
- Social protection and early intervention

Transport & Logistics

Key areas:

- Transport data management system
- Infrastructure and service enhancement
- Traffic management and road safety

Education & Human Capital

Key areas:

- Young leader nurturing
- Youth policy implementation
- Sports accessibility and infrastructure

Digital Transformation

Key areas:

- High-speed internet connectivity
- Digital technology adoption
- Regional and global connectivity

Social Services

Strategy	Initiative	Outcome
SS-S1: Increasing supply of affordable housing, particularly in urban areas	✓ **"15-Minutes" Centralised Townships at strategic nodes** • Modernising construction methods and local production capacity • Provide financing facilitation to developers to reduce development costs of affordable housing • Review land-related matters for affordable housing	• Improved accessibility to housing and ensure decent living conditions for households in Sarawak
SS-S2: Strengthening planning, coordination and monitoring of housing development in Sarawak	• Study/review Sarawak Housing Masterplan • Introduce innovative/advance monitoring system • Sarawak Central Housing Market Data Repository • Establish/Revive Sarawak Housing Committee to discuss housing matters amongst the agencies including the industry players • Set up a Trust Fund to revolve fund for the development of affordable houses and for the continuation of the house purchaser assistance	• Increased understanding of housing market trends in Sarawak to inform policy decisions • Enhanced monitoring and tracking of outcomes of housing initiatives
SS-S3: Introduce a comprehensive and integrated approach to urban renewal planning and policymaking that prioritises suitability, inclusivity and resilience for all Sarawakians	• Promote public participation for urban renewal policymaking • Provision of facilities and amenities to support conducive living in a new or existing area for all groups – recreational park, green market, healthcare centre, community centre, mobile library, recycling centre • Use of sustainable materials in urban renewal	• Urban renewal that is inclusive for all groups

✓ **Indicates key initiatives/game changer**

Social Services

Strategy	Initiative	Outcome
SS-S4: Facilitating home ownership or rental, particularly for households in need	• **Introduce the Rumah Spektra Mutiara (RSM) Scheme** financed by MUTIARA to build affordable housing on individual land to assist the landowner in owning a house • **Build-to-Rent-to-Own for targeted participants** • **Introduce landlord incentive programmes** to promote rental market, particularly in urban areas	• Cater to housing needs and ensure decent living conditions for households in Sarawak • Alleviate cost burden and provide stability to low-income households
SS-S5: Improving accessibility to healthcare facilities and services	✓ **Regional medical hubs in Kuching, Kota Samarahan, Sibu and Miri for Sarawakians and medical tourists** ✓ **Public2Private Referral Clinic Network** • **Deploy and train community health workers to deliver basic healthcare services** ✓ **Malaysian Agreement 1963 (MA63) Health Agenda**	• Equitable access to healthcare which can help in the prevention, promotion and curation of health services for all Sarawakians
SS-S6: Raising awareness and education on health and lifestyles	• **Sarawak Health Campaign Series (health-related programmes) and oversight to improve awareness** • **Upgrade Village Health Promoters Programme for rural outreach**	• Promote healthy lifestyles and empower individuals to manage their health conditions • Minimised spread of diseases with greater prevention education
SS-S7: Formalising strategic partnerships and alliances in the healthcare sector	• **Co-funding of healthcare initiatives with large private sector entities (part of SDG commitments for firms)** • **Promote pharmaceutical manufacturing production in Sarawak**	• Scale and scope healthcare initiatives through the pooling of financial and human resources, reducing burden on any single entity

✓ **Indicates key initiatives/game changer**

Social Services

Strategy	Initiative	Outcome
SS-S8: Advancing infrastructure and innovation related to health	• **Increase bed capacity for existing hospitals and develop facilities** to improve patient comfort and satisfaction (e.g. private patient rooms, family areas, and customisable environments) • **Leverage healthcare research by Sarawak Infectious Disease Centre (SIDC) and technology** to support environmental health and public health service delivery • **Upgrade existing toilets to BMW and Smart Toilet concepts**	• Improved quality and efficiency of health-related services and facilities • Continuous upgrades to medical knowledge for proactive response to emerging health threats • Safeguard social well-being of the public
SS-S9: Enhancing income generation opportunities through targeted support	• **Introduce conditional cash transfers for B40 for income generation activities** • **Leveraging Federal initiatives for skills and income enhancement** ✓ **Harnessing potential of young people with urban exposure for rural revitalisation**	• Alleviate short-term financial burdens of households, while enabling self-sufficiency in the long-run • Enhanced living standards of rural communities, including the youths • Greater rural economic growth and development • Higher youth participation in rural areas • Increased social cohesion

✓ **Indicates key initiatives/game changer**

Social Services

Strategy	Initiative	Outcome
SS-S10: Strengthening implementation of social welfare programmes	• **Enhance targeted and systematic identification of beneficiaries through technology and partnerships** • **Improve grant application, disbursement and monitoring for social enterprises** • **Establish a formal forum/framework for partnerships and regular discussions** with social enterprises and private sector (including clear roles, responsibilities, risks and benefits for public and private sector partners)	• Improved targeting of assistance programmes and minimise leakages • Enhance service delivery efficiency and maximise potential of shared expertise and resources
SS-S11: Improving access to essential services	• *Expansion of food and clothing banks across divisions for the hardcore poor in Sarawak* *Note: Vulnerable communities will benefit from initiatives related to housing, education, healthcare and jobs covered under the respective priority areas.*	• Improved living standards and quality of life of households

Social Services

Strategy	Initiative	Outcome
Family		
SS-S12: Creating a conducive environment for family establishments	• **Introduce Sarawak "Family First" Initiative**	• Encourage people to build their families in Sarawak within a supportive surrounding environment • Attract key talents to support Sarawak's development • Foster inclusivity and provide equal opportunities for children, especially those with special needs to enable foundational development
Women		
SS-S13: Enabling workforce participation and equal access to economic and leadership opportunities for women	• **Sarawak Women@Work Initiative**	• Unlock the potential of female as a key driver for socio-economic development • Alleviate the family burdens for working mums • Promote gender diversity and enhance perspectives for decision making process at the management level
Childhood		
SS-S14: Enhancing access, equity and quality early childhood care, education and special needs early intervention	• **Implement Integrated ECCE Initiative that address health, education and social development (including for special needs children)**	• Foster inclusivity and provide equal opportunities for children, especially those with special needs to enable foundational development

Social Services

Strategy	Initiative	Outcome
Ageing Society		
SS-S15: Enhancing social protection and support systems for the elderly community	• **Direct elderly assistance and outreach initiatives** • **Promote private pension schemes in preparation for retirement** • **Set up a committee/taskforce (KPWK to lead/coordinate) to oversee policies related to aging population**	• Comprehensive coverage and access to essential services • Purposeful use of social infrastructure development for communities • Build a resilient and cohesive communities among the elderly • Improved well-being of retirees and reduced dependencies on younger generation • Reduced fiscal burden for the Government • Equitable access and effective service delivery for the elderly
Special Needs		
SS-S16: Creating economic opportunities that harness the potential of healthy and productive PWDs	• **Introduce/revisit frameworks and legislations** to support and enable participation of Persons with Disabilities (PWDs), including in the workforce • **Enhancing capabilities of care providers for the PWDs**	• Increased economic participation and self-dependency of the community • Improved livelihoods and self-confidence of the PWDs

Social Services

Strategy	Initiative	Outcome
SS-S17: Leveraging partnerships to drive community development, outreach and support	• **Organise community workshops, seminars, school programmes, and public campaigns** • **Creating Community of Practice (CoP)** • **Empowering NGOs through training and upskilling to pick up social issues in Sarawak** • **Community based development, social support and intervention referral facilities for group affected by social issues**	• Foster an informed and cohesive society for overall well-being • Generate community-based solutions that support the needs of the people
SS-S18: Strengthening healthcare and social services infrastructure	✓ **Establishment or expansion of targeted support services and centres for vulnerable communities including elderly, PwDs and other relevant segments**	

✓ **Indicates key initiatives/game changer**

BUILD SS-S1: Increasing supply of affordable housing, particularly in urban areas (1/3)

Shortage of affordable housing due to high development costs, labour shortage and slow technological adoption and small-scale developments

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **"15-Minutes" Centralised Townships at strategic nodes** - Concentrated townships with affordable housing townships at strategic transportation nodes, particularly along rail (e.g. Kuching Urban Transport System (KUTS)) or highway developments (e.g. Pan Borneo) – creating growth and population centres along the corridors and surrounding the nodes. - Housing townships with liveable elements (e.g. open space and green parks, good last-mile connectivity, pedestrian-friendly, user-friendly designs for elderly/persons with disabilities) with active participation of residents in urban planning - Early planning of Transit-Oriented Development ('TOD') at the nodes (within 400 m), where multimodal transportation can be reached within walking distance from residential, commercial and entertainment space	• Improve accessibility to housing and ensure decent living conditions for households in Sarawak	• **Sarawak Social Well-being Index Score of 8 and above** **Sustain the homeownership above 75%**

✓ **Indicates key initiatives/game changer**

BUILD SS-S1: Increasing supply of affordable housing, particularly in urban areas (2/3)

Shortage of affordable housing due to high development costs, labour shortage and slow technological adoption and small-scale developments

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Modernising construction methods and local production capacity** - Industrialised Building System ('IBS') where components are pre-fabricated in controlled conditions, then transported and installed during construction. This speeds up delivery and reduces cost incurred that may result from delays in construction. - 3D construction printing ('3DCP') where structures or construction components are produced quickly and cost-effectively. This could reduce the number of accidents and reduce waste generated at the jobsite. - Attract building materials suppliers to set up in Sarawak, including cement, coarse sand, and roofings.	• Improve accessibility to housing and ensure decent living conditions for households in Sarawak	• **Sarawak Social Well-being Index Score of 8 and above** • **Sustain the homeownership above 75%**

BUILD SS-S1: Increasing supply of affordable housing, particularly in urban areas (3/3)

Shortage of affordable housing due to high development costs, labour shortage and slow technological adoption and small-scale developments

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Provide financing facilitation to developers to reduce the development costs of affordable housing** - Absorbing costs of infrastructure development including land embankments, utilities, and road construction - Capitalise available credit facilities by Sarawak Government – DBOS (Development Bank of Sarawak) / Mutiara Mortgage and Credit Sdn. Bhd / Affin Bank - Introduce framework to mandate private sectors such as financial institutions to allocate a portion of their funds in affordable housing projects • **Review land-related matters for affordable housing** - Review use and development control ordinance/ regulation/policy/guidelines - Land acquisition at strategic areas or to increase government land bank - Identify SPS/SPK land for the redevelopment of affordable housing scheme	• Improve accessibility to housing and ensure decent living conditions for households in Sarawak	• **Sarawak Social Well-being Index Score of 8 and above** • **Sustain the homeownership above 75%**

BUILD Game changer: “15-Minute City”- Centralised affordable housing townships at strategic nodes (1/2)

Thematic area:
Shortage of affordable housing due to high development costs, labour shortage and slow technological adoption and small-scale developments

Context:

- *Houses lack affordability, particularly in Bintulu, Kuching and Miri, based on the Median Multiple approach by the World Bank*
- *Development of affordable housing is mostly small-scale and fragmented based on industry feedback*

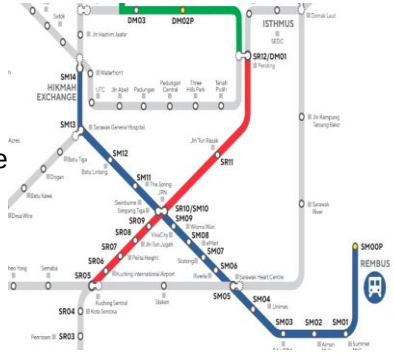
Initiative: Centralised Townships

Description: Concentrated townships with affordable housing townships at strategic transportation nodes, particularly along rail (e.g. Kuching Urban Transport System (KUTS)) or highway developments (e.g. Pan Borneo) – creating growth and population centres along the corridors and surrounding the nodes.

Key Features:

- **Concentrated affordable housing townships with liveable elements** (e.g. green parks, good last-mile connectivity, pedestrian-friendly, user-friendly designs for the elderly/persons with disabilities) and active participation by residents in early planning. This can be built on strategic lands identified by the government surrounding the nodes/along the corridor, leveraging the Sarawak Housing Contribution Trust Fund.
- Early planning of **Transit-Oriented Development (‘TOD’)** at the nodes (within 400 m), where multimodal transportation can be reached within walking distance from residential, commercial and entertainment spaces.
- **Policy levers to promote TOD** include increasing height to floor area ratio (FAR) to enable the construction of high-rise buildings.

Part of the KUTS Phase 1 Transit Map



Impact example: In the United States, California, transportation expenditures are found to be 40% lower than those of non-TOD households. On average, TOD helped save 18% ($1,232) of total annual transportation expenditures.

Outcomes

- Improved quality of life and reduced cost of living
- Increased economic activity and talent attraction
- Optimised use of land and building resources

Targets / Metrics

- Average time taken to reach key amenities (e.g. hospitals, schools, etc)
- House price-to-income ratio (annual nominal home price divided by nominal disposable income per head)

Source: Mineta Transportation Institute

BUILD Game changer: “15-Minute City”- Centralised affordable housing townships at strategic nodes (2/2)

Initiative: Centralised Townships

Use Case:

Integrated development planning and city regeneration by leveraging rail infrastructure

ZARAGOZA
Barcelona – Madrid
2003

The Zaragoza case highlights the **successful implementation of integrated development planning** by **positioning itself strategically between Barcelona and Madrid**, leveraging high-speed rail connections to drive economic growth and urban development.

Key learnings

- Integrated development planning
- Hub for new innovative & tech-based centre (“Milla Digital”)

Key Outcomes (2001 – 2011)

- 10% increase in population
- Hosted World Expo 2008

LILLE
London – Paris
1993

The regeneration of Lille between London and Paris underscores the transformative impact **of strategic urban renewal initiatives, focusing on revitalising infrastructure and boosting economic vitality** with enhanced connectivity via the Eurostar link.

Key learnings

- Strong leadership by the Mayor for the city regeneration Masterplan included reorganisation of infrastructure (1989)

Key Outcomes (1966 – 2006)

- 31% increase in population
- 10% increase in employment

Source: Cities Territories Governance, Government Outcomes Lab

FIX SS-S2: Strengthening planning, coordination and monitoring of housing development in Sarawak

Lack of comprehensive housing demand and supply data in Sarawak, as well as room to improve planning and development

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Study/review Sarawak Housing Masterplan** (holistic policy approach to address mismatch between housing supply and demand)
• **Introduce innovative/advance monitoring system** to oversee the public housing development by private developers and development of affordable housing
• **Sarawak Central Housing Market Data Repository**
  - Housing supply and demand data (conduct study for Sarawak to obtain latest housing information)
  - Consolidated list of housing assistance (for periodic review based on housing market situation)
• **Establish/Revive Sarawak Housing Committee** to discuss housing matters amongst the agencies including the industry players
• **Set up a Trust Fund** to revolve fund for the development of affordable houses and for the continuation of the house purchaser assistance
	• Improve accessibility to housing and ensure decent living conditions for households in Sarawak	• **Sarawak Social Well-being Index Score of 8 and above**
		• **Sustain the homeownership above 75%**

FIX SS-S3: Introduce a comprehensive and integrated approach to urban renewal planning and policymaking that prioritises suitability, inclusivity and resilience for all Sarawakians

Lack of comprehensive housing demand and supply data in Sarawak, as well as room to improve planning and development

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Promote public participation in urban renewal planning and policymaking:** Develop digital forums and social media channels to extend engagement opportunities, ensuring translation services and user-friendly interfaces to accommodate diverse demographics. • **Provision of facilities and amenities to support conducive living in new or existing areas** for all groups – e.g recreational park, green market, healthcare centre, community centre, mobile library, recycling centre • **Use of sustainable construction materials in urban renewal:** Prioritise sustainable construction materials focused on environmental sustainability and durability. Collaborate with experts to source low-energy, recyclable materials, and integrate green technologies like solar panels and rainwater harvesting to boost energy efficiency and resource conservation, enhancing community well-being and promoting conducive living.	• Enable deeper understanding of housing market trends in Sarawak to inform policy decisions • Allow better monitoring and tracking of outcomes of housing initiatives	• **Sarawak Social Well-being Index Score of 8 and above**

BUILD SS-S4: Facilitating home ownership or rental, particularly for households in need

Shortage of affordable housing and underdeveloped rental market

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Introduce the Rumah Spektra Mutiara (RSM) Scheme** financed by MUTIARA to build affordable housing on individual land to assist the landowner in owning a house • **Build-to-Rent-to-Own for targeted participants** - Govt to incentivise private developers to build public rental housing on Gov strategic lands through PPP – with ownership transferred to govt after completion - Rent out to targeted eligible recipients (those with good rental payment track record). Buyer identification and profiling is key • **Introduce landlord incentive programmes to promote rental market, particularly in urban areas**	• Cater to housing needs and ensure decent living conditions for households in Sarawak • Alleviate cost burden and provide stability to low-income households	**Sarawak Social Well-being Index Score of 8 and above** • **20,000 of low-income group people supported for rental assistance for 36 months**

BUILD SS-S5: Improving accessibility to healthcare facilities and services (1/2)

Lack of accessibility to healthcare services due mainly to geographical distance, particularly in remote areas

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Regional medical hubs in Kuching, Kota Samarahan, Sibu and Miri for Sarawakians and medical tourists** - Medical ecosystem that elevates Sarawak's capabilities in treating complex illnesses, with concentration of hospitals, research centres, wellness centres, and science universities in one area. The focus will be on enhancing and expanding the medical infrastructure in Kuching, Kota Samarahan, Sibu and Miri given their strategic locations. - The hubs in Kuching and Samarahan will be *highly specialised* medical hubs whereas the hubs in Sibu and Miri will be *general* specialised medical hubs. ✓ **Public2Private Referral Clinic Network** - Facilitate referrals/sharing of patients from public to private for less severe illnesses to free up public resources for more serious cases • **Deploy and train community health workers to deliver basic healthcare services** - Establish community counselling services and expand Mentari service (for mental health) - Expand psychiatric services and provide supported accommodation for the homeless	• Achieve equitable access to healthcare which can help in the prevention, promotion and curation of health services for all Sarawakians	• **Sarawak Social Well-being Index Score of 8 and above** • **Doctor to population ratio of 1:294**

✓ **Indicates key initiatives/game changer**

BUILD SS-S5: Improving accessibility to healthcare facilities and services (2/2)

Lack of accessibility to healthcare services due mainly to geographical distance, particularly in remote areas

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Malaysian Agreement 1963 (MA63) Health Agenda*** - Based on initial understanding, this initiative is to achieve health autonomy for Sarawak, covering areas such as rights to appoint doctors and approve licences for healthcare facilities in Sarawak. * Full information of this initiative is not detailed in this report due to confidentiality. Please refer to MPHLG for further information.	• Achieve equitable access to healthcare which can help in the prevention, promotion and curation of health services for all Sarawakians	• **Sarawak Social Well-being Index Score of 8 and above** • **Doctor to population ratio of 1:294**

BUILD Game changer: Regional medical hubs in Kuching, Kota Samarahan, Sibu and Miri for Sarawakians and medical tourists (1/2)

Thematic area:
Lack of accessibility to healthcare services due mainly to geographical distance, particularly in remote areas

Limited basic healthcare infrastructure and medical experts, mainly in rural areas

Context:

- *Sarawak's ageing population and increased disease threats necessitate access to more advanced medical services and facilities*
- *Opportunity to leverage Sarawak's strategic location and competitive prices to attract medical tourists from neighbouring countries*

Initiative: Regional Medical Hubs

Description: A complete medical ecosystem that elevates Sarawak's capabilities in treating complex illnesses, with concentration of hospitals, research centres, wellness centres, and science universities in one area. The focus will be on enhancing and expanding the medical infrastructure in Kuching, Kota Samarahan, Sibu and Miri given their strategic locations.

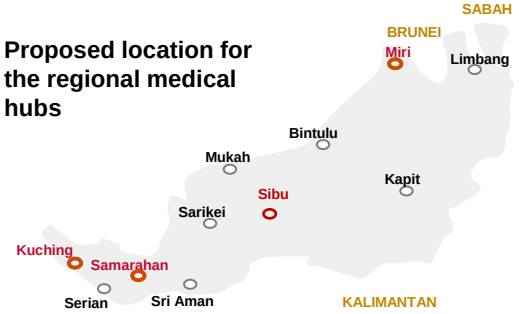
Comprehensive medical infrastructure with diverse offerings

- **Public or private hospitals** with advanced facilities and technology
- **Research centres** for communicable or non-communicable diseases
- **Wellness centres**
- **Educational excellence** in medical and health science

Monetary and non-monetary incentives for healthcare professionals

- **Attractive salary packages** and **relocation allowances** (*refer to 'SPACK' initiative*)
- Opportunities for advanced **training and specialisation**
- **Family-friendly environment** for their spouse and children (*refer to 'Family First' initiative*)

Proposed location for the regional medical hubs



Impact example:

- Mexico is one of the leading destinations for medical treatment, with 1.2 million patients from the United States in 2019, due to 40%-80% cost savings for certain medical procedures

Source: Mexico Business News

Outcomes

- Improved quality of healthcare services
- Increased creation of high-skilled jobs
- Commercialisation of medical research
- Enhanced tourism and economic activities

Targets / Metrics

- No. of healthcare professionals
- No. of international medical tourists
- Commercialisation rate of medical R&D

BUILD Game changer: Regional medical hubs in Kuching, Kota Samarahan, Sibu and Miri for Sarawakians and medical tourists (2/2)

Initiative: Centralised Townships

Use Case:

Dubai Healthcare City (DHCC) serves as a prime example of a regional medical hub with state-of-the-art infrastructure centralised in one location, attracting patients from the Middle East, Africa, and beyond

Key Features/Learnings

- **Concentrated Infrastructure**: DHCC is a healthcare free economic zone that combines hospitals, clinics and research centres within a single location. This concentration facilitates collaboration and provides comprehensive healthcare services.
- **World-Class Facilities**: DHCC hosts renowned medical institutions and specialised centres equipped with cutting-edge technology, including the Mediclinic City Hospital and Moorfields Eye Hospital Dubai.
- **Highly Skilled Workforce**: The UAE recruits top medical professionals globally, offering competitive packages and a high quality of life to attract and retain talent.
- **Regulatory Excellence**: The Dubai Healthcare City Authority (DHCA) ensures that all healthcare providers within DHCC adhere to international standards, maintaining high-quality care and patient safety.
- **Research & Innovation**: Emphasis is placed on medical research and innovation with institutions like the Mohammed Bin Rashid University of Medicine and Health Sciences driving medical advancements.
- **Government Support/Investment**: The UAE government supports the healthcare sector through substantial investments and policies that promote medical tourism and healthcare excellence.
- **Strategic Location**: Dubai's strategic geographical location and excellent air connectivity make it an accessible destination for international patients.

Key Outcomes:

- **Increased Medical Tourism and Economic Diversification:** In 2021, DHCC's economic contribution towards Dubai's GDP reached AED 2.8 billion, with total registered facilities of up to 481.
- **Enhanced Reputation:** Dubai is recognised as a leading medical destination in the Middle East, with DHCC enhancing the city's reputation for healthcare excellence.
- **Improved Healthcare Standards**: The presence of international healthcare providers and adherence to global standards led to continuous improvements in healthcare services, benefiting both local and international patients.

Source: Dubai Healthcare City Website, newsflows

BUILD Game changer: Public2Private Referral Clinic Network - Fostering partnerships for integrated healthcare access and outreach (1/4)

Thematic area:
Lack of accessibility to healthcare services due mainly to geographical distance, particularly in remote areas

Context:

Key challenges in the healthcare system include:

- *Lack of accessibility to medical services, as well as limited basic health infrastructure and medical experts, particularly in rural areas*
- *Resource constraints in public hospitals (e.g. doctors, equipment) to meet high demand*

Initiative: Public2Private Referral Clinic Network

Description: This initiative is a programme to refer patients with less severe illnesses (e.g. cough, flu) from public to private clinics, akin to the MADANI Medical Scheme (currently in pilot phase in Kuching). This can be enhanced and complemented at the State level to serve both the urban and rural populations in Sarawak.

Key features for enhancement in Sarawak:

Facilitate the setup of more private clinics | **Referral of patients with direct assistance** | **Digitalisation and telehealth** | **Mobile healthcare services**

1) **Facilitate the setup of more private clinics, particularly in rural areas of Sarawak**
   - *Streamline administrative procedure*s (e.g. approval of license to operate private healthcare facilities) and *provide initial set-up support* (e.g. relocation allowance or loan assistance), focusing on urban and rural areas with a shortage of general practitioners (GPs)
2) **Referral of patients with direct assistance**:
   - *Systematic channelling of patients with less severe illnesses to private clinics* to free up resources in public clinics for more critical cases. The increased volume of patients referred will encourage private clinics to operate in urban and rural areas, while delivering quality services.
   - *Expand coverage of the Kenyalang Gold Card to other vulnerable groups*, such as B40 households, special needs community and children (Current: RM500 financial aid for senior citizens only). This expansion would incentivise patients to seek treatment at private clinics.

Outcomes

- Increased access and quality of medical services
- Enhanced efficiency of healthcare service delivery
- Improved social well-being
- Reduced burden on public health systems

Targets / Metrics

- Percentage of population covered by health facilities
- No. of patients referred from public to private clinics

BUILD Game changer: Public2Private Referral Clinic Network - Fostering partnerships for integrated healthcare access and outreach (2/4)

Initiative: Public2Private Referral Clinic Network (continued)

3) Digitalisation and Telehealth

- *Expansion of digitalisation of basic patient records to kickstart telehealth services in urban and rural areas, with provision of internet coverage to cover in pocket of rural areas without internet access.*

4) Mobile Healthcare Services

- *Widen mobile health services coverage for remote and underserved communities, including by leveraging the clinic network. This will help reduce operational costs and improve service accessibility in rural Sarawak.*

By implementing these components systematically, focusing on both demand (through financial aid) and supply (through regulatory support and digitalisation) measures, this can create a sustainable healthcare ecosystem that can effectively serve both urban and rural populations in Sarawak.

Impact example:

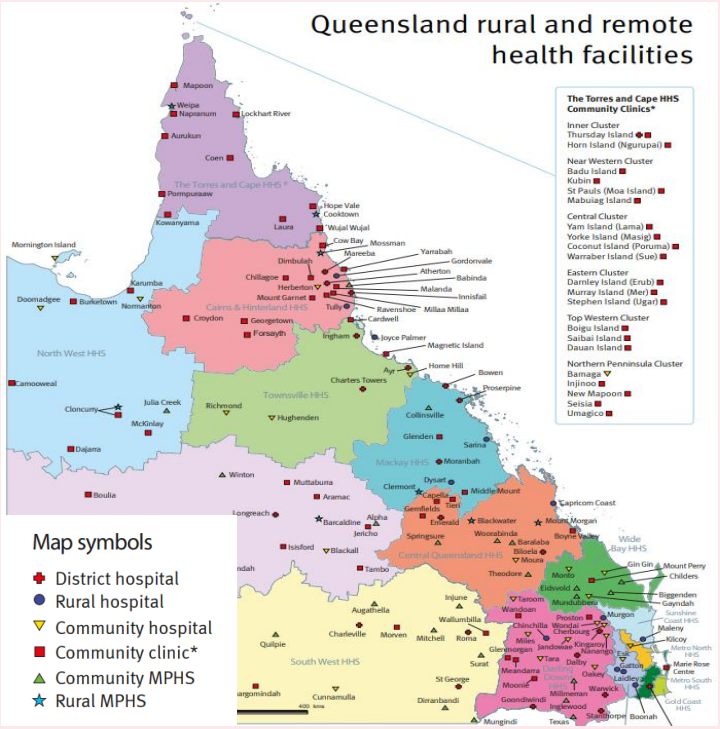
- In Sydney, Australia, outreach clinics saved patients a median of $285 per trip and avoided government reimbursements of $215 per trip.
- Based on a study at Moffitt Cancer Centre in Florida, USA, telehealth saved an estimated total cost ranging from $147.40 to $186.10 per visit for consultations.

Source: Estimated Indirect Cost Savings of Using Telehealth Among Non-elderly Patients with Cancer, Patel et.al, JAMA Network; Travel-associated cost savings to patients and the health system through provision of specialist head and neck surgery outreach clinics in rural New South Wales, Australia, Venchiarutti et. Al., Australian Journal of Rural Health

BUILD Game changer: Public2Private Referral Clinic Network - Fostering partnerships for integrated healthcare access and outreach (3/4)

Case Study:

Queensland Health operates a network of rural and remote clinics aimed at providing essential healthcare services to communities outside major urban centres.



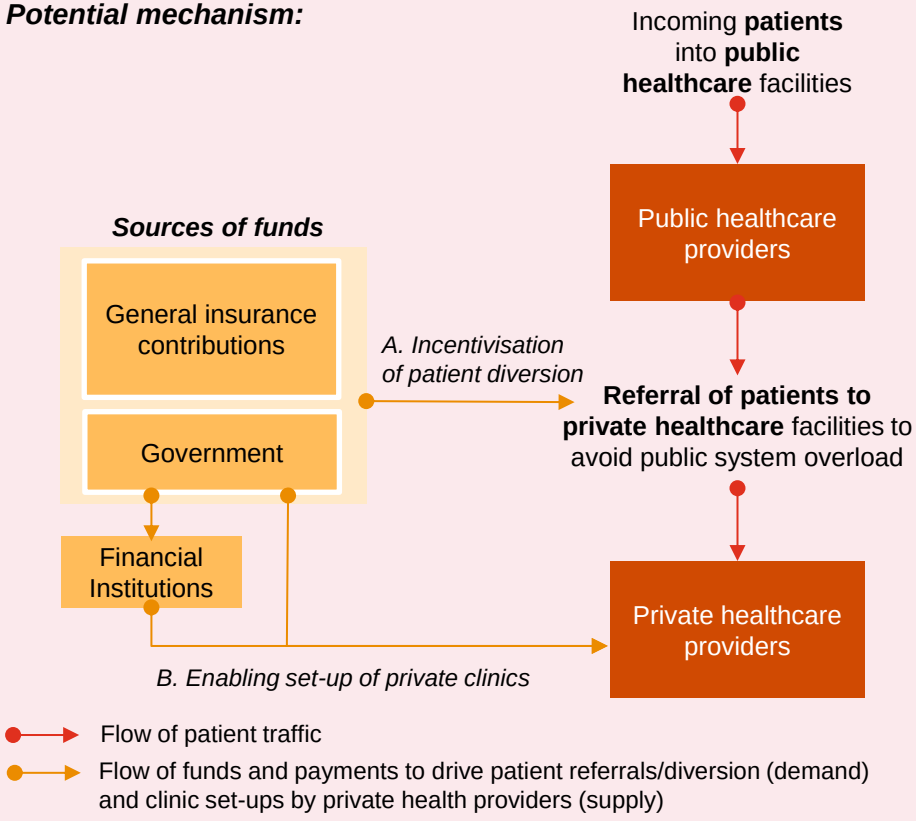
Key Features/Learnings

1. **Mix of district, rural and community hospitals**: Supported by visiting medical officers and remote area nurses. Remote nurses work on their own or in small teams to provide primary health, emergency care and aged care services, including outreach/mobile services.
2. **Telehealth**:
   - To overcome geographical barriers, Queensland Health utilises telehealth services extensively. This allows patients to have virtual consultations with specialists and receive timely medical advice without travelling long distances.
   - The Royal Flying Doctor Service (aeromedical) also provides a 24-hour medical consultation service in remote Queensland via telephone and radio transmission. Medicare rebates are provided for telehealth consultations.
3. **Community Health Programmes**: These clinics often run community health programmes focusing on chronic disease management, maternal and child health, and Indigenous health services.
4. **Workforce Support**: Queensland Health implements various strategies to recruit and retain healthcare professionals in rural areas, such as offering incentives, training opportunities, and support networks.

Source: Health Direct

BUILD Game changer: Public2Private Referral Clinic Network - Fostering partnerships for integrated healthcare access and outreach (4/4)

Potential mechanism:



A. Incentivisation of patient diversion (demand)

Sources of funds (Case study: NHS in the UK)

- Government funding: Spending allocation from State revenue (e.g. taxes)
- General insurance contributions (i.e. contribution by employer/employee akin to the Employment Insurance Scheme in Malaysia (EIS))

Potential payment mechanism

- Expansion of the Kenyalang Gold Card targeting senior citizens to the vulnerable communities, including women and people with disabilities (PwDs)
- Application-based with verification via Service Sarawak (i.e. Sarawak's one stop government service centre)
- Currently piloted in Kuching and Peninsular Malaysia and can be expanded in phases to other districts in Sarawak

B. Enabling set-up of private clinics (supply)

Sources of funds and potential payment mechanisms

- *Direct government grant/subsidies to healthcare providers via an established healthcare fund* (Case study: Australia's Health and Hospitals Fund, where grants were allocated to healthcare infrastructure projects, including the establishment of new clinics and the refurbishment of existing ones)
- *Government subsidised loans through Financial Institutions (FIs)* by offering favourable rates and longer repayment terms (Case study: US's Small Business Administration (SBA) Loans, where SBA partners with financial institutions to guarantee a portion of the loan, which reduces risk for lenders and enables them to offer lower interest rates and longer repayment terms)

Source: National Healthcare Service (NHS); Health and Hospitals Fund (HHF); Small Business Administration (SBA)

BUILD SS-S6: Raising awareness and education on health and lifestyles

Increased disease threats (including communicable diseases) and poor hygiene/maintenance of public amenities (i.e. public toilet, food premises) due partly to irresponsible community behaviours

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Sarawak Health Campaign Series (health-related programmes) and oversight to improve awareness** *Health Campaign Series* - Intensify awareness and training on communicable disease control - Conduct diabetes awareness and education campaigns - Promote healthy lifestyles, including nutrition, healthy eating and meal preparation - Educate the community on cervical and oral cancer symptoms and screening pathways - Massive campaigns for mental health awareness, such as WMH`D and Alzheimer Day - Increase awareness on diseases and early detection of disease - Environmental health promotion within the purview of local authorities, focusing on areas such as the sanitation and hygiene of public toilets and markets, as well as raising awareness on dengue prevention *Promotion Oversight* - Set up Sarawak Health Promotion Board • **Upgrade Village Health Promoters Programme for rural outreach**	• Promote healthy lifestyles and empower individuals to manage their health conditions • Minimise spread of diseases with greater prevention education	• **Sarawak Social Well-being Index Score of 8 and above**

BUILD SS-S7: Formalising strategic partnerships and alliances in the healthcare sector

Limited basic healthcare infrastructure and medical experts, mainly in rural areas and opportunity to leverage on healthcare R&D for the prevention and treatment of diseases

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Co-funding of healthcare initiatives with large private sector entities** (part of SDG commitments for firms)
  - Example of services include mobile clinics and telemedicine
• **Promote pharmaceutical manufacturing production in Sarawak**
  - Attracting MNCs for JVs to produce pharmaceutical products locally (Offer tax breaks, subsidies and financial incentives)
  - Bio-Industrial Park (production of vaccines, medicines) - leverage existing infrastructure of the park to accommodate pharmaceutical production, establish research and innovation centres within the park (also contributes to talent attraction)
  - Local workforce development - implement training programmes and upskilling opportunities for existing workers to transition into pharmaceutical manufacturing roles for continuous supply of labour
  - Market expansion and cost reduction - reduce import dependency, lower treatment costs and increased accessibility to medicine
	• Scale and scope healthcare initiatives through the pooling of financial and human resources, reducing burden on any single entity	• **Sarawak Social Well-being Index Score of 8 and above**
		• **Doctor to population ratio of 1:294**

BUILD SS-S8: Advancing infrastructure and innovation related to health (1/2)

Limited basic healthcare infrastructure and medical experts, mainly in rural areas and opportunity to leverage on healthcare R&D for the prevention and treatment of diseases

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Increase bed capacity for existing hospitals and develop facilities to improve patient comfort and satisfaction** (e.g. private patient rooms, family areas, and customisable environments)	• Improve quality and efficiency of health-related services and facilities • Ensure continuous upgrades to medical knowledge for proactive response to emerging health threats • Safeguard social well-being of the public	• **Sarawak Social Well-being Index Score of 8 and above** • **Doctor to population ratio of 1:294**

BUILD SS-S8: Advancing infrastructure and innovation related to health (2/2)

Limited basic healthcare infrastructure and medical experts, mainly in rural areas and opportunity to leverage on healthcare R&D for the prevention and treatment of diseases

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Leverage healthcare research by Sarawak Infectious Disease Centre (SIDC) and technology to support** environmental health and public health service delivery *Data collection, management and analysis* - Improve data collection for research on infectious diseases and non-communicable diseases - Consolidate and mine data to identify disease burdens and key pressing diseases *Technology* - Develop sensitive and highly portable Point-of-Care Testing (POCT) diagnostic tools - Adopt and integrate CCMS and other health IT solutions to streamline patient care and data management - Train AI models and establish a real-time disease surveillance network - Support research and innovation in digital health technologies • **Upgrade existing toilets to BMW and Smart Toilet concepts**	• Improve quality and efficiency of health-related services and facilities • Ensure continuous upgrades to medical knowledge for proactive response to emerging health threats • Safeguard social well-being of the public	• **Sarawak Social Well-being Index Score of 8 and above** • **Doctor to population ratio of 1:294**

BUILD SS-S9: Enhancing income generation opportunities through targeted support

Short-term focus of social welfare programmes (mainly direct financial assistance)

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Introduce conditional cash transfers for B40 for income generation activities** - Purchase of equipments and skills development for income generation purposes - Transport costs and schooling materials costs (ability to attend school) • **Leveraging Federal initiatives for skills and income enhancement** - Skills and Career Training Programme (PLKK) - Income Enhancement Programme (PPP) ✓ **Harnessing potential of young people with urban exposure for rural revitalisation** - Target group: Urban-savvy youth segment (e.g. graduates who migrated from rural hometowns, family-owned rural businesses, young tech-based entrepreneurs) - Target sectors: - Sectors that leverage unique rural resources, such as agriculture, ecotourism and renewable energy - Sectors that are technology-enabled such as AgTech, food processing, telehealth and e-education for rural communities - 4 key steps: Targeting, Catalysing, Imaging, Piloting & scaling	• Alleviate short-term financial burdens of households, while enabling self-sufficiency in the long-run • Enhanced living standards of rural communities, including the youths • Greater rural economic growth and development • Higher youth participation in rural areas • Increased social cohesion	• **Decrease share of B40 households at national thresholds to 20% or lower by 2030** • **Reduce incidence of absolute poverty to 3% by 2030**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Harnessing potential of young people with urban exposure for rural revitalisation (1/3)

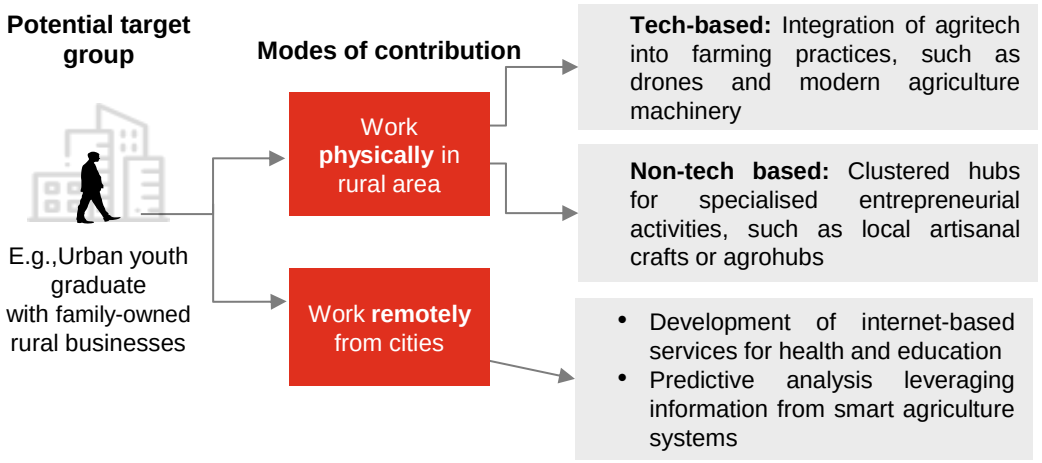
Thematic area:
Relatively high urban and rural absolute poverty rates

Context:

- *As preferences shift towards flexibility and engaging job roles, the rural economy emerges as a compelling alternative for urban youth to embark on exciting career ventures.*
- *By embracing this pathway, they can serve a broader purpose in society as a driver of change by revitalising rural areas and championing sustainable development goals.*
- *Concurrently, rural youth can benefit from the gradual exposure to new practical knowledge and skills, thereby empowering them to drive rural growth*

Initiative: Harnessing potential of youth with urban exposure for rural revitalisation

Description: This initiative aims to attract targeted youths with urban exposure to contribute to the rural economy. This can be achieved through value creation in targeted rural economic sectors (e.g. agriculture, tourism, renewable energy). The diverse options and advancement of business models (direct-to-consumer, mobile services, etc) can enable these activities. To maximise these opportunities, young people with urban experience can actively engage in rural areas through various modes, whether physically or remotely.



Source: "City savvy, country strong: Urban youth to power rural revival?" (click link here to read further)

Impact example:
This initiative can contribute towards reducing youth unemployment rates in Sarawak (12.8%) to a proposed target of 6% by 2030.

Outcomes

- Greater rural economic growth and development
- Improved incomes and livelihood
- Higher youth participation in rural areas
- Increased social cohesion

Targets / Metrics

- No. of businesses started by youth in rural areas
- No. of urban-rural youth partnerships formed

BUILD Game changer: Harnessing potential of young people with urban exposure for rural revitalisation (2/3)

Case Study: ***Leveraging natural endowment for celestial ecotourism (UK) and rural electrification using renewable energy (India)***

Hadrian's Wall, United Kingdom

Natural endowment: Dark skies due to very low levels of light pollution in rural locations, which allow for stargazing

Key activities/features

- The Northumberland National Park Authority has opened **enhanced visitor facilities** at Walltown Country Park, including **seating, washrooms, and a refreshments kiosk, to improve the Dark Sky experience**
- The upgrades are part of the Hadrian's Wall Observatory initiative, in which 80% of the total £108,000 investment was funded by the European Agricultural Funds for Rural Development

Impact

- ~33,000 visitors expected to come to Walltown over the next three years
- ~£25 mil revenue generated from dark skies tourism to Northumberland

Rural areas in India

Natural endowment: Abundant solar potential, ideal for decentralised renewable energy solutions in rural areas

Key activities/features

- Gram Power, founded by two University of California, Berkeley graduates, provides **affordable, sustainable electricity to rural India through a smart micro-grid system** that combines renewable energy generation with advanced grid communication
- The system is modular, **uses prepaid meters** and integrates multiple energy sources, allowing for reliable, on-demand power access at costs lower than kerosene
- This model includes **theft detection, flexible payment options and a stable power supply,** addressing key rural electrification challenges and **enhancing energy efficiency and accessibility for local communities**
- In May 2012, Gram Power set up the first smart-micro grid in rural Rajasthan where the reception of the project was very promising.

Contribution and impact of youth with urban exposure on rural livelihoods

Cao Youzhong

Worked in big cities after college graduation, before returning to his hometown in Shandong Province.

Contribution

- Manages 3.3 hectares of pears, six vegetable greenhouses and 11 grape greenhouses.
- Built his own **brand** of garden produce and established an **e-commerce business** in Gengdian Village.

Impact

- Expected net income of 420,000 yuan by end-2022 (~USD57,998) for Cao, which is ~4 times higher than his earnings in the city (~USD13,256) and ~140 times the earnings of local farmers two decades ago (~USD414).
- Set up an intelligent plant, a fruit and vegetable cooperative, a packaging and processing plant and a wholesale market.

Source: ChronicleLive, Visit Northumberland official website, National Geographic, United Nations Development Programme, Ministry of New and Renewable Energy, Government of India, Xinhua

BUILD Game changer: Harnessing potential of young people with urban exposure for rural revitalisation (3/3)

Source: "City savvy, country strong: Urban youth to power rural revival?" (click link here to read further)

FIX SS-S10: Strengthening implementation of social welfare programmes

Room to improve implementation efficiency of social welfare programmes (i.e. data, coordination/monitoring and recipient selection)

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Enhance targeted and systematic identification of beneficiaries through technology and partnerships**
  - Expand existing systems (e.g. PADU) to manage and monitor poverty and welfare programmes
  - Collaborate with NGOs to obtain information from the ground
• **Improve grant application, disbursement and monitoring for social enterprises**
  - Management of grant application with clear criteria and differentiated tracks for new/existing applicants
  - Clear milestones and grant utilisation records for tracking of grant effectiveness
• **Establish a formal forum/framework for partnerships and regular discussions** with social enterprises and private sector (including clear roles, responsibilities, risks and benefits for public and private sector partners)
	Improve targeting of assistance programmes and minimise leakages
	• Enhance service delivery efficiency and maximise potential of shared expertise and resources
		• **Decrease share of B40 households at national thresholds to 20% or lower by 2030**
		• **Reduce incidence of absolute poverty to 3% by 2030**

BUILD SS-S11: Improving access to essential services

Relatively high urban and rural absolute poverty rates

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Expansion of food and clothing banks across divisions for the hardcore poor in Sarawak** - Collaboration with NGOs/social enterprises/community centres for outreach - Engage Zakat organisations contribute funding for purchase of essential items *Note: Vulnerable communities will benefit from initiatives related to housing, education, healthcare and jobs covered under the respective priority areas.*	• **Improved living standards and quality of life of households**	• **Decrease share of B40 households at national thresholds to 20% or lower by 2030** • **Reduce incidence of absolute poverty to 3% by 2030**

BUILD SS-S12: Creating a conducive environment for family establishments

Lack of knowledge and access to information related to family support services contributed by uncoordinated outreach and support for targeted families, as well as rising teenage pregnancies

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Introduce a Sarawak "Family First" Initiative** - Parental education programmes, child protection programmes, mental health support for family members, access to conducive living (refer to *Liveability & Housing: 15-Minutes Centralised Township initiative*) - Collaboration with NGOs and social enterprises for targeted programmes of the above - Conduct a study to inform government policies on financial assistance for early childhood development (Integrated Cash Plus Programme for Pregnant Women and Children under the Age of Two in Sarawak	• Encourage people to build their families in Sarawak within a supportive surrounding environment • Attract key talents to support Sarawak's development	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Family First – a place called home for families (1/2)

Thematic area:
Lack of access to information related to family support services contributed by uncoordinated outreach and support for targeted families

Context:

- *Sarawak is an appealing location to build and raise a family due to its cultural diversity and supportive community, which nurtures family life and helps attract and retain talent*
- *However, there is currently a lack of knowledge and access to information related to family support services, especially among young couples*
- *Social support services for early childhood development can also be improved, particularly for low-income families.*

Initiative: Family First

Description: This initiative focuses on providing support to parents and children, as well as developing family-oriented infrastructure, including parks and recreational facilities.

Key components of this initiative:

Parental education programme
Equip parents with essential parenting skills and knowledge (e.g. nutrition and healthy lifestyles, dealing with special children)

Mental health support for families
Establish community hubs for well-being (similar to Rural Transformation Centre model) that provides counselling/therapy services

Close collaboration with NGOs and social enterprises
Conduct and tailor programmes to the diverse needs of families, thereby ensuring the initiative's success

Child protection programme
Safeguard children from various form of harm including from child abuse, social media exposure and child marriage

Access to conducive living
Safe social infrastructure and easy access to essential services like education and healthcare, along with elderly and child-friendly facilities

Conduct studies to inform government policies
Develop a proof-of-concept/multisectoral programme to generate evidence and inform policies (e.g. child nutrition)

Impact example: Family-friendly policies have the potential to significantly enhance women's participation in the labour force. This is exemplified by Denmark, where such policies have contributed to a female employment rate of 78.1% in 2023.

Outcomes

- Improved social and family well-being
- More cohesive and harmonious society
- Attraction of international talent to support Sarawak's development

Targets / Metrics

- Scores on Sarawak Social Well-being Index (SSWI)
- Uptake of mental health services
- No. of families residing in Sarawak

Source: OECD Data Explorer (2023), Study on Poverty Alleviation in Sarawak (Interim Report 2)

BUILD Game changer: Family First – a place called home for families (2/2)

Case Studies:

Support families by providing comprehensive parental education, mental health services and access to safe social infrastructure

Objective: To enhance the well-being of families and promote gender equality

Key learnings

- **Mental health support**: Developed a national strategy to improve access to mental health services, which includes initiatives targeted at families and children
- **Parenting support programme**: Provide resources and support for parents, focusing on nutrition, child development, and parenting skills
- **Child-Friendly Urban Planning**: Cities across Canada emphasise the development of safe neighbourhoods with parks, playgrounds, and community centres that encourage family interaction and outdoor activities

Key Outcomes

- Enhanced mental well-being
- Improved community ties and social cohesion

Renowned for its family-friendly policies to promote gender equality and support families

Objective: To create an equitable, supportive environment for families that promotes gender equality and facilitates work-life balance

Key learnings

- **Parental leave**: Parents can share 480 days of paid leave per child, which can be taken until the child turns 8, providing families with flexibility to use it as needed
- **Childcare services**: Subsidised high-quality healthcare services to enable parents to return to work
- **Gender Equality**: Specific months of parental leave are reserved for fathers, promoting gender equality in caregiving roles and encouraging fathers to take leave

Key Outcomes

- Increased female employment rates
- Enhanced gender equality
- Improved access to quality healthcare

Source: Sweden's Family Policy under Change: Past, Present, Future; Mental Health Commission of Canada; Canadian Public Health Association; Child-friendly Urban Design

BUILD SS-S13: Enabling workforce participation and equal access to economic and leadership opportunities for women

Low female economic and workforce participation due to a lack of support system (e.g. childcare support, access to formal jobs and digital skills gap), significant gender disparity in women's leadership empowerment

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Sarawak Women@Work Initiative** • Provide **affordable childcare options** • Introduce **formal guidelines for flexible work arrangements** • Organise **Return to Work programmes** • Establish the **Sarawak Women Leadership Institute** • Introduce **policies that address gender discrimination** and promote equal opportunities for women in the workforce, including a targeted quota-based leadership policy for women • Provide **financial compensation for women in informal care** services (e.g., babysitting)	• Unlock the potential of female as a key driver for socio-economic development • Alleviate the family burdens for working mums • Promote gender diversity and enhance perspectives for decision-making process at the management level	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above** • **Achieve equal gender distribution in the workforce**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Women@Work – encouraging women to participate in the workforce

Thematic area:
Low female economic and workforce participation due to lack of support system (e.g. childcare support, access to formal jobs and digital skills gap), significant gender disparity in women leadership empowerment

Context:

- *A significant number of women engaged in the informal sector where they do not earn an income*
- *Women who works, especially those with children, face challenges to balance work and family needs*

Initiative: Women@Work

Description: Women@Work is an initiative to empower women in the workforce by providing essential support systems that facilitate a balance between professional and family responsibilities.

Key components of this initiative:

Provide affordable childcare options (i) Well-being space (e.g. stress-free zone facilities and day care centre at every government complex) (ii) Affordable care centres	**Introduce formal guidelines for flexible work arrangements** (i.e. flexible work hours, time-off to care for sick children/elderly) for working mothers in the public and private sector	**Organise Return to Work programmes** to offer support services and skill development such as career council and job placement assistance to support woman who wants to re-enter the labour force
Establish Sarawak Women Leadership Institute to train and empower women in Sarawak to take on leadership roles	**Introduce policies that address gender discrimination** and promote equal opportunities for women in the workforce, including targeted quota-based leadership policy for women	**Provide financial compensation** for women in informal care services (e.g. baby-sitting)

Outcomes

- Enhanced participation of women in the workforce
- Increased economic growth
- Reduced gender pay gap
- Equal percentage of gender participation in the workforce

Targets / Metrics

- Percentage of female participating the labour force

BUILD SS-S14: Enhancing access, equity and quality early childhood care, education and special needs early intervention

Lack of support services for early childhood development, particularly for low-income families (e.g. early intervention facilities)

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Implement Integrated ECCE Initiative that address health, education and social development (including for special needs children)** - Provide affordable, quality early childhood education institutions - Implement upskilling programmes for early childhood educators/ caregivers/ professionals/ interventionists/ early intervention assistants - Introduce child-friendly city policy (ongoing)	• Foster inclusivity and provide equal opportunities for children, especially those with special needs to enable foundational development	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

BUILD SS-S15: Enhancing social protection and support systems for the elderly community

Lack of social protection for retirement age

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Direct elderly assistance and outreach initiatives** - Expansion of the Kenyalang Gold Card to cover care expenses at registered centres - Financial assistance for those with no formal income for health and care - Establishment of interfaith councils and promote inter-faith education - Provide incentives for Community-Based Organisations (CBOs) through grants - Promote inter-generational communication - Upgrade infrastructure in remote areas to be more elderly-friendly - Provide Senior Citizen Health Benefit (SCHB) to improve the well-being and care of the elderly • **Promote private pension schemes in preparation for retirement** - Government to provide one-off matching contribution at initial stage (capped at a targeted amount) to incentivise individual participation - Collaborate with private banks and insurers to market these programmes to employees in public and private sector • **Set up a committee/taskforce (KPWK to lead/coordinate) to oversee policies related to aging population** including care homes regulation, establish framework for equal opportunities, and development of independent living policies and guidelines by related government agencies	• Build a resilient and cohesive communities among the elderly • Ensure the well-being of retirees and reduce dependencies on younger generation • Reduce fiscal burden for the Government • Support equitable access and effective service delivery for the elderly	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

BUILD SS-S16: Creating economic opportunities that harness the potential of healthy and productive PWDs (Special Needs)

Room to elevate economic participation and income generating opportunities for PWDs

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Introduce/revisit frameworks and legislations** to support and enable participation of Persons with Disabilities (PWDs), including in the workforce • **Enhancing capabilities of care providers for the PWDs** - Provide funds for relevant agencies to conduct training for teachers, counsellors, religious bodies, and community members on social support like parenting skills and stress management - Establish Training of Trainer (TOT) Module on early detection and intervention	• Increase economic participation and self-dependency of the community • Improve livelihoods and self-confidence of the PWDs	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

BUILD SS-S17: Leveraging partnerships to drive community development, outreach and support (1/2)

Limited awareness and public involvement in the prevention and management of disadvantaged, vulnerable, risky and marginalised (DVM) communities

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Organise community workshops, seminars, school programmes, and public campaigns**
  • Organise regular workshops, town hall meetings, and forums to discuss local issues and educate community members
  • Promote healthy lifestyles, including healthy hobbies and parenting skills education
  • Promote early screening, detection, counselling services, yearly health screening, and medical check-ups at intervention facilities
  • Conduct infographic blasts and talks through social media and physical events every month
  • Implement community-based programmes to engage and support people with disabilities, including programmes related to education, vocational, and social services
	• Foster an informed and cohesive society for overall well-being
	• Generate community-based solutions that support the needs of the people
		• **Social Well-being Index score of 8 and above**
		• **Malaysian Family Well-being Index score of 8 and above**

BUILD SS-S17: Leveraging partnerships to drive community development, outreach and support (2/2)

Limited awareness and public involvement in the prevention and management of disadvantaged, vulnerable, risky and marginalised (DVM) communities

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Creating Community of Practice (CoP)** that consists of state, federal agencies and NGOs as trainers that targeting main social issues in supporting the government initiatives. CoP consists of relevant strategic partners in addressing and managing social issues in Sarawak • **Empowering NGOs through training and upskilling to pick up social issues in Sarawak** - Partnerships, knowledge sharing events, advocacy of prevailing social issues - Bi-monthly sharing with relevant ministries • **Community based development, social support and intervention referral facilities for group affected by social issues** - To reduce drug and dependence and health-related consequences through integrated network of intervention in the community by providing evidence-based prevention, treatment and recovery support services - A centre that provides awareness, advocacy, treatment, rehabilitation and referral of VRAs individuals, families and communities. - Provide transit facilities for homeless, health screening services and referral services to relevant agencies	• Foster an informed and cohesive society for overall well-being • Generate community-based solutions that support the needs of the people	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

BUILD SS-S18: Strengthening healthcare and social services infrastructure

Limited dedicated infrastructure and social services for the elderly and Persons With Disabilities (PWDs) and other relevant segments

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establishment or expansion of targeted support services and centres for vulnerable communities including elderly, PwDs and other relevant segments**	• Foster inclusivity and provide equal opportunities for children, especially those with special needs to enable foundational development	• **Social Well-being Index score of 8 and above** • **Malaysian Family Well-being Index score of 8 and above**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Establishment / expansion of targeted social support services and centres for vulnerable communities

Thematic area:
Limited dedicated infrastructure and social services for the elderly and Persons With Disabilities (PWDs) and other relevant segments

Context:

- *Inaccessible infrastructure poses a significant barrier for elderly and vulnerable populations attempting to access essential services. For example, health clinics situated on slopes can be difficult or impossible for elderly to reach.*
- *Strategic improvements to infrastructure and support services are essential to meet the unique needs of these groups.*

Initiative: Establishment/expansion of targeted social support services and centres

Description: This initiative focuses on providing and expanding targeted social support services and centres that facilitate elderly and vulnerable communities

Key components:

Geriatrik Komuniti (GeKo)	**Pusat Aktiviti Warga Emas (PAWE)**	**Halfway Home Programme**	**Community Well-being Centre**
Volunteerism for the Vulnerable			

- Expand **Geriatrik Komuniti (GeKo) service** throughout Sarawak
- Establish **Pusat Aktiviti Warga Emas (PAWE)** - one under each Panel Penasihat Klinik Kesihatan - Upgrade of social service centres and intervention centres, including (i) accessible facilities tailored to elderly functional needs (i.e. distance, amenities), (ii) appoint liaison healthcare professionals in primary, (iii) organise elderly care training for providers (e.g. Skill Kemahiran Malaysia (SKM) for caregivers, training grants for training providers)
- **Halfway Home Programme** for ex-convicts to focus on recovery, transition and reintegration into the community
- Promote **volunteerism** in caring for elderly and other vulnerable community
- **Establishment of Community Well-being Centre** that addresses various aspects of physical, mental, emotion and social. (i) physical well-being therapy, (ii) mental support (e.g. managing stress and anger issues) (iii) intergenerational support such as recreational space, activities, guidance for parenting skills (iv) financial literacy and environmental well-being

Outcomes

- Comprehensive coverage and access of vulnerable communities to essential services
- Purposeful use of social infrastructure development for communities

Targets / metrics

- Number of social support centres and services available

Education & Human Capital

Strategy	Initiative	Outcome
Youth		
EHC-S1: Introducing a dedicated and holistic youth policy in Sarawak	• **Research and formulate State Policy on youth development**	• Targeted and comprehensive approach towards resolving key challenges faced, as well as maximising potential of youth in Sarawak • Enhanced professionalism and entrepreneurial mindset of young Sarawakians as a key asset in economic development • Improved youth livelihoods and standard of living • Active youth participation in political and policy discourse with a voice in Sarawak's development • Integration of fresh perspectives in policymaking that meet the needs of younger generations • Promote interaction among youths to bring out the best of one another and provide avenue for government to engage youth community

Education & Human Capital

Strategy	Initiative	Outcome
Sports		
EHC-S2: Promoting accessibility to sports offerings and infrastructure for the general public	1) Organise major local and international sport events, tournaments and championships that are open to the public/athletes such as: • International marathons • SUKMA • SEA Games • Borneo Games • International Level Tournament 2) Develop community interest in sports through mass sports activities, community-oriented programmes and inclusive events that encourage sports participation across all demographic 3) Strong engagement or collaboration with stakeholders such as local communities, private sectors, NGOs and government agencies 4) Enhancement of sports programmes in education institution	• Foster social inclusion and healthy living for all Sarawakians • Multipurpose use of sports infrastructure for diverse events that maximise utilisation and returns on investment • Promote Sarawak as a healthy and fit State to both local and international people • Robust and consistent pipeline of skilled and high-performing athletes who can compete at the national and global level, reflecting sporting excellence of Sarawak • Sarawak as Nation Sports Powerhouse

NEW EHC-S1: Introducing a dedicated and holistic youth policy in Sarawak

Need for a clear policy direction to address youth-related matters including unemployment, social participation and leadership, and shaping mindsets/behaviours

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Research and formulate State Policy on youth development** - Covering economy, political and social aspects - Other considerations to include geography (e.g. locations, urban/rural) and target youth groups	• Allow targeted and comprehensive approach towards resolving key challenges faced, as well as maximising potential of youth in Sarawak	• **Sarawak Social Well-being Index score of 8 and above**

BUILD EHC-S2: Promoting accessibility to sports offerings and infrastructure for the general public

Underutilisation of sports infrastructure in Sarawak and less focus on promoting sports participation or active living for the general public (mass sports)

Key Initiatives	Key Outcomes	PCDS 2030 Targets
1) **Organise major local and international sport events, tournaments and championships that are open to the public/athletes** - International Marathons - SUKMA - SEA Games - Borneo International Games - International Velodrome 2) **Develop community-oriented programmes and inclusive events that encourage sports participation across all demographics** - Outdoor recreational sports such as Spartan Race and Deka Fit	• Foster social inclusion and healthy living for all Sarawakians • Enable multipurpose use of sports infrastructure for diverse events that maximise utilisation and returns on investment • Promote Sarawak as a healthy and fit State to both local and international people	• **Sarawak Social Well-being Index score of 8 and above**

Digital Transformation

Strategy	Initiative	Outcome
DT-S8: Provide high-speed, reliable and affordable internet connectivity to improve regional and global connectivity	• Deliver 4G and 5G LTE network access across Sarawak	• Full coverage settlement with access to Internet connectivity • Reduce digital divide between rural and urban Sarawak
DT-S9: Facilitate adoption of digital technologies among Sarawakian communities	• Establish a digital skills development fund and expand community development programme through Digital Community Centres (DCC) and Pusat Sebaran Maklumat Nasional (NADI) • Provide training and awareness on digital skills to rural community leveraging the e-learning system PANDei	• Improved digital literacy and digital adoption among rural and urban poor communities.

FIX DT-S8: Provide high-speed, reliable and affordable internet connectivity to improve regional and global connectivity

Internet access and digital literacy in rural areas remains limited

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Deliver 4G and 5G LTE network access across Sarawak** through digital infrastructure projects such as SMART, JENDELA, MySBRN. In alignment with PCDS 2030 and SDE 2030, efforts are being intensified to achieve full internet coverage in Sarawak. The Sarawak Government, through SDEC, and the Federal Government, through MCMC, are actively accelerating the implementation of new telecommunication towers to meet this target.	• Full coverage settlement with access to Internet connectivity (As of May 2025, internet coverage by settlement in Sarawak stands at 90.2%. The completion of SMART600 and JENDELA towers Phase 1 between late 2025 and 2026 is expected to increase this coverage to 93.6%) • Reduce digital divide between rural and urban Sarawak	**PCDS 2030 Targets:** • Full coverage settlement with access to Internet connectivity **SDEB Targets:** • Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

FIX DT-S9: Facilitate adoption of digital technologies among Sarawakian communities

Internet access and digital literacy in rural areas remains limited

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Establish a Digital Skills Development Fund** and expand community development programs through Digital Community Centres (DCC) and Pusat Sebaran Maklumat Nasional (NADI) to ensure collective internet access and digital entrepreneurship support for underserved, rural, and urban poor areas.
  • Digital Community Centres (DCC): 44 centres, with 143,998 users as of May 2025
  • National Information Dissemination Centres (NADI): 156 centres, with 226,040 users as of May 2025
• **Provide training and awareness on digital skills to rural community leveraging the e-learning system: PANDei:** The People Accessible Network for Digital Empowerment and Inclusivity provides a variety of digital literacy courses for digital upskilling.
	• Improved digital literacy and digital adoption among rural and urban poor communities.	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs
		• Achieve 50% growth in investment and partnerships
		• Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

Transport & Logistics

Strategy	Initiative	Outcome
Land Transport		
TL-S10: Establish a centralised transport data management system to improve public transport planning	✓ **Create a centralised platform to collect, analyse, and disseminate public and private transport data for improved transportation planning and development of transportation infrastructure** • Establish data sharing frameworks between government agencies and private transport operators to facilitate the sharing of passenger movement data	• Optimised transport services with better schedules, routes, and capacity that align with actual demand • Evidence-based decisions regarding infrastructure investments, regulatory changes, and transport policies • Enhanced public-private collaborations that leads to better transportation solutions, shared best practices, and a more integrated transport network that benefits all stakeholders
TL-S11: Enhance public transport infrastructure and services; implement improved traffic management and road safety initiatives with integrated infrastructure and connectivity advancement	✓ **Improve public transportation in Sarawak to offer all Sarawakians an accessible, affordable, and efficient means of travel, featuring key developments like the Kuching Urban Transportation System (ART system)** • Develop a single ticketing system for the upcoming public transportation network that integrates both public buses and Autonomous Rapid Transit (ART) • Develop and upgrade strategic public transport facilities (renewal of public busses, bus terminals, bus stops, bus bays, ART interchange station) • Implement a smart traffic management system • Improve road safety through radar speed detection system, road safety awareness programmes and improve road safety infrastructure	• Seamless travel across different modes of public transport • Reduced traffic congestion as more individual opt for public transport over personal vehicles • Optimised traffic flow to reduce road congestion and enhance road safety • Enhanced accessibility to reliable public transportation across Sarawak, ensuring equitable mobility for all residents.

✓ **Indicates key initiatives/game changer**

NEW TL-S10: Establish a centralised transport data management system to improve public transport planning

There is insufficient data on the movement of people using various land transport methods, leading to ineffective scheduling and inadequate development of public transport services.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Centralised Platform for Public Transport Data:** Develop a comprehensive platform that integrates data from various public transportation sources. This platform will enable the collection, analysis, and dissemination of transport data, providing valuable insights for improved transportation planning and the development of transportation infrastructure. • **Data Sharing Frameworks**: Implement data sharing frameworks to facilitate the exchange of passenger movement data between government agencies and private transport operators. These frameworks will ensure that relevant data is shared reliably and efficiently, enabling better coordination of transportation schedules. By having access to passenger movement data, both public and private entities can work together to improve service delivery, address infrastructure challenges, and enhance the overall travel experience for passengers.	• **Enhanced transportation planning** by collecting, analysing, and disseminating transport data, authorities can make more informed decision • **Enhanced passenger experience** as a result from data-driven insights and improved schedule coordination • **Increased operational efficiency** through identification of inefficiencies and areas for improvement • **Improved service coordination** through synchronised schedules and efficient route planning	• Increase modal share of public transport in urban areas to 20% • Increase public bus ridership in urban areas to 15% • Reduce mean household expenditure on transport to 8% • Reduce transport sectoral emissions by 15%

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Enhance public transport reliability and efficiency through a centralised public transport management system (1/2)

Thematic area:
Addressing Data Disparity in Passenger Movements

Context:

In Sarawak, public transportation faces several challenges that hinder its reliability and efficiency. Public transport services often operate with inconsistent schedules, making it difficult for passengers to plan their journeys. This lack of reliable scheduling information means that the government is also unaware of whether the schedules are being followed, leading to inefficiencies and poor service delivery.

Centralised Public Transport Management System

A centralised platform for public transport data would integrate data from various public transportation operators, enabling the collection, analysis, and dissemination of transport data, providing valuable insights for improved transportation planning and infrastructure development.

The platform can also provide real-time data and insights to passengers and enforcers, for better monitoring and management of public transport services, ensuring that schedules are adhered to and services are reliable. Passengers will benefit from real-time access to transport information, enabling them to plan their journeys more effectively and increasing their confidence in using public transport.

Data collected through this platform can be analysed to identify patterns and trends, informing decisions on route optimisation, service frequency, and infrastructure investments, ultimately leading to more efficient and effective transportation planning.

Potential Impact Example: Singapore's Public Transport System

- *92% of residents could reach their nearest neighbourhood centre within 20 minutes*
- *Rail reliability has achieved a 1 million Mean Kilometres Between Failure, which indicates the average distance trains travel before experiencing a delay of more than five minutes*
- *Rail reliability has achieved a 1 million Mean Kilometres Between Failure, which indicates the average distance trains travel before experiencing a delay of more than five minutes*

Outcomes

- Improved public transport reliability with enhanced passenger experience
- Efficient allocation of resource through optimised public transport schedule
- Informed decision making on public transport planning

Targets / metrics

- Public transport ridership
- On-time performance, average wait time, service frequency
- Operational cost savings through route optimisation

Source: Singapore Public Sector Outcomes Review, The Straits Time

NEW Game Changer: Enhance public transport reliability and efficiency through a centralised public transport management system (2/2)

Centralised Public Transport Management System

Case Study:

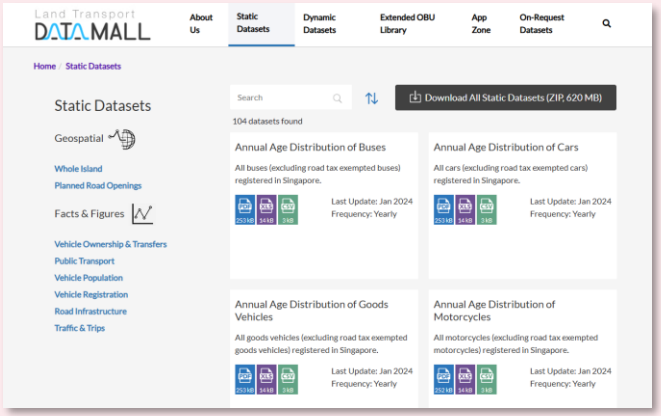
Singapore has developed one of the most efficient and reliable public transport systems in the world. The city-state's centralised public transport data platform has played a crucial role by integrating data from various public transportation sources, which has enhanced the reliability, efficiency, and attractiveness of its public transport.

Key Initiatives by the Government of Singapore:

- **Land Transport Authority (LTA) DataMall:** The LTA DataMall is an open data platform that provides real-time information on public transport services, including bus arrival times, train schedules, and traffic conditions, allowing developers to create applications that provide commuters with real-time information.
- **Intelligent Transport Systems (ITS):** The ITS integrates various technologies to manage and monitor the public transport network. This includes GPS tracking of buses, real-time passenger information systems, and traffic management systems. The ITS helps in optimising routes, reducing travel times, and improving the overall efficiency of the public transport system.

Key Outcomes:

- **Increased Public Transport Ridership:** The integration of real-time data and improved service reliability has led to a significant increase in public transport ridership. In 2019, the average daily ridership for buses and trains reached 7.54 million.
- **Enhanced Customer Satisfaction**: Surveys conducted by the Public Transport Council (PTC) show high levels of customer satisfaction with the public transport system. In 2020, the Public Transport Customer Satisfaction Survey reported an overall satisfaction score of 96.4%.



LTA's DataMall, where it collects and stores transport data, provides easy access via APIs, and supports developers and users in improving mobility and planning

NEW TL-S11: Enhance public transport infrastructure and services; implement improved traffic management and road safety initiatives with integrated infrastructure and connectivity advancement

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Improve public transportation in Sarawak:** Offering all Sarawakians an accessible, affordable, and efficient means of travel, featuring key developments like the Kuching Urban Transportation System (ART system) • Develop a single ticketing system for the upcoming public transportation network that integrates both public buses and Autonomous Rapid Transit (ART) • Develop and upgrade strategic public transport facilities (renewal of public busses, bus terminals, bus stops, bus bays, ART interchange station) to ensure smooth passenger flow, as well as the development of park and ride facilities • Implement a smart traffic management system (e.g. upgrade existing traffic lights, bus signal priority, and backup power systems) that combines adaptive traffic light controls with speed detection technology on major urban roads and throughout Pan-Borneo Highway as a measure to alleviate worsening traffic congestion. • Improve road safety through radar speed detection system, road safety awareness programmes and improve road safety infrastructure.	• **Enhanced accessibility to reliable public transportation across Sarawak, ensuring equitable mobility for all residents.** • **Increased public transport ridership due to improved service efficiency and convenience.** • **Reduced traffic congestion as more individual opt for public transport over personal vehicles and environmental impact through the integration of sustainable transportation solutions.** • **Improved urban connectivity and economic growth stimulated by efficient transportation networks.** • **Seamless travel across different modes of public transport** • **Optimised traffic flow to reduce road congestion and enhance road safety**	• Percentage increase in public transport ridership and user satisfaction levels across Sarawak. • Reduction in average commute times and traffic congestion in urban areas like Kuching. • Achievement of emission reduction targets through the adoption of environmentally friendly transport systems. • Completion and operational readiness of the Kuching Urban Transportation System (ART system) within the planned timeline. • Expansion of multi-modal transport connectivity measured by increased integration of buses, ART, and other transport modes.

BUILD Game Changer: Improve public transportation in Sarawak to offer all Sarawakians ease of travel

Thematic area:
Increasing traffic volume in the air

Context:

Transform Kuching into a premier global gateway and logistics hub for Borneo by developing a comprehensive multimodal transportation network, enhancing international connectivity, and fostering economic growth through strategic infrastructure investments.

Integrated infrastructure and connectivity advancement

Improve public transportation in Sarawak to offer all Sarawakians an accessible, affordable, and efficient means of travel, featuring key developments like the Kuching Urban Transportation System (ART system). The initiative to enhance public transportation in Sarawak is a comprehensive effort aimed at transforming the mobility landscape for all residents in the region.

Central to this initiative is the development of the Kuching Urban Transportation System, particularly the Advanced Rapid Transit (ART) system, which promises to deliver a modern, accessible, and efficient public transit network. This initiative will not only provide equitable transportation options to all Sarawakians but will also encourage a shift from private vehicle reliance to public transport usage.

As service efficiency and convenience improve, it is anticipated that there will be a significant increase in ridership, resulting in reduced traffic congestion in urban areas such as Kuching.

Moreover, by integrating sustainable solutions within the transportation network, the initiative aims to achieve notable reductions in the region's carbon footprint, enhancing the quality of life for residents through a healthier environment.

Outcomes

- Better access to public transportation for all.
- More people using public transport.
- Less traffic congestion and reduced environmental impact.
- Enhanced urban connectivity and economic growth.

Targets / metrics

- Public transport ridership
- On-time performance, average wait time, service frequency
- Improve integration of different transport modes.

2.7 HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce

HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce

		Page
Overview		**305**
Education & Human Capital		***307***
EHC-S3	Building capacity and professional expertise/specialisation of teachers	
EHC-S4	Enhancing education accessibility, standards and mindsets in Sarawak	
EHC-S5	Nurturing young leaders that can drive the future socio-economic development of Sarawak	
EHC-S6	Enhancing development and performance of homegrown athletes (including PWDs) in a targeted and structured manner	
Business Services		***318***
BS-S12	Attracting and retaining new or Sarawakian talent	
Social Services		***321***
SS-S19	Nurturing a pipeline of healthcare workforce	
Energy Transition		***323***
ET-S9	Consider just energy transition perspective as natural gas is still considered a transitional fuel and human capital development for the new industries	

HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce

		Page
Digital Transformation		***325***
DT-S10	Build digitally skilled workforce and match talent needs with the future needs of the digital economy	
Mining and Oil & Gas		***330***
MOG-S5	Improve access to manpower and build capacity of local human capital	

Overview
HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce

Sarawak's future is empowered by attracting and retaining talent and fostering a skilled, agile workforce through strategic development programs for sustained growth and innovation

To attract and retain talent while fostering a skilled and agile workforce, several targeted programmes will be implemented. The Sarawak Employment Package (SPACK) offers attractive allowances, entrepreneurial support, expedited work permit applications, immigration fast lanes and family support initiatives. The "Elevating the Educators" programme will attract and retain quality educators, paying special attention to rural areas to ensure effective teaching and student engagement. Sarawak Regional Youth Centres will provide intellectual, physical, and soft skills courses, along with job placement services for rural youth.

In addition, the Sarawak High Performance Sports Centre will offer professional sports development, including support for athletes with disabilities. In parallel, capacity building for teachers will be emphasised, enhancing education accessibility and standards, which will help attract Sarawakian talent. Efforts to enhance education accessibility and standards aim to improve educational quality and attract Sarawakian talent.

In healthcare, nurturing a pipeline of skilled professionals will be prioritised, while the oil and gas sector will focus on improving access to manpower and building local human capital capacity. The energy sector will consider a just transition perspective, emphasising human capital development for new industries where natural gas is seen as transitional. For digital transformation, efforts will focus on building a digitally skilled workforce to meet future economic needs.

HLS 6: Attract and Retain Talent and Foster a Skilled and Agile Workforce - Key Areas

Education & Human Capital

Key areas:
- Teacher capacity and area of specialisation or optionist teachers
- Education accessibility and standards
- Talent attraction and retention

Business Services

Key areas:
- Talent attraction
- Retention strategies
- Local workforce development

Social Services

Key areas:
- Healthcare workforce pipeline
- Professional capacity building
- Local manpower access

Mining & Oil and Gas

Key areas:
- Manpower improvement
- Local human capital capacity
- Industry workforce development

Energy Transition

Key areas:
- Just transition perspective
- Human capital for new industries
- Utilization of transitional fuels

Digital Transformation

Key areas:
- Digitally skilled workforce
- Talent needs alignment
- Future digital economy readiness

Education & Human Capital

Strategy	Initiative	Outcome
Education		
EHC-S3: Building capacity and professional expertise/ specialisation of teachers	✓ **Elevating the Educators**	• Improved academic performance with sufficient attention provided to students • Ensure the effective delivery of the national curriculum in schools, supported by state initiatives that address emerging trends and industry requirements • Address skill gaps in rapidly growing sector
EHC-S4: Enhancing education accessibility, standards and mindset in Sarawak	• **Enhance education standards for Sarawakians** • **STEM Uptake Promotion Programme** • **Upgrade and enhancement of school infrastructure and facilities** • **Resilience building (EQ) for Sarawak students in lower and higher education** • **Impart culture of innovation and STEM in Sarawak** • **Continuous review of governance and institutional framework** • **Development education policy for Sarawak** to shape its future direction, including strategy to secure Federal funding commitment in Education, Innovation and Talent Development	• Promote equitable access to learning and development • Build a pipeline of young talent in emerging industries for future workforce

✓ **Indicates key initiatives/game changer**

Education & Human Capital

Strategy	Initiative	Outcome
Youth		
EHC-S5: Nurturing young leaders that can drive the future socio-economic development of Sarawak	✓ **Establish Sarawak Regional Youth Centres**	• Targeted and comprehensive approach towards resolving key challenges faced, as well as maximising potential of youth in Sarawak • Enhanced professionalism and entrepreneurial mindset of young Sarawakians as a key asset in economic development • Improved youth livelihoods and standard of living • Active youth participation in political and policy discourse with a voice in Sarawak's development • Integration of fresh perspectives in policymaking that meet the needs of younger generations • Promote interaction among youths to bring out the best of one another and provide avenue for Government to engage youth community
Sports		
EHC-S6: Enhancing development and performance of homegrown athletes (including PWDs) in a targeted and structured manner	✓ **Establish Sarawak High Performance Sports Centre** (focusing on high-potential sports for Sarawak for both able-bodied and PWD athletes)	• Foster social inclusion and healthy living for all Sarawakians • Multipurpose use of sports infrastructure for diverse events that maximise utilisation and returns on investment • Promote Sarawak as a healthy and fit State to both local and international people • Robust and consistent pipeline of skilled and high-performing athletes who can compete at the national and global level, reflecting sporting excellence of the state

✓ **Indicates key initiatives/game changer**

BUILD EHC-S3: Building capacity and professional expertise/specialisation of teachers

Insufficient talent development and manpower among teaching staff

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Elevating the Educators**; Teacher workload, mental health, safe and conducive teaching, learning, and living environment for teachers. ○ **Well-being:** Teacher workload, mental health, etc ○ **Knowledge:** Enhance the Education Leadership Training Institute to train new teachers and upskill/reskill existing teachers at different levels, including primary, secondary and tertiary educators. This can cover customised strategic courses, workshops, conferences, symposiums, colloquiums, etc in targeted subject matters.(e.g. Continuous Professional Development (CPD)) ○ **Compensation:** Monetary Benefits including allowances reviews, particularly for high-demand subjects and/or rural locations ○ **Conducive teaching environment** *(cross reference Education, S4)*	• Improve academic performance with sufficient attention provided to students • Ensure effective delivery of the national curriculum in schools, supported by state initiatives that address emerging trends and industry requirements • Address skill gaps in rapidly growing sector	• **Sarawak Social Well-being Index Score of 8 and above** • **Achieve 100% preschool participation rate** • **Achieve 100% of primary school participation rate** • **Achieve at least 60% of STEM enrolment in upper secondary schools**

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Elevating the Educators for quality education delivery

Thematic area:
Insufficient talent development and manpower among teaching staff

Context:

- *Shortage of option teachers in STEM subjects (Science, Maths and English)*
- *Difficulty in retaining teachers in rural schools due to challenging living conditions and dilapidated school facilities*

Initiative: Elevating the Educators

Description: A comprehensive support and development programme to attract and retain quality educators in Sarawak to ensure good delivery of curriculum and sufficient attention provided to students, with greater focus on rural teachers.

Key programmes:

Well-being support

- Support to reduce teacher workload (e.g. rotations, focus of responsibility)
- Counselling to alleviate mental health issues
- Ensure schools have an adequate number of teachers*

Upskilling, reskilling and multiskilling

- Enhance Education Leadership and Training Institute for courses in subject matters of choice (including Continuous Professional Development)

Monetary Benefits

- Tiered top-up of allowances (rural vs. urban teachers) and other financial incentives (e.g. performance merit bonus at the state level)

Conducive teaching environment

- Safe educational facilities, resources for teachers (e.g. intensify school infrastructure and facilities upgrade)

Impact example:

- Incentives worth 4-5% of salaries to teachers in shortage subjects in high poverty schools in North Carolina, US, were shown to reduce turnover by 17%
- 10% of salary supplements for educators in Northern Norway led to 30% improvement in recruitment

Note: High-poverty schools are public schools with more than 75% of students eligible for free or reduced-price lunch (FRPL), as defined by the National Centre for Education Statistics (NCES)

Outcomes

- Enhanced quality of education delivery
- Improved student academic performance (e.g. SPM)

Targets / metrics

- No. of vacant posts filled in schools
- Sufficient no. of teachers for all subjects offered
- State average grade in SPM *(Gred Purata Negeri)*

**can be considered, to note that this is under the Federal government's purview*
Source: Incentives to recruit and retain teachers in Wales, Education Policy Institute

BUILD EHC-S4: Enhancing education accessibility, standards and mindset in Sarawak (1/2)

Inequitable access to education due partly to dilapidated facilities and overcrowded schools, lack of relevant advanced facilities for TVET and STEM learning and adoption, a high number of teacher shortages, especially in rural schools and absence of a human capital model

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Enhance education standards for Sarawakians**
  - Provide free tertiary education to qualified Sarawakians in selected courses in eligible State-owned universities
  - Sustain and potentially expand operations of Sarawak-owned international schools
• **STEM Uptake Promotion Programme**
  - STEM and coding outreach programmes to secondary and primary schools
  - Create programmes and support networks specifically aimed at encouraging female students to pursue STEM careers -Include STEM education promotions in major government/industry events
  - Provision of ICT equipment to school students and relevant training/workshops
  - Provision of financial aid specifically for students pursuing STEM fields
• **Upgrade and enhancement of school infrastructure and facilities** for conducive teaching and learning, particularly dilapidated schools in rural areas
  - Outsourcing technical capacity for school infrastructure condition assessment
	• Promote equitable access to learning and development
	• Build a pipeline of young talent in emerging industries for future workforce
		• **Sarawak Social Well-being Index Score of 8 and above**
		• **Achieve 100% preschool participation rate**
		• **Achieve 100% of primary school participation rate**
		• **Achieve at least 60% of STEM enrolment in upper secondary schools**

BUILD EHC-S4: Enhancing education accessibility, standards and mindset in Sarawak (2/2)

Inequitable access to education due partly to dilapidated facilities and overcrowded schools, lack of relevant advanced facilities for TVET and STEM learning and adoption, a high number of teacher shortages, especially in rural schools and absence of a human capital model

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Resilience building (EQ) for Sarawak students in lower and higher education** • **Impart culture of innovation and STEM in Sarawak** • **Continuous review of governance and institutional framework** • **Development education policy for Sarawak** to shape its future direction, including strategy to secure Federal funding commitment in Education, Innovation and Talent Development	• Promote equitable access to learning and development • Build a pipeline of young talent in emerging industries for future workforce	• **Sarawak Social Well-being Index Score of 8 and above** • **Achieve 100% preschool participation rate** • **Achieve 100% of primary school participation rate** • **Achieve at least 60% of STEM enrolment in upper secondary schools**

NEW EHC-S5: Nurturing young leaders that can drive the future socio-economic development of Sarawak

Lack of youth leadership development that can drive future aspirations of Sarawak

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish Sarawak Regional Youth Centres** - A centre with comprehensive facilities that provide services, support and opportunities for youth engagement and development across divisions in Sarawak. • **Introduce Pesta Belia Sarawak (Sarawak Youth Festival)** - Bring together youths from different walks of life and backgrounds to participate in social, innovative, creative and physical sport activities (platform for public and private sector to engage at the division or district level)	• Encourage active youth participation in political and policy discourse with a voice in Sarawak's development • Enable integration of fresh perspectives in policymaking that meet the needs of younger generations • Promote interaction among youths to bring out the best of one another, to provide avenue for Government to engage youth community	• **Sarawak Social Well-being Index score of 8 and above** • **30% skilled workforce**

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Sarawak Regional Youth Centres (1/2)

Thematic area:
Lack of youth leadership development that can drive future aspirations of Sarawak

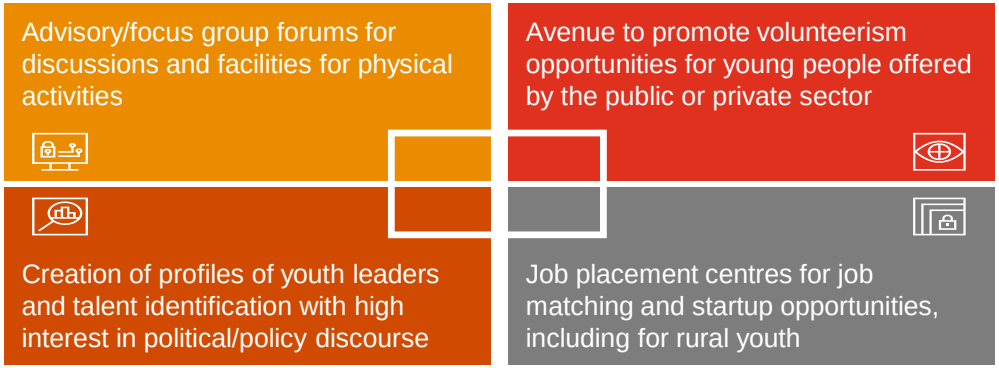
Context:

- *There is a need to provide comprehensive support and opportunities for youth in Sarawak to enhance their engagement and skills.*
- *As future leaders, it is also important to empower them to contribute to the community and drive positive change to support Sarawak's long-term socio-economic growth.*

Initiative: Establish Sarawak Regional Youth Centres

Description: A centre with comprehensive facilities that provide services, support and opportunities for youth engagement and development across divisions in Sarawak.

Key Feature: These centres are designed to empower young people by offering an avenue for advisory services, talent identification, volunteerism and job placement opportunities for urban and rural youths. The youth centre can also promote and enhance awareness of existing startup-related initiatives in Sarawak, such as the TEGAS Digital Innovation Hub and Digital Village Accelerator.



Impact example:

- Australian Regional Youth Support Services assisted 20,998 youths, delivering 56,621 hours of service delivery in a year.
- There is potential to reach and develop up to 1.3 million youths in Sarawak through the youth centres.

Outcomes

- Increased future leaders in Sarawak
- Improved outreach (avenue for government to engage the youth community to inform policy)
- Improved youth employment and entrepreneurship

Targets / Metrics

- No. of youth participating in volunteer activities
- No. of future leaders identified
- No. of youth forums/activities organised at the centres

Source: Regional Youth Support Services Inc

NEW Game Changer: Sarawak Regional Youth Centres (2/2)

Case Study: ***Youth Opportunities Unlimited operates the youth centre to empower youth by offering services and programmes that address their diverse needs, including education, mental health and employment***

Key Features/Learnings:

Counselling and Mental Health: Accessible mental health services, including counselling and support groups, to help young people manage mental health issues and substance use challenges

- **Career and Educational Guidance:** Job-related services such as resume building
- **Community Integration:** Community partner programs offering child and youth counselling
- **Housing support services:** Assist young people in finding safe, affordable housing options, providing guidance and resources to secure stable living arrangements
- **Food assistance**: The emergency food bank is available to alleviate food insecurity
- **Basic necessities:** Provision of essential items such as hygiene products and other basic needs

Key Outcomes/Impact

- 1,474 youth accessed employment services
- 23,745 meals produced for youth in need, by youth in training

Source: Youth Opportunities Unlimited

BUILD EHC-S6: Enhancing development and performance of homegrown athletes (including PWDs) in a targeted and structured manner

Unclear and inefficient talent discovery and development process (i.e. identification, delivery and target outcomes), lack of comprehensive athlete development programmes to drive sporting excellence and insufficient quality coaches

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish Sarawak High Performance Sports Centre** (focusing on high-potential sports for Sarawak for both able-bodied and PWD athletes) - **Pre (Talent Identification):** Implement streamlined and holistic programme for talent scouting by expert talent transfer and community engagement - **During (Performance Enhancement):** Introduce structured training and develop innovative training method, implement streamlined and holistic programme including goal tracking and support services, and conduct comprehensive needs and performance assessments - **Post (Progression):** Transition from athlete into coaching career through targeted training programmes/courses • **International Velodrome** - This velodrome is proposed to be built for the development of cycling sports at the national level. MYSED is currently preparing a project paper on this initiative. - This facility will be catered mainly to athletes who are selected at the national level. It can also place Sarawak as a key destination for major cycling competitions in the region.	• Establish a robust and consistent pipeline of skilled and high-performing athletes who can compete at the national and global level, reflecting sporting excellence of Sarawak	• **Sarawak Social Well-being Index score of 8 and above (Sports as Lifestyle or Sport Nation)**

✓ **Indicates key initiatives/game changer**

BUILD Game Changer: Sarawak High Performance Sports Centre – Sarawak as a world-class sports powerhouse

Thematic area:
Unclear and inefficient talent discovery and development process to drive sporting excellence and insufficient quality coaches

Context:

- *Sarawak has the potential to produce competitive athletes winning gold medals in international tournaments (e.g. diving).*
- *Current athlete development programmes are not comprehensive to drive sporting excellence.*
- *The coach-athlete ratio in Sarawak (1:20) in 2023 is significantly higher than the recommendation by National associations.*

Initiative: Establish Sarawak High Performance Sports Centre

Sarawak High Performance Sports Centre aims to provide future Sarawakian athletes (both able-bodied and PWD) with facilities for an end-to-end professional sports development experience. This includes a comprehensive ecosystem that caters to all stages of an athlete's development, encompassing the pre-, during, and post-career phases.

Pre (Talent Identification)	During (Performance Enhancement)	Post (Progression)
Implement **streamlined and holistic programme for talent scouting** by experts and community engagement **Talent Transfer**	**Introduce structured training and develop innovative training methods** with the use of the latest technology, specific equipment and facilities Implement a **streamlined and holistic programme** including goal setting/progress tracking, comprehensive support services (mental health, nutrition, sports science), and global competition and exchange programmes Conduct a **comprehensive needs assessment** by engaging stakeholders; implement monitoring and evaluation systems with clear performance indicators, regular data collection, feedback channels and reporting; and build partnerships through public-private and community collaborations	Transition from athlete into coaching career through targeted training programmes/courses **Impact example:** In Australia, the Australian Institute of Sports ("AIS"), a high-performance sports training institution have consistently produced athletes to compete in the Olympics and other international sports competition. In the Olympic Games 2008 in Beijing, 7 AIS athletes won gold, 9 silver and 7 bronze medals.

Outcomes

- Robust and consistent pipeline of skilled and high-performing athletes who can compete at the national and global level, reflecting the sporting excellence of Sarawak

Targets / Metrics

- No. of athletes representing Sarawak in tournaments
- No, of Sarawakian athletes winning in tournaments

Business Services

Strategy	Initiative	Outcome
BS-S12: Attracting and retaining new or Sarawakian talent	✓ **Sarawak Employment Package (SPACK)** • **Expand the Graduate Enhancement Training Scheme - Work Readiness Programme (GETS-WRP)**	• Harness the knowledge, experience and expertise in targeted fields that support Sarawak's overall development • Make Sarawak an attractive place to work and live in • Reduced bureaucracies that prevent hiring skilled talent

✓ **Indicates key initiatives/game changer**

BUILD BS-S12: Attracting and retaining new or Sarawakian talent

Widening gaps in workforce skills demand and supply

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Sarawak Employment Package (SPACK)** - A comprehensive benefits and incentive employment package to attract and retain talents, including Sarawakians, West Malaysians, Sabahans and foreign expatriates in identified critical job sectors (e.g. healthcare, energy, digital).	• Harness the knowledge, experience and expertise in targeted fields that supports Sarawak's overall development • Make Sarawak an attractive place to work and live in To reduce bureaucracies that prevent the hiring of skilled talent	• **Sarawak Social Well-being Index Score of 8 and above** • **30% skilled workforce**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Sarawak Employment Package (SPACK) - Talent Attraction & Retention Package

Thematic area:
Widening gaps in workforce skills demand and supply

Context:

- *Continued skills supply-demand mismatch in Sarawak, leading to a shortage of workers with required skills in some industries (e.g. manufacturing, biomass production)*
- *Room to improve flexibility of work permit processes to attract Peninsular Malaysians, Sabahans and expatriates to work in Sarawak.*

Initiative: Sarawak Employment Package (SPACK)

Description: A comprehensive benefits and incentive employment package to attract and retain talents, including Sarawakians, West Malaysians, Sabahans and foreign expatriates in identified critical job sectors (e.g. healthcare, energy, digital).

Key Features

- **Attractive allowances and benefits,** such as medical, housing and relocation allowances
- **Entrepreneurial support for business owners,** such as grants, loan assistance and mentorship programmes
- **Fast-track work permit application path** and **establish immigration fast lanes** for shorter approval and immigration waiting time, respectively
- Promote **conducive living and family support** via the *'Family First'* initiative to encourage family establishments in Sarawak *(refer to 'Family First' initiative)* and the Sarawak MM2H Programme
- **Review of legal framework** (if any) to facilitate talent attraction and retention

Impact example:

- Switzerland faced an increase in employment rate up to 85% over the decades, driven by migration of highly qualified individuals to the country each year, contributing to the increase in a highly-skilled labour force and an average of 1.8% increase in GDP annually

Outcomes

- Acceleration of industry and economic growth
- Sustainable pipeline of skilled workers
- Higher incomes and improved standards of living

Targets / Metrics

- Percentage of skilled workforce by sectors
- Employment rate

Source: The Oxford Handbook of Swiss Politics; swissinfo,ch

Social Services

Strategy	Initiative	Outcome
SS-S19: Nurturing a pipeline of healthcare workforce	• **Leverage Federal Government support to increase number of healthcare professionals in Sarawak** • **Establish Remote Training Centres** by developing local training hubs or partnerships with universities to offer specialised courses and certifications in rural areas • **Healthcare Workers Monetary and Non-Monetary Incentives**	• Ensure that healthcare professionals are equipped with relevant, updated skills and knowledge • Ensure adequate healthcare professionals to meet the public healthcare service demand, including in rural areas • Motivate and engage healthcare professionals

BUILD SS-S19: Nurturing a pipeline of healthcare workforce

Limited basic healthcare infrastructure and medical experts, mainly in rural areas

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Leverage Federal Government support to increase number of healthcare professionals in Sarawak**
  - Use data-driven and evidence-based approach to support case for increasing supply of doctors in Sarawak
  - Creation of new posts to support an expanded and specialised healthcare workforce
• **Establish Remote Training Centres** by developing local training hubs or partnerships with universities to offer specialised courses and certifications in rural areas
• **Healthcare Workers Monetary and Non-Monetary Incentives**
  - Provide rural allowances to incentivise healthcare professionals working in remote areas (Relocation compensation)
  - Provide training courses and professional development programmes for healthcare professionals
  - Provide long-term service bonuses to reward and retain healthcare staff
  - Provide fully furnished quarters with essential furniture and appliances to ease the transition for new arrivals
	• Ensure that healthcare professionals are equipped with relevant, updated skills and knowledge
	• Ensure adequate healthcare professionals to meet the public healthcare service demand, including in rural areas
	• Motivate and engage healthcare professionals
		• **Sarawak Social Well-being Index Score of 8 and above**
		• **Doctor to population ratio of 1:294**

Energy Transition

Strategy	Initiative	Outcome
ET-S9: Consider just energy transition perspective as natural gas is still considered a transitional fuel and human capital development for the new industries	• Just Energy Transition Partnership to support SMEs in the oil and gas sector • Work with local institutions and industry players to design industry-led TVET courses for new energy sectors	• Reduced disruption in the workforce due to structural shifts in the energy industry • Provide alternative and upskilling opportunities for adjacent industries

Note: The strategies and initiatives are covered under the Sarawak Energy Transition Plan (SETP)

NEW ET-S9: Consider just energy transition perspective as natural gas is still considered a transitional fuel and human capital development for the new industries

SMEs and corporations in the oil and gas sector are at risk of disruption due to structural shifts

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Just Energy Transition Partnership (JETP) to support SMEs in the oil and gas sector:** Modelling on the Indonesian example, the JETP is a collaborative initiative involving partners that could support SMEs in the oil and gas sector transition to low-carbon energy systems and promote renewable energy through financing, technology and capacity building. This initiative seeks to ensure a seamless transition for affected workers, enabling them to adapt to and participate in the growth of alternative energy industries. • **Work with local institutions to design TVET courses for new energy sectors:** Partner with local educational institutions to develop Technical and Vocational Education and Training (TVET) courses specifically tailored to the needs of emerging new energy sectors. This approach aims to equip the workforce with the necessary skills and competencies to thrive in the evolving energy landscape.	• **Reduced disruption in the workforce** due to structural shifts in the energy industry • **Provide alternative and upskilling opportunities** for adjacent industries • **Upskilled workforce and enhanced SME readiness and support** to meet future demands of the new energy sector	• **Cumulative RM9 bilion committed investment by 2030** Human capital support is required to enable committed investments, particularly from the oil and gas industry players

Digital Transformation

Strategy	Initiative	Outcome
DT-S10: Build digitally skilled workforce and match talent needs with the future needs of the digital economy	✓ **Enhance the Sarawak Digital Residency Programme (SDRP)** • Develop a workforce competency database system to assess the talent needs to the industries in Sarawak • Cultivate Digital and STEM Skills Amongst Teachers and Students	• Increased availability of skilled talent in Sarawak • Improved workforce management

✓ **Indicates key initiatives/game changer**

FIX DT-S10: Build digitally skilled workforce and match talent needs with the future needs of the digital economy

There is an acute shortage of talents in advanced digital technologies such as cybersecurity and data science

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Enhance the Sarawak Digital Residency Programme (SDRP)** • **Develop a workforce competency database system to assess the talent needs to the industries in Sarawak:** The system will facilitate skill and talent matching to meet industry workforce needs, while also monitoring and providing feedback to address any workforce gaps. • **Cultivate Digital and STEM Skills Amongst Teachers and Students**: Integrate a wider range of digital and STEM skills among teachers to enhance their teaching effectiveness, enabling them to boost students' digital capabilities.	• Increased availability of skilled talent in Sarawak • Improved workforce management • Increased digital adoption in schools and a higher digital literacy rate among students	• Create between 39,000 to 48,750 new semi and high-skilled digital jobs • Achieve 50% growth in investment and partnerships • Achieve 20% Digital Economy contribution to Sarawak's GDP by 2030

✓ **Indicates key initiatives/game changer**

FIX Game Changer: Enhance the Sarawak Digital Residency Programme (1/3)

Thematic area:
Addressing the skilled talent shortage

Context:

- *Sarawak's local talent pool is currently inadequate to support the demands of its evolving economy, particularly in advanced digital technologies.*
- *Lower salaries and limited career advancement opportunities in Sarawak compared to other regions contribute to brain drain.*

Enhance the Sarawak Digital Residency Programme (SDRP)

Sarawak should complement DE Rantau with an e-residency programme

Overview: The Sarawak Digital Residency Programme (SDRP) is an ongoing initiative aimed at attracting professionals, remote workers, foreign entrepreneurs, and investors to Sarawak. By leveraging the growing trend of digital nomadism and remote work, Sarawak aims to position itself as a hub for digital talent and innovation.

DE Rantau Sarawak: Sarawak has already introduced DE Rantau Sarawak under the first phase of SDRP, which consists of a Professional Visit Pass (PVP) that allows digital freelancers and remote workers to stay in Sarawak and Peninsular Malaysia for up to 12 months, with an option for renewal for another 12 months. This effectively functions as a digital nomad visa. Applications for DE Rantau Sarawak will open in Q1 2025, targeting professionals and remote workers who seek a conducive environment to live and work.

E-Residency: While DE Rantau focuses on remote workers, Sarawak should consider enhancing the SDRP by introducing an e-residency programme aimed at attracting remote entrepreneurs and investors. This e-residency programme would allow remote entrepreneurs to start and run their businesses entirely online, declare taxes, and access banking and payment services with minimal bureaucracy. Inspired by Estonia's successful e-Residency model, this initiative would provide a digital way to conduct business from anywhere in the world.

Outcomes

- Increased pool of skilled digital talent
- Increased foreign investment, particularly in tech sectors
- Stimulate innovation and knowledge exchange within Sarawak's digital economy

Targets / Metrics

- Number of DE Rantau Sarawak registrations
- Increased FDI and DDI into the digital economy in Sarawak

Source: The Oxford Handbook of Swiss Politics; swissinfo,ch

FIX Game Changer: Enhance the Sarawak Digital Residency Programme (2/3)

Thematic area:
Addressing the skilled talent shortage

Context:

- *Sarawak's local talent pool is currently inadequate to support the demands of its evolving economy, particularly in advanced digital technologies.*
- *Lower salaries and limited career advancement opportunities in Sarawak compared to other regions contribute to brain drain.*

Enhance the Sarawak Digital Residency Programme (SDRP)

Sarawak should complement DE Rantau with an e-residency programme

Key Features: The introduction of an e-residency programme would significantly enhance existing efforts to attract digital talent by providing a streamlined pathway for remote entrepreneurs and investors. Ideally, this initiative would enable participants to:

- Apply to start a company 100% online and run their business remotely.
- Establish and manage a company online, declare taxes, and access banking and payment services with minimal bureaucracy.
- Avoid paperwork, physical meetings, and bureaucratic hurdles.
- Utilise Sarawak's e-services for remote business management.

By launching the e-residency programme alongside DE Rantau Sarawak, Sarawak can create a comprehensive ecosystem that supports both remote workers and entrepreneurs, making it an attractive destination for digital talent.

Ensuring Successful Implementation: To ensure the successful implementation of SDRP, Sarawak should establish a robust legal framework, ensuring that e-residents can operate businesses remotely with ease. Sarawak should also highlight its unique advantages through targeted marketing and create dedicated support systems for e-residents.

Outcomes

- Increased pool of skilled digital talent
- Increased foreign investment, particularly in tech sectors
- Stimulate innovation and knowledge exchange within Sarawak's digital economy

Targets / Metrics

- Number of DE Rantau Sarawak registrations
- Increased FDI and DDI into the digital economy in Sarawak

FIX Game Changer: Enhance the Sarawak Digital Residency Programme (3/3)

Thematic area:
Addressing the skilled talent shortage

Context:

- *Sarawak's local talent pool is currently inadequate to support the demands of its evolving economy, particularly in advanced digital technologies.*
- *Lower salaries and limited career advancement opportunities in Sarawak compared to other regions contribute to brain drain.*

Enhance the Sarawak Digital Residency Programme (SDRP)

Case Study: Estonia's E-residency programme

E-Residency of Estonia is a government-issued digital identity which gives global entrepreneurs remote access to Estonia's e-government services, allowing them to register and manage an EU company remotely.

Key Steps

- **A conducive legal and regulatory framework:** Estonia established a robust legal framework to support digital services, ensuring that e-residents can operate businesses remotely with ease. The government passed laws to support digital signatures and secure online transactions, which are crucial for the legitimacy and security of e-Residency**.**
- **Aggressive international marketing :** Estonia launched digital advertising campaigns on global platforms like Google and Facebook, while also actively participating in international tech and business conferences, targeting entrepreneurs and digital nomads who could benefit from e-Residency

Impact Example:

- *The direct economic impact of the e-Residency programme to Estonia's state budget amounted to €31 million in H1 2024. In addition, e-resident entrepreneurs contribute over €11 million to Estonia's economy annually by using local business services.*

Outcomes

- Increased pool of skilled digital talent
- Increased foreign investment, particularly in tech sectors
- Stimulate innovation and knowledge exchange within Sarawak's digital economy

Targets / Metrics

- Number of DE Rantau Sarawak registrations
- Increased FDI and DDI into the digital economy in Sarawak

Mining & Oil and Gas

Strategy	Initiative	Outcome
MOG-S5: Improve access to manpower and build capacity of local human capital	• Ease human capital guidelines, creating a dedicated programme for high-skilled workers to expedite work permit processes • Workforce programme with a training institution	• Increased access to necessary high-skilled labour • Enhanced local human capital

FIX MOG-S5: Improve access to manpower and build capacity of local human capital

Limited pool of skilled human capital locally

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Ease Human Capital Guidelines**:
  ○ Review immigration policies to ease the employment of highly-skilled foreign labour and digitalisation of work permit application for ease of supporting document provision of foreign labour.
• **Workforce Programme with a Training Institution**:
  ○ Establishment of a dedicated Sarawak oil & gas training institution, paired with programmes aimed at cultivating high-skilled professionals to improve workforce readiness.
  ○ The institution shall focus on providing targeted training and development opportunities, ensuring that the local workforce is equipped with the necessary expertise and technical skills demanded by the industry.
  ○ The institution will offer tailored courses and programmes that cover both traditional and emerging technologies, safety standards, and best practices.
	• **Increased access to necessary high-skilled labour**
	• **Enhanced local human capital**
		• **Creation of total 95,000 jobs**
		• **>50% Sarawak representation in higher management**
		• **RM10,000 median salary for the oil and gas sector**

2.8 HLS 7: Enhance Safety, Security, and Disaster Preparedness

HLS 7: Enhance Safety, Security, and Disaster Preparedness

		Page
Overview		**334**
Social Services		***335***
SS-S20	Enhancing security in coastal areas	
SS-S21	Strengthening border security	
Forestry, Natural Asset Management & Conservation		***339***
FNAM-S2	Enhance response to regular flooding in Sarawak and disaster risk reduction strategy	

Overview
HLS 7: Enhance Safety, Security, and Disaster Preparedness

Enhancing safety, security, and disaster preparedness through technology and integrated response systems for a secure and protected future to boost community resilience

To enhance safety, security and disaster preparedness, this high-level strategy prioritises strengthening disaster resilience, public safety, and emergency response capabilities. This includes leveraging technology to install CCTV and electronic monitoring sensors at strategic locations and entry points and enabling quick actions against offenders through UKPS using a secure Ultra High Frequency (UHF) trunk radio communication network.

Additionally, disaster prevention and response units will be fortified among local authorities (PBTs) and integrated with a community warning system to enhance local preparedness.

Further strategies will focus on enhancing security in coastal areas and strengthening border security.

3 **Strategies**

5 **Initiatives**

2 **Game Changer**

Social Services	Forestry, Natural Asset Management & Conservation
Key areas: • Coastal surveillance and protection • Border monitoring and control • Emergency response enhancement	**Key areas:** • Flood response and preparedness • Disaster risk management strategies • Infrastructure resilience improvement

Social Services

Strategy	Initiative	Outcome
SS-S20: Enhancing security in coastal areas	• Establish five (5) UKPS Markas in strategic locations, to procure three (3) units of 40-meter vessels, an Advance Security Enforcement System (ASES) for maritime enforcement and an integrated UHF trunk radio to provide secured voice communication for State authorities/agencies.	• Prevent illegal activities and enhanced safety of Sarawak's coastal waters • Reduce and prevent unauthorised movements/activities across the border of Sarawak • Provide swift and accurate information flow • Enable appropriate response to neutralise threats
SS-S21: Strengthening border security	✓ **Leveraging technology to enhance security** • Enact a maritime security and border control policy to modernise surveillance, enforcement, and penalties against illegal activities in its coastal waters • Establish a Joint Border Task Force with Federal agencies to ensure seamless coordination and intelligence-sharing on criminal activities	

✓ **Indicates key initiatives/game changer**

BUILD SS-S20: Enhancing security in coastal areas

Illegal fishing and foreign encroachment necessitates stronger enforcement of Sarawak's waters and enforcement ability at the high seas including Sarawak

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• Establish five (5) UKPS Markas in strategic locations, to procure three (3) units of 40-meter vessels, an Advance Security Enforcement System (ASES) for maritime enforcement and an integrated UHF trunk radio to provide secured voice communication for State authorities/agencies.	• Prevent illegal activities and enhance the safety of Sarawak's coastal waters	• N/A

BUILD SS-S21: Strengthening border security

Unauthorised movements of people and goods across the Sarawak's international border

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Leveraging technology to enhance security** o Procure and install a CCTV and electronic monitoring sensors at all land, sea and air entry points including strategic locations. To enhance UKPS human intelligence collection capabilities o Empower UKPS to act swiftly against offenders capitalising on the proposed secure UHF trunk radio communication network for integrated enforcement and to enhance voice communication between enforcement agencies to protect the environment	• Reduce and prevent unauthorised movements/activities across the border of Sarawak • Provide swift and accurate information flow • Enable appropriate response to neutralise threats	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Leveraging technology to strengthen security, including border security

Thematic area:
Unauthorised movements of people and goods across Sarawak's international border

Context:

- *Out of 51 legal entry points in Sarawak, including sea, land and air, only Kuching airport has all 6 elements required by an entry point.*
- *Lack of enforcement at entry points, which leads to the threat of illegal activities in borders including smuggling and human trafficking.*

Initiative: Leveraging technology to enhance security

Description: This initiative proposes a two-pronged approach to strengthen border security and prevent illegal activities leveraging technology.

Key components:

Enhanced Surveillance

By leveraging technology to deploy CCTV cameras and electronic monitoring sensors at all entry points (land, sea, air) and strategic locations, authorities can gain comprehensive real-time situational awareness across borders. This increased visibility helps detect, deter, and respond to potential threats more effectively.

Empowered Enforcement

Providing secure UHF trunk radio communication networks to relevant law enforcement agencies (UKPS in this case) enables rapid information sharing, coordination, and swift action against identified offenders. This empowers them to respond to developing situations in real-time, minimising response times and maximising operational effectiveness.

Outcomes

- Reduced unauthorised movements/activities across the border of Sarawak
- Swift and accurate information flow
- Enable appropriate response to neutralise threats

Targets / Metrics

- Response time to neutralise threats

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S2: Enhance response to regular flooding in Sarawak and disaster risk reduction strategy	✓ **Implement and strengthen disaster prevention and response unit amongst PBTs and through local community warning system** • Develop early warning and decision support system (PRABN) • Develop a climate risk assessment model	• Enhanced readiness in disaster prevention and risk reduction as well as response from state to local community levels

✓ **Indicates key initiatives/game changer**

NEW FNAM-S2: Enhance response to regular flooding in Sarawak and disaster risk reduction strategy

Disaster risk reduction and understanding climate vulnerability and risks at the infrastructure, economic sectors and local levels appear to be limited although efforts are being made as part of the Sarawak Climate Change Policy study.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Implement and strengthen disaster prevention and response unit amongst PBTs and through local community warning system:** Establish dedicated disaster operations centres in flood-prone areas like Kuching, Limbang, and Serian. Utilise advanced technologies for data monitoring and coordination and implement regular training to improve response team capacity and community awareness. • **Develop early warning and decision support system similar to PRABN:** Develop a region-specific early warning system to complement PRABN, using advanced meteorological technologies to address Sarawak's unique challenges. • **Develop a climate risk assessment model:** Develop a comprehensive model by analysing regional climate data and socio-economic factors to identify vulnerabilities and impacts.	• **Enhanced readiness in disaster prevention and risk reduction** as well as response from state to local community levels	• **Improvement of Sarawak's Malaysian Adaptation Index** up to 2030

✓ **Indicates key initiatives/game changer**

FIX Game Changer: Implement and strengthen disaster prevention and response centres amongst PBTs and through local community warning system (1/2)

Thematic area:
Enhance disaster response and safeguard resilience

Context:

Some areas in Sarawak experience repeated flooding, resulting in high amounts of economic losses

Implement and strengthen disaster prevention and response centers amongst PBTs and through local community warning system

Description: Given Sarawak's vulnerability to floods, a dedicated disaster operations centre in flood-prone areas is crucial. This initiative seeks to bolster flood preparedness and response, ensuring resident safety and protecting infrastructure while reducing economic losses. The centre can utilise advanced technology for improved data collection, monitoring, and coordination. It is advisable to establish these centres in economically disadvantaged areas with high value of losses due to floods, such as Kuching, Limbang, and Serian, to effectively address regional challenges.

Key points:

- **Develop comprehensive disaster preparedness plans**, including well-defined evacuation routes and procedures, to ensure the safety of residents before a disaster occurs.
- **Establish a robust platform for real-time data sharing and integration**, enhancing situational awareness and facilitating informed decision-making among all stakeholders.
- **Act as a hub for streamlined communication** and unified emergency response.
- **Invest in regular training programmes and simulations** to enhance the capacity and skills of response teams, ensuring readiness and effective management during disaster events.
- **Implement public education initiatives** to increase awareness and preparedness, empowering communities to act swiftly and effectively in the face of disasters, thus enhancing overall resilience.

Outcomes

- Enhanced response to disasters
- Lower economic and human losses due to flooding

Targets / Metrics

- Malaysia Adaptation Index
- Value of flood losses in Sarawak, RM

FIX Game Changer: Implement and strengthen disaster prevention and response centres amongst PBTs and through local community warning system (2/2)

Selangor's District Disaster Operation Centres (DDOCs)

Case Study:

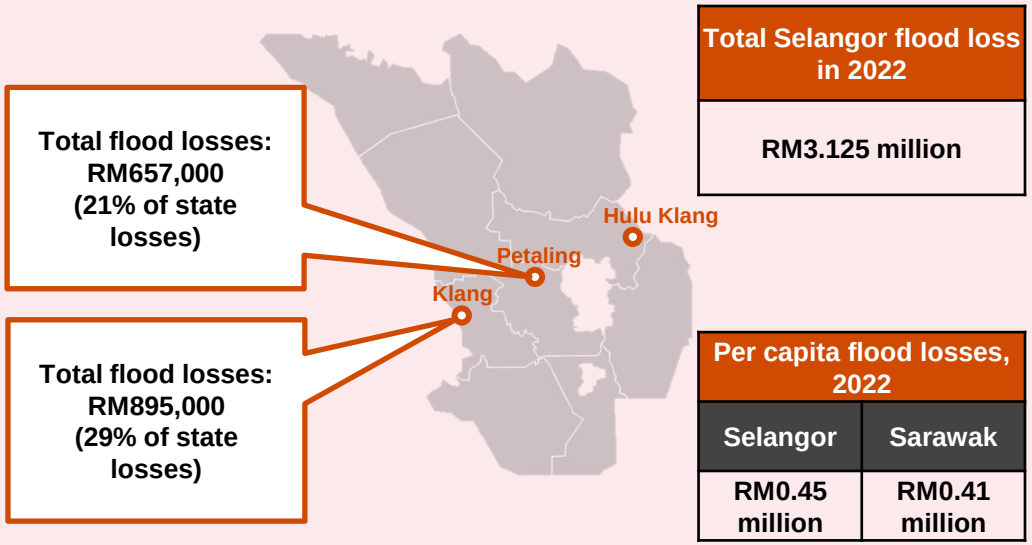
Following the 2022 floods, Selangor established District Disaster Operation Centres (DDOCs) in 2023 to improve disaster data collection and monitoring. These centres play a crucial role in coordinating timely and effective responses to emergencies.

The District Disaster Operation Centres (DDOCs) in Selangor have been established to enhance disaster preparedness, particularly for the monsoon season. Initially set up in flood-prone areas such as Klang, Petaling, and Hulu Klang, these centres will expand to other districts. DDOCs serve as centralised hubs, collaborating with the Smart Selangor Operation Centre (SSOC) to manage disaster data and utilise the Selangor Government Data Exchange (SelGDX) for real-time agency information.

Key features:

- **Focused on flood-prone districts** of Klang, Petaling and Hulu Klang
- **Utilises the Selangor Government Data Exchange (SelGDX)** to access information from weather and environmental agencies
- Each centre costs about **RM240,000**

Flood loss by selected Selangor districts, 2022



Total Selangor flood loss in 2022
RM3.125 million

Per capita flood losses, 2022	
Selangor	Sarawak
RM0.45 million	RM0.41 million

Source: Special Report on Impact of Floods in Malaysia 2023, DOSM
Note: No data available for Hulu Klang

2.9 HLS 8: Engage in Climate Action, Integrate ESG, and Advance the Circular Economy

HLS 8: Engage in Climate Action, Integrate ESG, and Advance the Circular Economy

		Page
Overview		**346**
Waste & Circularity		***347***
WC-S1	Adopt targeted waste management strategy and technology	
WC-S2	Increase private sector interest and participation in circularity, targeting high-value and high-volume wastes	
WC-S3	Implementation of centralised sewerage system for major urban centres in Sarawak	
WC-S4	Improve treatment and collection of greywater	
WC-S5	Strengthen local governments' capacity and community participation in waste management and circular development	

HLS 8: Engage in Climate Action, Integrate ESG, and Advance the Circular Economy

		Page
Forestry, Natural Asset Management & Conservation		***355***
FNAM-S3	Mainstream environmental sustainability across the various economic sectors	
FNAM-S4	Facilitate private sector participation through ESG adoption and financing	
FNAM-S5	Better pollution control at source and enforcement	
FNAM-S6	Facilitate carbon trading and ecosystem	
FNAM-S7	Price carbon through compliance or voluntary market	
FNAM-S8	Formulate a sound policy and plan that incorporates conservation of environment related to climate related hazards due to climate change	
FNAM-S9	Enhance measurement, reporting and verification (MRV) of GHG emissions throughout Sarawak	
FNAM-S10	Mainstream climate adaptation in planning	

Overview
HLS 8: Engage in Climate Action, Integrate ESG, and Advance the Circular Economy

Advancing environmental resilience through ESG integration and circular economy initiatives for sustainable progress and global impact

Sarawak's comprehensive strategy for climate action involves establishing the Sarawak Climate Change Centre to lead efforts in climate mitigation, adaptation, and carbon trading. This is further supported by a Climate Finance Facility designed to foster innovative business models with environmental benefits.

Key to this strategy is the development of waste and circularity policies, alongside targeted waste management technologies, centralised sewerage systems, and improved greywater treatment. The participation of the private sector in circular economy initiatives will be enhanced, particularly focusing on high-value and high-volume wastes. Strengthening local governments' capabilities in waste management will facilitate circular development.

Strategies for climate mitigation and resilience will include carbon trading facilitation, flood response enhancement, and accurate carbon pricing, alongside policy formulation for climate-related hazard conservation and improved GHG emissions reporting. Integrating climate adaptation into planning processes ensures a holistic approach to environmental and climate challenges. Sarawak aims to mainstream environmental sustainability across various economic sectors, supported by ESG financing and improved pollution control measures.

13 Strategies

27 Initiatives

4 Game Changer

Waste & Circularity	Forestry, Natural Asset Management & Conservation
Key areas: • Targeted waste management technology • Private sector participation in circularity • Centralised sewerage and greywater systems	**Key areas:** • ESG financing and carbon pricing mechanisms • Pollution control and flood risk reduction • Sustainability mainstreaming and GHG emissions measurement

Waste & Circularity

Strategy	Initiative	Outcome
WC-S1: Adopt targeted waste management strategy and technology	✓ **Develop Sarawak's waste and circularity policy direction and model** • Prioritise upgrading of active landfill as sanitary landfill and rural waste management practices	• Clear waste management and direction policy and regulation for Sarawak • Improved environmental health and public hygiene • 20% closure rate of dumpsites / landfill that will be full in 5 years
WC-S2: Increase private sector interest and participation in circularity, targeting high-value and high-volume wastes	• Establish e-waste household collection centre • Increase environmental awareness and outreach programme even in schools and local communities • Introduce or pilot Single-Used Plastics or Mandatory Extended Producer Responsibility implementation for household goods and e-waste	• Enhanced awareness and changed behaviour of individuals and commercial areas to reduce wastage and increase recycling opportunities • Behavioural change by design
WC-S3: Implementation of centralised sewerage system for major urban centres in Sarawak	• Carry out new masterplan study for Bintulu, Betong, Serian, Sri Aman and Kota Samarahan wastewater management • Expansion and implementation of centralised sewerage system in Kuching, Bintulu and Miri	• Implementation of 5 centralised sewerage system packages by 2030 • Ensure good effluent water quality
WC-S4: Improve treatment and collection of greywater	• Put in greywater treatment as part of a requirement in building plan approvals	• Reduction in greywater pollution of water sources • Ensure good effluent water quality
WC-S5: Strengthen local governments' capacity and community participation in waste management and circular development	• Scale up recycling activities and infrastructure in Sarawak • Introduce local small-scale incinerators in rural areas • Expand community recycling programs	• Local governments taking a more proactive and participatory process in waste management and circular development • Improved public hygiene in urban and rural areas

✓ **Indicates key initiatives/game changer**

FIX WC-S1: Adopt targeted waste management strategy and technology

The prevalent use of open dumpsites for landfills in Sarawak significantly contributes to both point and non-point source pollution. This practice exacerbates public health concerns and leads to environmental degradation.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Develop Sarawak's waste and circularity model:** Establish a comprehensive waste and circularity framework that prioritises waste reduction, recycling, and resource recovery, fostering sustainable practices across all sectors. Collaborate with stakeholders to implement policies that incentivise circular economy initiatives and promote the efficient use of resources. • **Prioritise upgrading of active landfills as sanitary landfills and rural waste management practices:** Transition active landfills to sanitary standards by investing in modern waste containment and treatment technologies, ensuring environmental safety and compliance. Enhance rural waste management by implementing structured collection systems and community education programmes to promote sustainable waste practices. Develop a regional waste-to-energy strategy to convert waste into energy in the longer term, reducing dumpsite reliance. Establish transit stations that would facilitate the efficient transportation and sorting of waste, ensuring that the process runs smoothly while supporting the regional waste-to-energy facility.	• **Improved environmental health and public hygiene** by reducing leakage to groundwater and surface water • **20% closure rate of dumpsites / landfill** that will be full in 5 years • Clear waste management and direction policy and regulation for Sarawak	Note: Waste & Circularity was not included in PCDS 2030. • **50% recycling** of scheduled waste • **Total compliance** in scheduled waste regulation • **Work towards aligning household recycling rate** to the national target of 40%, with an initial target of 15%-25% in 5 years

✓ **Indicates key initiatives/game changer**

NEW Game changer: Develop Sarawak's waste and circularity model (1/2)

Thematic area:
Provide clear policy direction on waste management and circularity practices

Context:

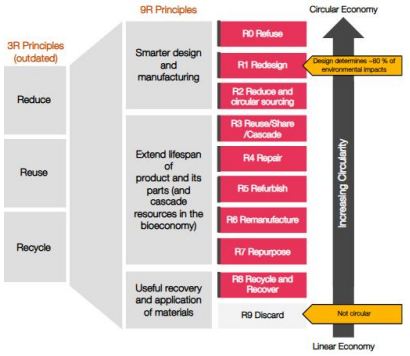
Recent engagements with the private sector reveal a willingness to engage in recycling and tapping into circularity potential as the way forward for Sarawak's waste management strategy

Strengthen local governments' capacity in waste management and circular development

Description: Adopting circularity as a principle and strategy as a model for Sarawak's integrated waste management strategy. Such a model will not only alleviate environmental impact and reduce pressure on developing new landfills for Sarawak, but the circular economy transition could also generate positive economic and social returns. Malaysia is also adopting the circularity model to reduce extraction from natural resources and nurture new industries.

Key Points

- **Upgrade all open dumpsites to sanitary landfills (at least Level I),** and gradually phase out open dumpsites by 2030 to protect environmental health and reduce leachate and methane emissions while increasing the number of Level IV landfills
- **Encourage private sectors and industrial areas to adopt the circularity model,** e.g., Extended Producer Responsibility for e-waste
- **Introduce industrial symbiosis for selected high-value wastes** to be used as feedstock for other industrial processes
- **Consider waste-to-energy as a medium-to-long-term solution** with a focus on waste management and diversion/mining from landfills



Outcomes

- Higher recycling rates of domestic wastes
- Less pressure on existing landfills
- Increased adoption of circular economy practices
- Increased demand for local green products and services

Targets / Metrics

- Diversion of waste from landfill
- Recycling rate

NEW Game changer: Develop Sarawak's waste and circularity model (2/2)

Case Study:

Impact of Malaysia's circular economy transition shows a triple bottom line impact in terms of GDP, jobs and emissions

Malaysia impact of CE Transition on GDP, Jobs & Emissions *(if the circular economy scenario were to occur in 2022)*

	Baseline	Circular Economy scenario	Net change	*% Net change*
GDP (US$bn)	353	358	**5**	*1.35%*
Full-time Employment (mil)	10	11	**1**	*9.31%*
Emissions (mil. metric tonnes CO_2e)	328	318	**-11**	*-3.24%*

Based on a PwC study, the circular transition in Malaysia results in a triple bottom line impact

- **US$5bn increase in GDP**: Increase in GDP from recycling, Maintenance, Repair, and Operations (MRO), and construction outweighs the decrease in GDP from mining and Petroleum, Chemical and Non-Metallic Mineral Products (PC&NM) sectors.
- **1mil additional jobs**: Construction, MRO, and recycling significantly expand their FTE to meet the demands of the CE transition, which are outweighed by the decrease in employment from textiles, manufacturing, and PC&NM sectors. The sectoral change in employment will require planning for a Just Transition.
- **3.24% reduction in carbon emissions**: Emissions decrease most significantly from the manufacturing, PC&NM, and textile sectors, which outweigh the increase in emissions from recycling & MRO. ***This is without taking into account the renewable energy transition, which will further reduce emissions.***

Source: PwC 2024 Reinventing Asia Pacific: Embracing a circular economy for a resilient tomorrow
Note: EUR/USD = 1.0481 as of 30/6/2022

FIX WC-S2: Increase private sector interest and participation in circularity, targeting high-value and high-volume wastes

To effectively incorporate sustainability and circularity into a long-term waste management strategy. Allowing private sectors to participate could harness the economic value of waste and transform from a linear into a circular economy.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Establish e-waste household collection centre:** Develop a network of accessible e-waste collection centres in residential areas, supported by partnerships with local authorities and waste management companies. • **Increase environmental awareness and outreach programme even in schools and local communities:** Launch a comprehensive environmental education initiative targeting schools and local communities on the importance of circularity and proper e-waste disposal • **Introduce or pilot Single-Used Plastics or Mandatory Extended Producer Responsibility implementation for household goods and e-waste:** Implement a mandatory or voluntary Extended Producer Responsibility (EPR) scheme requiring manufacturers to manage the lifecycle of single-use plastics and e-waste, starting with a pilot project	• **Enhanced awareness and changed behaviour** of individuals and commercial areas to reduce wastage and increase recycling opportunities • **Behavioural change by design**	Note: Waste & Circularity was not included in PCDS 2030. • **50% recycling** of scheduled waste • **Total compliance** in scheduled waste regulation • **Work towards aligning household recycling rate** to the national target of 40%, with an initial target of 15%-25% in 5 years

BUILD WC-S3: Implementation of centralised sewerage system for major urban centres in Sarawak

A large and comprehensive centralised sewerage system is crucial for improving public health, reducing environmental pollution, and ensuring sustainable urban development

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Carry out new masterplan study for Bintulu, Betong, Serian, Sri Aman and Kota Samarahan wastewater management:** Commission a comprehensive masterplan study for Bintulu, Betong, Serian, Sri Aman and Kota Samarahan to assess current wastewater management practices, identify infrastructure needs, and propose sustainable solutions. • **Expansion and implementation of centralised sewerage system in Kuching, Bintulu and Miri.** Develop centralised sewerage networks in Kuching, Bintulu, and Miri by designing and constructing effective infrastructure, ensuring adherence to regulatory standards and reducing environmental impact.	• **Implementation of 5 centralised sewerage system packages by 2030** • **Ensure good effluent water quality**	Note: Waste & Circularity was not included in PCDS 2030. • **Implementation of centralised sewage system in Kuching, Bintulu and Miri**

BUILD WC-S4: Improve treatment and collection of greywater

Implementation of greywater treatment in Sarawak is low, with the coverage area being only 7.3% in centralised sewage systems

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Put in greywater treatment as part of a requirement in building plan approvals:** Mandate the integration of greywater treatment systems in new building plans as a condition for approval, with enforced guidelines to ensure adherence to technical and environmental standards, promoting sustainable water management.	• **Reduction in greywater pollution of water sources** • **Ensure good effluent water quality**	Note: Waste & Circularity was not included in PCDS 2030. • **Safely managed treated water quality** complying to National Drinking Water Quality Standards (NDWQS) and sanitisation services

NEW WC-S5: Strengthen local governments' capacity and community participation in waste and circular development

Local governments, including PBTs, are integral to the successful implementation of waste and circularity policies. By leveraging their local expertise and knowledge, the delivery and execution of these policies can be significantly enhanced.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Scale-up recycling activities and infrastructure in Sarawak:** Increase the availability of recycling centres and infrastructure, particularly in commercial and public areas. Such infrastructure could be waste collection and recycling such as drop-off centers, drive-thru stations and material recovery facilities • **Introduce local small-scale incinerators amongst the rural areas:** Deploy small-scale incinerators in rural communities to efficiently manage and reduce waste volume, thereby minimising environmental impact and reliance on open dumpsites. • **Expand community recycling programs:** Implement more community-led recycling programs to encourage circularity at the grassroots level. For example, creating more *Bank Sampahs* where residents can exchange recyclable materials for financial rewards, promoting local engagement in recycling.	• Local governments taking a more proactive and participatory process in waste management and circular development • Improved public hygiene in urban and rural areas • Increased recycling rate, particularly for wastes with economic value • Nudge behavioural change by increasing avenue for recycling	Note: Waste & Circularity was not included in PCDS 2030. • **50% recycling** of scheduled waste • **Total compliance** in scheduled waste regulation • **Work towards aligning household recycling rate** to the national target of 40%, with an initial target of 15%-25% in 5 years

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S3: Mainstream environmental sustainability across the various economic sectors	✓ **Introduce green procurement policies to facilitate demand for locally recycled materials, green products and services** • Work on planetary health boundary	• Ensure that environmental sustainability is considered in all economic sectors to develop within planetary health • Reduce resource extraction
FNAM-S4: Facilitate private sector participation through ESG adoption and financing	✓ **Introduce a Climate Finance Facility (high-technology, innovative business model with climate and environmental impacts)** • Green Accelerator on ESG for companies • Collaborate with investors to matchmake companies	• Increase financing needed for companies which requires support in upgrading technologies • Increase start-up and innovation surrounding climate, energy and sustainability for Sarawak • Enhance support from investors to Sarawakian companies
FNAM-S5: Better pollution control at source and enforcement	• Using technology to enhance environmental data monitoring and enforcement mechanism through drones or live monitoring systems • Widen environmental quality monitoring network for air, river, water and soil	• Improved live monitoring through technology to strengthen enforcement
FNAM-S6: Facilitate carbon trading and ecosystem	✓ **Establish Sarawak Climate Change Centre to guide and coordinate climate mitigation, adaptation development and carbon trading activities** • Identify areas/ priority sectors for carbon market project development	• High-quality voluntary carbon projects in Sarawak, including nature-based solutions and technology-driven carbon initiatives

✓ **Indicates key initiatives/game changer**

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S7: Price carbon through compliance or voluntary market	• Establish GHG emissions reporting and compliance system to implement the Environment (Reduction of Greenhouse Gas) Ordinance, 2023 • Develop GHG emissions inventory system with integrated reporting for state-wide sectoral emissions reporting	• Strengthened measurement, reporting and verification of GHG emissions from high-emitting sectors through digital infrastructure and mechanisms
FNAM-S8: Formulate a sound policy and plan that incorporates conservation of environment related to climate related hazards due to climate change	• Review policy and legal framework for environmental sensitive and climate-related hazards • Formulate planning guidelines on development in high-risk areas with climate-related hazards	• Enhanced readiness in disaster prevention and risk reduction as well as response from state to local community levels
FNAM-S9: Enhance measurement, reporting and verification (MRV) of GHG emissions throughout Sarawak	• Establish protocols for the integration of data from different sources • Implement advanced technologies such as remote sensing, IoT devices, and satellite monitoring	• Improved tracking of GHG emissions, leading to better informed reduction policies at high emitting sectors
FNAM-S10: Mainstream climate adaptation in planning	• Develop climate adaptation strategy for Sarawak in planning and across the different systems	• Enhanced readiness in sectoral, infrastructural and spatial planning for Sarawak to combat climate change impacts

NEW FNAM-S3: Mainstream environmental sustainability across the various economic sectors

Buy-in from the private sector is essential to support environmental sustainability initiatives, ensuring long-term environmental health.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Introduce green procurement policies to facilitate demand for locally recycled materials or green products:** Green procurement policies aim to integrate environmental sustainability across economic sectors by prioritising eco-friendly products, particularly those with locally recycled materials. By establishing clear criteria and providing training, these policies encourage reduced reliance on virgin resources and promote investment in recycling technologies, supporting a circular economy. • **Work on planetary health boundary:** Establish a comprehensive framework for monitoring and managing Sarawak's ecological footprint in alignment with planetary health boundaries and human health	• **Ensure that environmental sustainability is considered** in all economic sectors • **Reduce resource extraction**	• **N/A**

✓ **Indicates key initiatives/game changer**

NEW Game changer: Introduce green procurement policies to facilitate demand for locally recycled materials or green products

Thematic area:
Support for industries and the private sector in adopting ESG practices and technologies

Context:

Some areas in Sarawak experience repeated flooding, resulting in high amounts of economic losses

Introduce green procurement policies to facilitate demand for locally recycled materials, green products and services

Description: Green procurement policies are designed to prioritise environmentally sustainable products and services, encouraging both public and private sectors to reduce their ecological footprint. By promoting the demand for goods with locally recycled materials, these policies support the development of a circular economy, reducing dependence on virgin resources and fostering environmental sustainability. Criteria can be based on the Government Green Procurement (GGP) 3.0 Guidelines set by the Federal government.

Key Points

- **Encourages the use of products containing recycled content**
- **Supports job creation and business opportunities** within the recycling and green sectors
- **Reduces waste and decreases reliance on new materials**, aligning with sustainability goals
- **Enhances public involvement** in sustainability initiatives
- **Draws investment** into recycling technologies and infrastructure

Case Study: United Kingdom's Government Sustainable Procurement Policy

The United Kingdom’s Sustainable Procurement Policy (SPP) effectively boosts the recycling industry by setting criteria for recycled content in products. This approach has created jobs, supported enterprise growth, and reduced waste, demonstrating the potential for similar policies in Sarawak to enhance environmental sustainability and economic development, while supporting local recycling efforts and fostering community engagement.

Outcomes

- Higher recycling rates of domestic wastes
- Less pressure on existing landfills
- Increased adoption of circular economy practices
- Increased demand for local green products and services

Targets / Metrics

- Number of ministries and agencies signed up to the policy (if voluntary)

NEW FNAM-S4: Facilitate private sector participation through ESG adoption and financing

There is a potential to move SMEs and large companies from just compliance to value creation by tapping into green economy opportunities.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Climate Financing Facility for Sarawak (high-technology, innovative business model with climate and environmental impact):** The Climate Financing Facility for Sarawak will secure the region's sustainable future by funding innovative climate projects and positioning it as a green investment hub. It addresses investment gaps by incentivising sustainable practices and supporting local expertise and innovation. • **Green Accelerator on ESG for companies:** Establish a Green Accelerator programme to support companies in enhancing their Environmental, Social, and Governance (ESG) practices, providing resources, mentorship, and guidance to help businesses integrate sustainable practices and improve their ESG performance. • **Collaborate with investors to matchmake companies:** Facilitate investor matchmaking to connect Sarawakian companies with capital aligned to their sustainability goals, fostering growth in eco-friendly enterprises.	• **Increase financing needed for companies** • **Increase start-up and innovation** surrounding climate, energy and sustainability for Sarawak • **Enhance support** from investors to Sarawakian companies	• **N/A**

✓ **Indicates key initiatives/game changer**

NEW Game changer: Climate Financing Facility for Sarawak (high-technology, innovative business model with climate and environmental impact) (1/2)

Thematic area:
Support for industries and private sector in adopting ESG practices and technologies

Context:

- *There is a need to mainstream environmental sustainability into the various sectors*
- *There is a potential move from just compliance to value creation by tapping into green economy opportunities*

Introduce a Climate Finance Facility (high-technology, innovative business model with climate and environmental impacts)

Description: The Climate Finance Facility for Sarawak can be designed to secure the region's sustainable future by financing innovative climate mitigation and adaptation projects. It supports innovative green business models and positions Sarawak as a hub for green investments. The facility can address investment gaps by incentivising sustainable practices, enhancing local expertise as well as support emerging companies or innovation to be piloted in Sarawak.

Key Points:

- **Partner with financing facilities, funders or banks to finance innovative climate mitigation and adaptation projects**, which show long-term potential and a business case (high-technology and innovative business model with climate and environmental impact)
- **Stimulates green growth by encouraging innovation** and reducing reliance on traditional industries
- **Positions Sarawak as a competitive destination** for green investments, including local start-ups and companies
- **Drives development of new solutions** to environmental challenges in Sarawak
- **Incentivises sustainable practices** to meet market demands
- **Enhances local expertise** in managing green projects

Outcomes

- Increased investment to support climate mitigation and adaptation activities amongst industries, as well as ESG adoption

Targets / Metrics

- Total green finance available
- Total companies supported

NEW Game changer: Climate Financing Facility for Sarawak (high-technology, innovative business model with climate and environmental impact) (2/2)

Malaysia's High Tech and Green (HTG) Facility

Case Study:

The High Tech and Green (HTG) Facility was designed to help SMEs and innovative start-ups to grow their businesses and invest in strategic sectors and technology fields (digital tech, green tech and biotech) for a sustainable and entrenched economic recovery

Key features:

- RM 1.1 billion allocated for the fund in December 2020
- Up to RM10 mil in financing for a tenure of up to 10 years
- Up to 3.5% per annum for financing without a guarantee, or 5% per annum inclusive of a guaranteed fee

The Bank provided funding for businesses in the following green technology areas (non-exhaustive)

- **Renewable energy & energy efficiency**
- **Natural resource management and pollution prevention**
- **Circular economy**
- **Agritechnology**
- **Low carbon technologies** (e.g. CCUS, low-carbon hydrogen)

Impact

Combined with the Low Carbon Transition Facility (LCTF), cumulative approved funding for both programs stood at **RM1.2 bil in 2023.**

This has helped **550 SMEs** start their green transition journey.

Given a **RM120 mil** of approved funding under the same facility for the same terms, we can help around **40 Sarawakian SMEs** in helping build their business in green sectors and adopt ESG practices. **This could lead to significant spillover effects for the economy and greenhouse gas reductions.**

Source: Bank Negara Malaysia Annual Report 2023

FIX FNAM-S5: Better pollution control at source and enforcement

There is a potential to move SMEs and large companies from just compliance to value creation by tapping into green economy opportunities.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Using technology to enhance environmental data monitoring and enforcement mechanism through drones or live monitoring systems:** Implement advanced environmental data monitoring by deploying drones and live monitoring systems to capture real-time data on air and water and air quality and other environmental parameters. Establish a centralised platform for data analysis to support prompt enforcement and informed decision-making by authorities. • **Widen environmental quality monitoring network for air, river, water and soil:** Enhance forecasting precision to enable better prevention and mitigation of environmental issues. Historical data can be utilised to develop a predictive model to forecast environmental disasters, such as haze and river pollution, leading to better preparedness and efficient resource allocation by agencies.	• **Improved live monitoring through technology** to strengthen enforcement	• **Reduction of annual mean concentration of PM2.5 to 28 µg/m³ in cities** • **300 days with API below 50 (low to no pollution)** • **Rivers to achieve high quality (Class II) status**

BUILD FNAM-S6: Facilitate carbon trading and ecosystem

Operationalising carbon trading activities are crucial to enhance Sarawak's carbon credit market.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish Sarawak Climate Change Centre:** The centre will focus on coordinating climate mitigation, adaptation, and carbon trading activities, ensuring alignment with national and regional environmental objectives. • **Identify areas/ priority sectors for carbon market project development:** Identify priority sectors like energy, forestry, and agriculture with high emissions reduction potential. Engage stakeholders to develop strategies for investing in carbon offset projects, aligning with sustainability goals and market demand.	• **High-quality voluntary carbon projects in Sarawak,** including nature-based solutions and technology-driven carbon initiatives, aligned with the guidelines of Article 6.	• **Contribute to national reduction of 45% of GHG emissions intensity by 2030, based on 2005 levels** and maintaining net zero emissions

✓ **Indicates key initiatives/game changer**

NEW Game Changer: Establish Sarawak Climate Change Centre

Thematic area:
Reduce GHG emissions at key emitting sector

Context:

- *Establishing a Climate Change Centre in Sarawak for carbon trading supports Malaysia's goal of a 45% reduction in greenhouse gas emissions by 2030.*
- *By financially valuing emissions, carbon trading incentivises companies to lower their carbon footprint, aligning economic and environmental objectives.*

Establish Sarawak Climate Change Centre to guide and coordinate climate mitigation, adaptation development and carbon trading activities

Description: The SCCC, operating under the Office of the Premier can be the central entity in advising, coordinating, guiding policy and implementation of climate change, sustainability, and carbon trading initiatives in Sarawak.

Key points:

- **An operational framework** built around supporting effective execution in policy formulation, advisory, reporting, monitoring, and carbon market functions.
- **A strategic unit** to set Sarawak's long-term agenda on climate mitigation and adaptation, sustainability and carbon trading
- **Provide capacity building and one-stop facilitation centre** for carbon trading and project development activities

Outcomes

- High-quality voluntary carbon projects in Sarawak, including nature-based solutions and technology-driven carbon initiatives, aligned with the guidelines of Article 6

Targets / Metrics

- Revenue generated from carbon trading
- Number of carbon credits sold per year

Source: Malaysia's 4th Biennial Update Report, UN-REDD Programme

BUILD FNAM-S7: Price carbon through compliance or voluntary market

Data, infrastructure and regulation is required to price carbon credits

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Establish GHG emissions reporting and compliance system to implement the Environment (Reduction of Greenhouse Gas) Ordinance, 2023:** Implement a platform for businesses to report greenhouse gas emissions, supported by regulatory guidelines and periodic audits to ensure transparency and compliance. • **Develop GHG emissions inventory system with integrated reporting for state-wide sectoral emissions reporting:** A comprehensive GHG emissions inventory will enable integrated sectoral reporting, facilitating coordinated emissions management. This system will support informed decision-making and enhance accountability in emissions reduction efforts across Sarawak.	• **Strengthened measurement, reporting and verification of GHG emissions from high-emitting sectors** through digital infrastructure and mechanisms	• **Contribute to national reduction of 45% of GHG emissions intensity by 2030** and maintaining net zero emissions

✓ **Indicates key initiative/game changer**

BUILD FNAM-S8: Formulate a sound policy and plan that incorporates conservation of environment related to climate related hazards due to climate change

Climate change will affect aspects of the environment as well, such as coastal erosion. Policies that deal with climate-related hazards should take this into account

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Review policy and legal framework for environmental sensitive and climate-related hazards:** Conduct a thorough evaluation of existing policies and legal frameworks governing environmentally sensitive and climate-related hazards. This review aims to identify gaps and recommend enhancements to strengthen resilience and ensure effective management of these hazards in Sarawak. • **Formulate planning guidelines on development in high-risk areas with climate-related hazards:** Develop comprehensive planning guidelines for development in areas prone to climate-related hazards. These guidelines will focus on risk mitigation and sustainable practices, ensuring that new developments are resilient to environmental challenges and aligned with long-term safety and sustainability goals.	• **Enhanced readiness in disaster prevention and risk reduction** as well as response from state to local community levels	• **Improvement of Sarawak's Malaysian Adaptation Index** up to 2030

BUILD FNAM-S9: Enhance measurement, reporting and verification (MRV) of GHG emissions throughout Sarawak

Tracking state-level GHG emissions is important to keep track of Sarawak's contribution to national GHG reductions

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Standardise and integrate data from sources:** Establish protocols for the integration of data from different sources, ensuring that data is standardised and comparable. This would involve collaboration with industries, government agencies, and research institutions to ensure consistency in data collection and reporting. • **Real-time monitoring and reporting:** Implement advanced technologies such as remote sensing, IoT devices, and satellite monitoring to facilitate real-time data collection. This would enhance the accuracy and timeliness of GHG emissions reporting.	• **Improved tracking of GHG emissions,** leading to better informed reduction policies at high emitting sectors	• **Contribute to national reduction of 45% of GHG emissions intensity by 2030** and maintaining net zero emissions

NEW FNAM-S10: Mainstream climate adaptation in planning

Climate change could impact the current and future generations of Sarawak residents. Therefore, integrating climate adaptation into planning processes is a wise strategy to prepare for and mitigate these climate-related effects as well as reduce economic loss from damages to future-proof growth.

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Develop climate adaptation strategy for Sarawak in planning and across the different systems:** Develop a comprehensive strategy integrating resilience into infrastructure, agriculture, and water management policies. Prioritise risk assessment, stakeholder collaboration, and adaptive technologies to protect Sarawak's environment, capital and socio-economic well-being from climate impacts.	• **Enhanced readiness in sectoral, infrastructural and spatial planning for Sarawak** to combat climate change impacts	• **Improvement of Sarawak's Malaysian Adaptation Index** up to 2030

2.10 HLS 9: Protect and Sustainably Manage Natural Resources

HLS 9: Protect and Sustainably Manage Natural Resources

		Page
Overview		**371**
Forestry, Natural Asset Management & Conservation		***372***
FNAM-S11	Ensure economic benefits from forestry activities are realised by rural communities	
FNAM-S12	Intensify cooperation between tourism and forestry, particularly in the eco-tourism sector to enhance sustainable development and forest conservation efforts	
FNAM-S13	Facilitate the availability of raw materials for high value-added industry	
FNAM-S14	Bolster enforcement and forest landscape restoration efforts	
FNAM-S15	Strengthen participation and capability of private sector and NGOs to develop high-quality conservation projects	
FNAM-S16	Ensure water availability, quality and sustainable water consumption and management	
FNAM-S17	Conduct biodiversity assessments to ensure better management of natural assets	
FNAM-S18	Enhance sustainable marine fisheries and leverage blue economy potential	
FNAM-S19	Integrate land use management decisions with natural resource management and conservation goals	
Mining and Oil & Gas		***387***
MOG-S6	Expedite geological mapping and mineral prospecting activities	

Overview
HLS 9: Protect and Sustainably Manage Natural Resources

Ensuring sustainable growth and ecological prosperity by protecting natural resources and driving conservation efforts through strategic planning and community partnerships

The high-level strategy for protecting and sustainably managing natural resources emphasises responsible resource extraction, conservation and biodiversity protection through initiatives such as nature-based carbon credit projects. Economic benefits from forestry activities will be directed to rural communities, with enhanced cooperation between tourism and forestry to support eco-tourism and conservation. A community-based forest resource management programme will integrate traditional knowledge with modern practices, facilitating raw material availability for high value-added industries. Geological mapping and mineral prospecting activities will be expedited, with land-use management decisions linked to conservation goals.

The strategy also involves strengthening enforcement and restoration efforts, empowering private sectors and NGOs in conservation projects, ensuring water quality and sustainable consumption, enhancing marine fisheries, and leveraging blue economy potential. Biodiversity assessments will guide management of natural assets, positioning resource management within a comprehensive conservation framework.

10 **Strategies**

22 **Initiatives**

3 **Game Changers**

Forestry, Natural Asset Management & Conservation

Key areas:

- Economic empowerment and eco-tourism cooperation
- Raw material supply and restoration enforcement
- Water management and integrated conservation strategies

Mining & Oil and Gas

Key areas:

- Phased geological surveying
- Land designation planning
- Centralised geological data access

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S11: Ensure economic benefits from forestry activities are realised by rural communities	✓ **Promote participatory forest resource management through a community-based forest resource management programme**	• Increased employment in the forestry sector in rural areas • Enhanced environmental conservation and sustainable forestry
FNAM-S12: Intensify cooperation between tourism and forestry, particularly in the eco-tourism sector to enhance sustainable development and forest conservation efforts	• Collaboration between tourism operators, local communities and government agencies to showcase local biodiversity and conservation efforts	• Increased public awareness on forest and biodiversity conservation • Increased funding for conservation efforts
FNAM-S13: Facilitate the availability of raw materials for high value-added industry	• In the medium term, encourage and facilitate importation of logs to temporarily service existing processing capacity • Ensure availability of raw material for domestic high value-added processing • Increase timber & non-wood forest products export earnings	• Increased supply of raw materials for furniture processing
FNAM-S14: Bolster enforcement and forest landscape restoration efforts	✓ **Develop nature-based projects for carbon credits** • Strengthen enforcement of total protected areas with the indigenous communities with the support and collaboration from indigenous communities, civil societies, private sectors and using advanced technologies • Leverage technology, delineate clear boundaries and providing comprehensive management plans for protected areas	• Enhanced enforcement and protection of forested areas and natural resources

✓ **Indicates key initiatives/game changer**

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S15: Strengthen participation and capability of private sector and NGOs to develop high-quality conservation projects	• Rural transformation through community participation in biodiversity conservation and protected areas management services • Support local and private sector participation and awareness in conservation projects using alternative financing mechanisms e.g., BIOFIN	• Increased community and private sector participation and financing in nature and biodiversity conservation and management through sustainable financing mechanisms
FNAM-S16: Ensure water availability, quality and sustainable water consumption and management	• To implement water grid system, NAWABS, IRBM and SAWAS • River rehabilitation program	• Enhanced water conservation and management by ensuring water availability and water quality
FNAM-S17: Conduct biodiversity assessments to ensure better management of natural assets	• Carry out baseline surveys and inventories of ecologically rich areas • Implement a habitat monitoring system	• Improved management of ecologically diverse areas. • Enhanced ecosystem resilience through regular monitoring, leading to better adaptive policies

Forestry, Natural Asset Management & Conservation

Strategy	Initiative	Outcome
FNAM-S18: Enhance sustainable marine fisheries and leverage blue economy potential	• Management of gazette marine national parks • Introduce marine spatial planning in blue economy policy including Integrated Shoreline Management Plan (ISMP) • Enhance fishing landing infrastructure and travelling as well as control fishing methods • Enhance enforcement against illegal activities	• Improved marine resources conservation and management while tapping into blue economy potential for Sarawak
FNAM-S19: Integrate land use management decisions with natural resource management and conservation goals	• Use of alternative financing mechanisms to incentivise protection of forested areas or as a compensation model e.g., ecological fiscal transfer, REDD+, Payment for Ecosystem Services (PES) • Leverage technology such as drones and smart forest monitoring to assist with enforcement and planning	• Reduced unplanned land use conversion and facilitate long-term land use planning and management • Incentivise forest and natural resource protection through alternative compensation or financing schemes

BUILD FNAM-S11: Ensure economic benefits from forestry activities are realised by rural communities

Limited community involvement in forestry initiatives reduces the socio-economic benefits available to rural communities and hinders the full potential of rural lands

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Promote participatory forest resource management through a community-based forest resource management programme** ○ Empower communities to manage forests sustainably, combining conservation with socio-economic benefits through tree planting, agro-forestry, eco-tourism and biodiversity conservation ○ Active involvement of communities in forestry activities i.e trees plantation program, forest carbon, agro-forestry, eco-tourism, biodiversity conservation, non-timber product (e.g. bamboo planting) ○ This involves establishing partnership models, strengthening of community capacity and integration of traditional knowledge with modern practices	• **Increased socio-economic benefits felt by rural communities** • **Empowerment and increased capacity of rural communities** • **Enhanced environmental conservation and sustainable forestry**	• **TPA Protection & Biodiversity Conservation Programs** • **200,000 ha area (100%) planted/restored by 2030** • **Obtain world recognition for sustainable management practices and conservation effort** • **Certify 3 mil ha of long-term forest licence area (FMU) and 178,000 ha forest plantation (FPMU) under Malaysian Timber Certification Council/Programmes for the Endorsement of Forest Certification and Forest Stewardship Council by 2025**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Promote participatory forest resource management through a community-based forest resource management programme

Thematic area:
Limited community participation in forestry sector efforts

Context:

- *Some local communities may not immediately see the benefits of sustainable forest management, which may reduce involvement in conservation activities*
- *There is great potential for the involvement of rural communities in forest management to ensure a sustainable supply of raw materials, support conservation efforts and improve livelihoods*

Promote participatory forest resource management through a community-based forest resource management programme

Promote participatory forest resource management through a community-based forest resource management system

This approach combines environmental conservation with socio-economic development, ensuring that communities directly benefit from the resources they help to preserve. This programme includes activities such as tree plantation programmes, agro-forestry, eco-tourism, biodiversity conservation, and carbon credit trading.

Key components include creating partnership models, building community capacity for sustainable management, and integrating traditional knowledge with modern conservation practices.

Outcomes

- Increased employment in the forestry sector in rural areas
- Enhanced environmental conservation and sustainable forestry

Targets / Metrics

- Number of tree plantation programmes involving the community
- Number of eco-tourism programmes actively involving the community

Source: World Bank, RECOFTC Indonesia

BUILD FNAM-S12: Intensify cooperation between tourism and forestry, particularly in the eco-tourism sector to enhance sustainable development and forest conservation efforts

Limited integration of forestry efforts with eco-tourism activities does not fully leverage opportunities for sustainable development, emphasising the need for stronger collaboration to enhance conservation and local benefits

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Collaboration between tourism operators, local communities and government agencies to promote educational experiences for tourists and locals to showcase local biodiversity and conservation efforts:** ○ Efforts may include sustainable trail development with enhanced informative signboards, forest-based activities, and biodiversity education catered to all ages, promoting both environmental stewardship and sustainable development	• **Increased public awareness on forest and biodiversity conservation** • **Increased funding for conservation efforts**	• **TPA Protection & Biodiversity Conservation Programs** • **Obtain world recognition for sustainable management practices and conservation effort**

BUILD FNAM-S13: Facilitate the availability of raw materials for high-value added industry (1/2)

With limited capacity to improve local log production in the near term, importing raw materials is the most viable solution to service existing processing capacity and sustain industry operations

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **In the medium term, to encourage and facilitate importation of logs to temporarily service existing processing capacity**
  ○ Foster partnerships with international suppliers to help timber-processing businesses, especially SMEs, secure reliable and consistent sources of raw materials
• **Ensure availability of raw material for domestic high value-added processing**
  ○ Conduct applied R&D to develop and commercialise new potential products from forest produce
  ○ Undertake the necessary analyses and studies to assess whether the following measures would yield a beneficial impact on the timber industry, prior to potential implementation:
  ○ Implement a sales tax on the export of primary products
  ○ Restricting the exportation of logs from planted forests
  ○ Reviewing the log quota policy to ensure a higher quota for sustainable local processing
	• **Increased supply of raw materials for furniture processing**	• **Increase timber & non wood forest products export earnings - Annual export value of RM8 billion by 2030**

BUILD FNAM-S13: Facilitate the availability of raw materials for high-value added industry (2/2)

With limited capacity to improve local log production in the near term, importing raw materials is the most viable solution to service existing processing capacity and sustain industry operations

Key Initiatives	Key Outcomes	PCDS 2030 Targets

• **Increase timber & non-wood forest products export earnings**
  ○ Development of Sarawak Timber Excellence Centre
  ○ Development of furniture park to attract investment
	• **Increased supply of raw materials for furniture processing**
	• **Increased development of downstream high-value timber industry**
		• **Increase timber & non wood forest products export earnings - Annual export value of RM8 billion by 2030**

BUILD FNAM-S14: Bolster enforcement and forest landscape restoration effort

Managing international deforestation perceptions and bolstering enforcement is crucial in helping maintain at least 56% forest cover

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Develop nature-based projects for carbon credits:** Develop reforestation and restoration projects to generate carbon credits, leading to increased revenue for Sarawak and ensuring alignment with biodiversity goals and community benefits. • **Strengthen enforcement of total protected areas with the support and collaboration from indigenous communities, civil societies, private sectors and using advanced technologies:** Partner with indigenous communities to enhance enforcement efforts, using their traditional knowledge for effective area management. Establish co-management frameworks to empower and involve indigenous groups in conservation. • **Leverage technology, delineate clear boundaries and providing comprehensive management plans for protected areas:** Employ satellite monitoring and drone surveillance to enhance real-time management of protected areas. Integrate these with Geographic Information Systems (GIS) for precise mapping and boundary delineation, alongside community-engaged plans and training for local enforcement.	• **Enhanced enforcement and protection of forested areas and natural resources**	• **Restore 200,000 ha of degraded forest area** by 2030 • **56% forest cover** maintained

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Develop nature-based projects for carbon credits

Thematic area:
Managing deforestation and the perception of deforestation risks

Context:

Developing high-quality carbon credit projects by identifying nature-based projects, investors and project developers, e.g., afforestation, reforestation, agro-forestry projects. Potential to develop carbon market projects is important to bring in additional revenue for Sarawak

Develop nature-based projects for carbon credits

Description: Sarawak can leverage its forests and wetlands as carbon sinks to generate tradable carbon credits in global markets. This aligns environmental conservation with economic growth, attracting investments, creating jobs, and promoting sustainable development. It supports Malaysia's goal of reducing greenhouse gas emissions by 45% by 2030, positioning Sarawak as a leader in climate action and a benchmark for regional sustainability

Key Points:

- **Nature-based projects that could generate carbon credits**
- **Attracts investments** and supports local employment and community benefits
- **Enhances Sarawak's participation** in global climate initiatives and carbon market opportunities by developing high-quality projects

Impact

- Sarawak had an estimated net negative emissions of **53,661GgCO_2eq** in 2019.
- The average price of forest carbon credit was around **RM18 per tCO_2** in 2019
- If Sarawak traded 50% of its negative emissions, this would have brought in potential additional revenue of around **RM483 mil.** This will continue to grow as the price of carbon credits increases due to higher demand.

Note: Sarawak's GHG emission estimates are based on a top-down approximation exercise using the GHG emissions reported in Malaysia's 4th Biennial Update Report (BUR4)

Outcomes

High-quality voluntary carbon projects in Sarawak, including nature-based solutions and technology-driven carbon initiatives, are aligned with the guidelines of Article 6.

Targets / Metrics

- Number of carbon credits generated from Sarawak per year
- Forest cover – **Maintain at 56%**

Source: Malaysia's 4th Biennial Update Report, UN-REDD Programme

BUILD FNAM-S15: Strengthen participation and capability of private sector and NGOs to develop high-quality conservation projects

The implementation of sustainable or alternative financing mechanisms in conservation and management of forest to scale finances is needed to balance economic growth with conservation goals

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Rural transformation through community participation in biodiversity conservation and protected areas management services:** Empower local communities to engage in biodiversity conservation and manage protected areas, fostering rural transformation through active participation. This approach aims to enhance local stewardship and sustainable management of natural resources. • **Support local and private sector participation and awareness in conservation projects using alternative financing mechanism:** Leverage mechanisms like BIOFIN to encourage local and private sector involvement in conservation initiatives, boosting participation and awareness. These financial strategies aim to attract investment in sustainable conservation efforts and promote environmental responsibility.	• **Increased community and private sector participation and financing in nature and biodiversity conservation and management** through sustainable financing mechanisms	• **56% forest cover** maintained

BUILD FNAM-S16: Ensure water availability, quality and sustainable water consumption and management

Protect water quality to ensure sufficient quantity for consumption, including for hydropower electricity

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **To implement water grid system, NAWABS, IRBM and SAWAS:** Develop a comprehensive water grid system to optimise water management and distribution across regions. • **River rehabilitation program:** Initiate a river rehabilitation programme focused on restoring natural habitats and improving water quality through targeted clean-up and restoration activities.	• **Enhanced water conservation and management** by ensuring water availability and water quality • **Enhanced resilience** by protecting water resources	• **2 healthy and working watersheds and rivers**

BUILD FNAM-S17: Conduct biodiversity assessments to ensure better management of natural assets

Sarawak's distinctive ecology is an asset that warrants sustainable management. Home to 1,098 unique species, including several native to the island of Borneo, it is imperative to ensure its protection

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Carry out baseline surveys and inventories of ecologically-rich areas:** Conduct comprehensive surveys to document existing species, habitats, and ecosystems. This includes identifying key species, endemic species, and those that are threatened or endangered. • **Implement a habitat monitoring system:** Establish a continuous habitat monitoring system using remote sensing technologies, such as satellite imagery and drone surveillance, to track changes in forest cover and biodiversity health. This could also be in a form of legislative enhancements to mandate habitat monitoring to prevent habitat loss.	• **Improved management** of ecologically-diverse areas. • **Enhanced ecosystem resilience** through regular monitoring, leading to better adaptive policies.	• **25 TPA Protection & Biodiversity Conservation programs annually**

NEW FNAM-S18: Enhance sustainable marine fisheries and leverage Sarawak's blue economy potential

The blue economy is an important aspect of Sarawak's natural assets. As such, clear policies on sustainable fishing and use should be implemented

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Management of gazetted marine national parks:** Manage marine national parks with regulations and monitoring to align with blue economy goals, enhancing sustainable use and value with community collaboration. • **Introduce marine spatial planning in blue economy policy including Integrated Shoreline Management Plan (ISMP):** Integrate marine spatial planning by developing an Integrated Shoreline Management Plan (ISMP) that aligns with blue economy objectives. • **Enhance fishing landing infrastructure and travelling as well as control fishing methods:** Upgrade fishing infrastructure and enforce regulations to promote sustainable fisheries, which are vital for local economic stability. • **Enhance enforcement against illegal activities:** Enhance enforcement to safeguard marine ecosystems from illegal activities. This can involve collaboration with communities and law enforcement.	• **Improved marine resources conservation and management** while tapping into blue economy potential for Sarawak	• *To be defined by the Blue Economy Sarawak study*

NEW FNAM-S19: Integrate land use management decisions with natural resource management and conservation goals

The current challenge is to manage land use change and development to prevent further loss of forest cover as well as protection of natural assets

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Use of alternative financing mechanisms to incentivise protection of forested areas or as a compensation model e.g., ecological fiscal transfer, REDD+, Payment for Ecosystem Services (PES):** Financially incentivise local governments and communities to forested areas, utilising transparent fund allocation and monitoring systems. These mechanisms will promote sustainable forest management by compensating efforts to maintain ecological services and biodiversity. • **Leverage technology such as drones and smart forest monitoring to assist with enforcement and planning:** Deploy drones and smart monitoring technologies to enhance forest surveillance, enabling real-time data collection for effective enforcement of conservation laws. Integrate these technologies with existing management systems to facilitate timely detection and response to illegal activities and environmental threats.	• **Reduced unplanned land use conversion and facilitate long-term land use planning and management** • **Incentivise forest and natural resource protection** through alternative compensation or financing schemes	• **56% forest cover** maintained • **Restore 200,000 ha of degraded forest area** by 2030 • **6 mil ha of Permanent Forest area (PFA)** to be gazetted

Mining & Oil and Gas

Strategy	Initiative	Outcome
MOG-S6: Expedite geological mapping and mineral prospecting activities	✓ **Established a phased geological surveying and land designation plan** • Create a centralised geological database for ease of access to geological survey data	• Enhanced geological data availability • Increased investments in the mining sector • Improved land use management

✓ **Indicates key initiatives/game changer**

BUILD MOG-S6: Expedite geological mapping and mineral prospecting activities

Sarawak's geological database is not sufficient, requiring swift action to gather more geological information for investment attraction

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Establish a phased geological surveying and land designation plan:** o Develop a structured roadmap to survey and map identified areas of land, prioritising accessible, high-potential areas o Collaborate with land planning agencies to establish guidelines for efficient integration of mining areas into Sarawak's land development plans • **Create a centralised geological database for ease of access to geological survey data:** o Using existing data and results from the geological surveys, establish a centralised repository to consolidate Sarawak's mineral and mining information o This database will serve as a foundation for attracting future investors and enable continuous updates from new exploration findings	• **Enhanced geological data availability** • **Increased investments in the mining sector** • **Improved land use management**	• **RM7.35 billion private investment from minerals-based industry (2022-2030)** • **RM2 billion of additional direct annual GDP from mining upstream industry by 2030**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Establish a phased geological surveying and land designation plan (1/2)

Thematic area:
Inadequate geological database

Context:

- *Sarawak's mining industry faces challenges due to inadequate geological data*
- *This is due to poor data management and a lack of geological exploration activities*
- *Geological exploration activities are hindered by, among others, the absence of designated mining areas in the land use policy, as well as incomplete public information on land claims and the legal framework for dispute resolution*

Establish a phased geological surveying and land designation plan

1. **Establish phased plans for geological surveying and mapping in targeted areas**
   - To develop a structured roadmap to survey and map approximately 30,000km^2 of identified land area, divided into clear phases to prioritise areas with the greatest accessibility and highest mineral potential
   - To target surveying of key high-priority zones by 2030, with subsequent focus on medium and lower-priority areas
   - This recognises the need for timely progress, with efforts beginning using available resources to deliver initial results, building stakeholder confidence while additional funding is secured
2. **Facilitate land designation and integrate mining areas into land-use policies**
   - To support geological surveying activities, there is a need to work closely with land planning agencies to focus on reviewing and updating Sarawak's land-use policies to include areas designated for mining activities
   - This needs to be supported with guideline development to efficiently designate land use for mining to further the development of mining regions and realise Sarawak's mining potential

Outcomes

- Enhanced geological data availability
- Increased investments in the mining sector
- Improved land use management

Targets / Metrics

- Total area of geological surveying completed

Source: Land Use Policy Statement of Sarawak

BUILD Game changer: Establish a phased geological surveying and land designation plan (2/2)

Case Study: ***Geoscience Australia - Exploring for the Future program***

In 2016, Geoscience Australia launched the Exploring for the Future programme to enhance understanding of mineral, energy and groundwater resources across northern Australia. This $100 million, four-year initiative (2016-2020) leveraged existing data and innovative technologies to support informed decision-making and investment. In June 2020, the Australian Government increased funding by $125 million, extending the programme to 2024 and expanding its scope nationwide.

Phase one (2016-2020) projects covered 3 million km² in northern Australia, providing decision-makers in industry, government and communities with access to over 250 new datasets and products, paving the way for a new era of informed decision-making.

Phase two (2020-2024) continued some projects from the previous phase and focused on eight interrelated projects:

- 3 deep-dive projects in potentially resource-rich corridors
- 3 continental-scale projects with a focus on southern Australia
- 2 program-support projects involving data management and programme communication

Since the program's inception, Australia's share of global mineral exploration spending has increased from 8% in 2015 to 18% in 2023, capturing a significant portion of world-class discoveries. Between 2017 and 2023, Australia accounted for 24% of the world's major mineral discoveries and 29% of Tier 1 discoveries (net present value > $1 billion). The commitment to providing precompetitive geoscience has yielded impressive results.

Source: Geoscience Australia

2.11 HLS 10: Create a Strong and Resilient Bumiputera Business Community

HLS 10: Create a Strong and Resilient Bumiputera Business Community

		Page
Overview		**393**
Education & Human Capital		***394***
EHC-S7	Fostering a skilled and agile workforce that meets industry needs and enhances productivity	
EHC-S8	Strengthening youth employability and economic participation	
Social Services		***398***
SS-S22	Accelerating socio-economic development of indigenous communities with continuous engagements and in a phased manner (Penan)	
SS-S23	Supporting existing communities and growing populations with basic infrastructure (Penan)	
SS-S24	Establishing long-term monitoring and support systems to address emerging issues and ensure the sustainability of indigenous and resettled communities (Resettlement)	
SS-S25	Supporting resettlement communities through economic diversification and growth (Resettlement)	
SS-S26	Improving connectivity and access to essential services and facilities (Resettlement)	

Overview
HLS 10: Create a Strong and Resilient Bumiputera Business Community

Building Bumiputera business resilience in Penan and Resettlement communities through strategic engagement and growth for sustainable prosperity

The strategy to create a resilient Bumiputera business community focuses on capacity building and enhancing market access to foster greater economic participation. By harnessing the potential of young individuals with urban exposure, it aims to invigorate rural economies, particularly in agriculture and tourism sectors. The "Career Pathway Programme" will provide essential tools and opportunities for both graduates and the workforce, encouraging exploration of diverse career paths, including non-traditional roles. Targeted initiatives will support indigenous communities, accelerate socio-economic development, and enhance livelihoods through tailored upskilling programmes aligned with key economic activities.

For the Penan and resettlement communities, the strategy includes phased socio-economic engagement, infrastructure development, and enhanced connectivity to facilitate access to essential services. Economic diversification within resettlement communities will be supported, with long-term monitoring systems in place to ensure sustainability and address emerging issues effectively. Collectively, these measures will support and advance the **Sarawak Bumiputera Blueprint 2035** and the **SME Masterplan Study** (which also covers Bumiputera SMEs).

7 **Strategies**

9 **Initiatives**

1 **Game Changers**

Education & Human Capital

Key areas:
- Youth employability initiatives
- Industry-aligned skill development
- Workforce agility and productivity

Social Services

Key areas:
- Infrastructure support and connectivity enhancement
- Economic diversification and growth
- Monitoring and sustainability systems

Social Services

Strategy	Initiative	Outcome
Human Capital Development		
EHC-S7: Fostering a skilled and agile workforce that meets industry needs and enhances productivity	✓ **Career Pathway Programme** • **Implementation of the Talent Development Policy** • **TVET as an attractive career pathway**	• Alleviate shortage of skilled workers in Sarawak • Enable seamless job matching that can improve workforce participation and reduce labour market frictions • Reduced dependency on job market for career opportunity • Balanced socio-economic conditions in urban and rural areas in Sarawak
Youth		
EHC-S8: Strengthening youth employability and economic participation	✓ Career Pathway Programme	• Targeted and comprehensive approach towards resolving key challenges faced, as well as maximising potential of youth in Sarawak

✓ **Indicates key initiatives/game changer**

BUILD EHC-S7: Fostering a skilled and agile workforce that meets industry needs and enhance productivity

Widening gaps in workforce skills demand and supply

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Career Pathway Programme** - Leverage the MySIP, create networks and mentorship, offer training and career advisory support, including for less conventional jobs and encourage wide adoption of existing job digital platforms • **Implementation of the Talent Development Policy** - Data-driven talent planning - Provide upskilling, reskilling and multiskilling programmes for existing workforce or unemployed to adapt to changing industry requirements • **TVET as an attractive career pathway** - Programme design for High Growth High Value Programme (HGHV) - Expansion of TVET to tourism and hospitality - Investment in TVET for SPM leavers	• Alleviate shortage of skilled workers in Sarawak • Enable seamless job matching that can improve workforce participation and reduce labour market frictions • Reduced dependency on job market for career opportunity • Balanced socio-economic conditions in urban and rural areas in Sarawak	• **Sarawak Social Well-being Index Score of 8 and above** • **30% skilled workforce**

✓ **Indicates key initiatives/game changer**

BUILD EHC-S8: Strengthening youth employability and economic participation

Elevated youth unemployment due mainly to the lack of competencies including education and skills, and the lack of career support/guidance

Key Initiatives	Key Outcomes	PCDS 2030 Targets
✓ **Career Pathway Programme** - Leverage the MySIP (National Structured Internship Programme) by TalentCorp - Create networks and mentorship that connect youth with mentors/industry leaders in various sectors through public forums or collaboration with corporates - Offer tailored courses and advisory services, including for less conventional jobs (e.g. content creation, digital nomads, gig economy), partnering key institutions such as SSDC, CENTEXS and private sector - Encourage wide adoption of existing digital platforms including Sistem Pesanan Kerjaya (SPEAK) and Sarawak Workforce Information System (SWIS)	• Enhance the professionalism and entrepreneurial mindset of young Sarawakians as a key asset in economic development • Improve youth livelihoods and standard of living	• **Sarawak Social Well-being Index Score of 8 and above** • **30% skilled workforce**

✓ **Indicates key initiatives/game changer**

BUILD Game changer: Career Pathway Programme

Thematic area:
Widening gaps in workforce skills demand and supply

Context:

- *Widening gaps in workforce skills demand and supply (e.g. in the high-growth, high-value (HGHV) sectors*
- *Emerging interest in less-conventional and flexible jobs (e.g. influencers, etc.)*
- *For youths, the unemployment rate remained high at 12.8% in 2023*

Initiative: Career Pathway Programme

Description: A platform that provides those who are graduating or in the workforce the avenue, tool and network to explore business and career opportunities, including in non-traditional jobs. This also supports the youth's aspirations as the talent foundation for Sarawak's development.

Key Features

Leveraging MySIP (National Structured Internship Programme)

Collaborate with TalentCorp to enhance internship opportunities, providing structured pathways to gain practical experience and industry insights across various fields

Networking and Mentorship

Connecting individuals (including youth) with mentors/industry leaders across diverse sectors through public forums and collaboration with corporates on mentorship programmes by cohorts

Training and Career Advisory Support

Offer tailored courses and advisory services, including for less conventional jobs (e.g. content creation, digital nomads, gig economy), partnering key institutions such as SSDC, CENTEXS and the private sector

Encourage wide adoption of existing digital platforms, including Sistem Pesanan Kerjaya (SPEAK) and Sarawak Workforce Information System (SWIS)

Impact example:

- A study conducted in Argentina revealed that youth participating in training programmes experienced an 8% increase in short-term formal employment opportunities and a 40% higher earnings compared to those who did not undergo such training

Outcomes

- Higher youth employment in skilled and semi-skilled jobs
- Workforce acquires relevant skills and competencies that align with industry demand
- Increased business and economic activities
- Salary improvement

Targets / Metrics

- Employment rates
- No. of Sarawakians attaining education/ training
- No. of entrepreneurial ventures

Source: Long-run effects of Youth Training Programs: Experimental Evidence from Argentina, Alzua, 2016; Labour Force Survey 2023, DOSM*

Social Services

Strategy	Initiative	Outcome
Penan		
SS-S22: Accelerating socio-economic development of indigenous communities with continuous engagements and in a phased manner	• **Implement targeted programmes to support economic development and livelihoods** of the indigenous community	• Foster equity, inclusivity, and help sustain the livelihood of the Penan community • Improve the quality of life of the indigenous community
SS-S23: Supporting existing communities and growing populations with basic infrastructure	• **Enhance accessibility of Penan to basic facilities /infrastructures**	

Social Services

Strategy	Initiative	Outcome
Resettlement		
SS-S24: Establishing long-term monitoring and support systems to address emerging issues and ensure the sustainability of indigenous and resettled communities	• **Accelerate socio-economic development** of resettlement communities through monitoring to address needs and emerging issues through close communication with community leaders	• Prompt action and adaptive programme design in response to emerging issues, which is essential for building dynamic and effective initiatives for the community • Improved living standards and sustainable development of the resettlement communities • Enhanced quality of life and economic opportunities within resettlement communities
SS-S25: Supporting resettlement communities through economic diversification and growth	• **Promote economic diversification and growth** in resettlement communities through involvement in targeted sectors	
SS-S26: Improving connectivity and access to essential services and facilities	• **Enhance infrastructure and accessibility within resettlement areas**	

BUILD SS-S22: Accelerating socio-economic development of indigenous communities with continuous engagements and in a phased manner

Limited access to social assistance, basic amenities and economic opportunities for Penan communities driven by lack of formal documentation

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Implement targeted programmes to support economic development and livelihoods of the indigenous community** - Expand the number of Programme Khas Bumiputera (PKB) programmes held in a year from 3 to 4 or 5 *(Note: PKB is the largest running incentive by the Federal government for Penan)* - Implement targeted upskilling programmes specific to main economic activities in the resettlement areas	• Foster equity, inclusivity, and help sustain the livelihood of the Penan community	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

BUILD SS-S23: Supporting existing communities and growing populations with basic infrastructure

Underdeveloped infrastructure and connectivity

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance accessibility of Penans to basic facilities /infrastructures** - Access to electricity, water, education and healthcare - Build and upgrade village/rural roads to improve connectivity between rural areas and towns	• Improve the quality of life of the indigenous community	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

FIX BUILD SS-S24: Establishing long-term monitoring and support systems to address emerging issues and ensure the sustainability of indigenous and resettled communities

Underdeveloped infrastructure and connectivity

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Accelerate socio-economic development of indigenous communities through monitoring to address needs and emerging issues through close communication with community leaders**	• Enable prompt action and adaptive programme design in response to emerging issues, which is essential for building dynamic and effective initiatives for the community	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

FIX BUILD SS-S25: Supporting resettlement communities through economic diversification and growth

Insufficient access to basic amenities and infrastructure

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Promote economic diversification and growth in resettlement communities through involvement in targeted sectors** - Commercial agriculture - Tourism development - Large-scale farming initiatives to increase agricultural productivity and income	• Improve living standards and enable sustainable development of the resettlement communities	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

FIX BUILD SS-S26: Improving connectivity and access to essential services and facilities

Insufficient access to basic amenities and infrastructure

Key Initiatives	Key Outcomes	PCDS 2030 Targets
• **Enhance infrastructure and accessibility within resettlement areas** - Upgrade road infrastructure in the resettlement area - Develop facilities and service centres to improve the quality of life in communities including essential services such as healthcare, education, and commerce (refer to Healthcare and Education & Human Capital priority areas)	• Enhance the quality of life and promote economic opportunities within resettlement communities	• **Social Well-being Index Score of 8 and above** • **Malaysian Family Well-being Index Score 8 and above**

3

Conclusions and Next Steps

The implementation of a delivery framework is crucial to drive the successful execution of Sarawak 13MP strategies

The Sarawak 13MP considers Sarawak's adoption of Integrated Results Based Management (IRBM) to facilitate the execution of its strategies

This approach focuses on three (3) stages, namely **planning, budgeting and monitoring & evaluation,** that will address the need for better orientation towards results and drive Sarawak towards its 2030 goals.

Linking policy outcomes to budgets with Results-Based Budgeting (RBB)

RBB is a tool, extended from the Federal Government's IRBM, to ensure that policy-level goals are linked to the budget allocations at the programme level.

The RBB systems cycle includes:

- Planning, budgeting, monitoring, evaluation, and reporting of financial and performance results.
- A strategic, integrated process where each step informs the next using a single strategic results framework.
- The system is designed to ensure that key decision-makers consistently consider the outcomes that the Ministries need to accomplish.

3 Stages to RBB

Strategic Multi-level Performance Planning

- Identify government priorities, align ministry outcomes with state priorities and set performance targets to measure effectiveness and efficiency in achieving those outcomes while optimising resource use

Budgeting

- Estimates the financial and human resources needed to implement the planned programs and achieve the approved outcomes for the budget year

Monitoring and Evaluation

- Continuous monitoring and evaluation are crucial to ensure effective implementation and identify necessary corrective actions promptly
- Monitoring tracks progress and outcomes using key indicators
- Prioritises key pre-determined evaluation issues with data collection planned in advance

Source: Technical Guidelines for the Implementation of Results-Based Budgeting (RBB); SFS

A comprehensive and holistic Sarawak 13MP delivery framework should consider key steps from prioritisation to evaluation & reporting

Prioritisation

To ensure efficient resource allocation, the following should be considered for prioritisation

- **Impact**
- **Ease of implementation**
- **Cost**
- **Meets immediate needs**
- **Supports long-term development**
- **Extensive linkages with other initiatives**

Setting KPI / Indicators

Selected KPIs / indicators should be:

- **Measurable**
  Quantifiable to determine impact
- **Outcome driven**
  Aligned with the Sarawak 2030 vision
- **Specific**
  Clear and well-defined
- **Trackable**
  Availability of trackable data for progress monitoring

Planning Actionables & Budget

Compared to traditional budgeting models, Sarawak's adoption of RBB shifts funding focus from effort to effect, **tying allocations to the expected results** from programmes and initiatives to achieve:

- Better allocation efficiency
- Enhanced transparency and accountability
- Improved services

Monitoring

Continuous tracking of progress towards targets and milestones systematically.

This could include both the physical and financial progress of implementation activities.

Evaluation & Reporting

Evaluation

- **Identify implementation bottlenecks** via data collection, research and engaging with the relevant stakeholders.
- **Assess real outcomes achieved,** including impact on the economy, people, environment and government

Reporting

- Audit reports to avoid biased reporting and consolidate implementation status and outcomes for **internal users**
- **Publication of key reports** as part of official annual reports

- **Ministries and Agencies** are **assigned ownership of specific** strategies and are **responsible for tracking implementation, resolving issues, and reporting progress**
- The **Economic Planning Unit (EPU) Sarawak and State Implementation Monitoring Unit (SIMU),** with guidance from **PCDS 2030 Advisors,** will coordinate efforts across stakeholders, **monitor overall execution**, and provide strategic guidance
- **Ministries/Agencies** to formulate an action plan to address the issues and concerns raised, as well as execute the identified strategies

Key themes from strategies to enhance Sarawak's development in the 13MP

Building a sustainable, diverse and resilient economy for all

- Diversifying the economy to minimise risk, build resilience, and create new sources of economic growth
- Accelerating circularity and the energy transition to ensure sustained long-term growth

Accelerating human capital development and performance management of the civil service

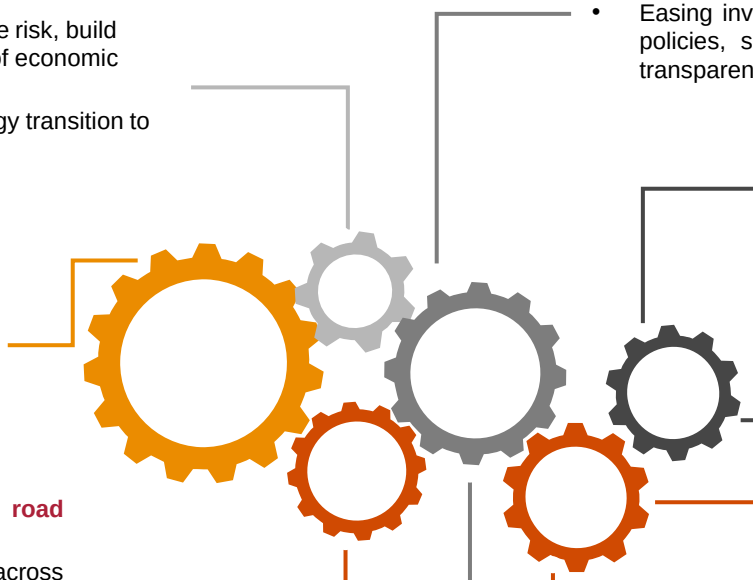
- Equipping the workforce to take advantage of new growth areas, increasing productivity across the board, including the private sector, civil society and public sector

Developing key enabling land or road infrastructure

- Ensuring adequate infrastructure across key themes such as digitalisation, transport connectivity, port infrastructure, utilities, industrial land and telecommunication

Unlocking idle land for development and resource management

- Implementing initiatives that allow easy access for lands to be investment-ready
- Enforcement of policies for greater land utilisation



Increasing private sector investment in driving the implementation of 13MP

- Easing investors in doing business by reducing uncertainties in policies, seamless and faster approval processes, clear and transparent policies and criteria.

Enhancing digitalisation efforts and the development and adoption of new technologies across key pillars, key challenges remain in leveraging new technologies that could ease the process of doing business

- Digitalisation may serve to improve the operation of businesses, society, and government, create opportunities for innovation, and enhance access to new technologies.

Building a steady pipeline of talent

- Enhancing liveability is crucial for ensuring the long-term enjoyment of the quality of life of Sarawakians, urban and rural communities.
- Attract high-skilled talent from all over the world and region.
- Attract and retain key Sarawakian talents

Enhancing social inclusivity and liveability

- Combating poverty, growing the middle class and ensuring access to key basic necessities
- Enhancing liveability is crucial for ensuring the long-term enjoyment of the quality of life of Sarawakians, urban and rural communities alike
- Preserving cultural heritage and promoting sustainable growth to benefit residents, businesses and communities

Transforming governance and improving the monitoring and tracking of outcomes

- To ensure 13MP and PCDS 2030 outcomes are achieved, outcomes must be properly monitored and tied to the budget to allow completion, accountability and maximising the likelihood of success in meeting strategic development goals, thus improving governance

List of Abbreviations

List of Abbreviations

(AtoN)	Aids to Navigation
ACDP	Australian Centre for Disease Preparedness
AGV	Automated guided vehicles
AI	Artificial Intelligence
AIP	Australian Industry Participation
AIZ	Aquaculture Industrial Zone
ASES	Advance Security Enforcement System
BCA	Building and Construction Authority
BDA	Bintulu Development Authority
BEIS	Business, Energy & Industrial Strategy
BIM	Building Information Modelling
BMMG	Building Maintenance Management Guideline
BPBP	Bantuan Khas Pesakit Buah Pinggang
BPIT	Borneo Pickleball International Tournament
BPM	Borsarmulu Park Management Sdn Bhd
BPR	Business Process Reengineering
BUR4	Biennial Update Report
CAAP	Clean Air Action Plan
CAGR	Compounded annual growth rate
CBOs	Community-Based Organisations
CCS	Crown Commercial Service
CCUS	Carbon Capture, Utilisation, and Storage
CDP	Critically Delayed Projects
CENTEXS	Centre for Technology Excellence Sarawak
CES	Compendium of Environment Statistics
CII	Critical information infrastructures
CLC	Construction Leadership Council
CPD	Continuous Professional Development
CPPC	Collection, processing and packaging centres
CRC	Cooperative Research Centres
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSSC	Community Social Support Centres

List of Abbreviations

DBOS	Development Bank of Sarawak
DCC	Digital Community Centres
DDOCs	District Disaster Operation Centres
DERL	Diagnostic Emergency Response Laboratory
DFR	Draft Final Report
DHCA	Dubai Healthcare City Authority
DHCC	Dubai Healthcare City
DiVA	Digital Village Accelerator Program
DLP	Dual language programme
DOSM	Department of Statistics Malaysia
DRGs	Diagnosis-related groups
DRMM	Dasar Perumahan Rumah Mampu Milik Negara
DVM	Disadvantaged, vulnerable, risky and marginalised
E&E	Electric and Electronics
ECCE	Early Childhood Care and Education
EEZ	Exclusive Economic Zone
EIS	Employment Insurance Scheme
EPR	Extended Producer Responsibility
EPU	Economic Planning Unit
EQ	Emotional quotient
ESG	Environmental, social and governance
EUDR	European Union Deforestation Rules
FAR	Floor area ratio
FCA	Forest Carbon Assessment
FDI	Foreign Direct Investment
FEED	Front-end engineering design
FEF	Forest Ecosystem Fee
FIFO	Fly-in fly-out
FinPEC	Financial Performance, Efficiency & Compliance
FIs	Financial Institutions
FMD	Foot and mouth disease
FMU	Forest Management Units

List of Abbreviations

FPMU	Forest Plantation management Units
FRPL	Free or reduced-price lunch
FTE	Full-time equivalent
GBI	Green Building Index
GDP	Gross Domestic Product
GEF	Grid emissions factor
GeKo	Geriatrik Komuniti
GERD	Gross domestic expenditure on research and development
GETS-WRP	Graduate Enhancement Training Sarawak – Work Readiness Program
GGI	Gender Gap Index
GHG	Greenhouse gas
GIS	Geographic Information Systems
GLC	Government-Linked Companies
GMPP	Government Major Projects Portfolio
GRC	Governance, Risk, and Compliance
GRP	Good Regulatory Practice
ha	hectares
HDC	Housing Development Corporation
HDRAS	Housing Deposit and Repayment Assistance Scheme
HETR	Hydrogen Economy and Technology Roadmap
HGHV	High Growth High Value Programme
HHF	Health and Hospitals Fund
HoB	Heart of Borneo
HTG	High Tech and Green
I4.0	Industry 4.0
IAMS	Integrated Asset Management System
IAPGs	Inter Agency Planning Group
IBS	Industrialised Building Systems
ICOMOS	International Council on Monuments and Sites
ICT	Information and communications technology

List of Abbreviations

IP	Intellectual Property
IPOMS	Integrated Port Monitoring System
IPP	Independent power producer
IPPU	Industrial Processes and Product Use
IRBM	Integrated Results-Based Management
ISAS	Integrated Social Assistance System
ISMP	Integrated Shoreline Management Plan
ITS	Intelligent Transport Systems
IWRM	Integrated Water Resource Management
JBNQA	James Bay and Northern Quebec Agreement
JETP	Just Energy Transition Partnership
JIT	Just-in-Time
JKMS	Jabatan Kebajikan Masyarakat Sarawak
JKR	Jabatan Kerja Raya
JKRM	Jabatan Kerja Raya Malaysia
JKRS	Jabatan Kerja Raya Sarawak
JPA	Jabatan Perkhidmatan Awam
JPN	Jabatan Pendaftaran Negara
JV	Joint Venture
KIRWaS	Ketua Isi Rumah Wanita Sarawak
KK	Klinik Kesihatan
KTP	Knowledge Transfer Partnerships
KUTS	Kuching Urban Transportation System
LAKU	Lembaga Air Kawasan Utara
lcpd	litre per capita per day
LCTF	Low Carbon Transition Facility
LIFE	Low Income Family Empowerment
LNG	liquefied natural gas
LPF	License for Planted Forest
LTA	Land Transport Authority
LULUCF	Land Use, Land-use Change and Forestry
MA63	Malaysian Agreement 1963

List of Abbreviations

MAHB	Malaysia Airports Holdings Berhad
MAIFI	Momentary Average Interruption Frequency Index
MBAN	Malaysia Business Angel Network
MCMC	Malaysian Communications and Multimedia Commission
MCSI	Malaysian Sports Culture Index
MEESTy	Ministry of Energy and Environmental Sustainability Sarawak
MIDA	Malaysian Investment Development Authority
MLPA	Major Projects Leadership Academy
MMEA	Malaysian Maritime Enforcement Agency
MNC	Multinational corporation
MOTS	Ministry of Transport Sarawak
MPHLG	Ministry of Public Health, Housing and Local Government
MRO	Maintenance, Repair, and Operations
MRV	Measurement, reporting and verification
MSMEs	Micro, Small and Medium Enterprises
MSPO	Malaysian Sustainable Palm Oil Certification
MSW	Municipal solid waste
MUT	Ministry of Utility and Telecommunication
MVCC	Medium Voltage Covered Conductor
MySIP	National Structured Internship Programme
NADI	National Information Dissemination Centre
NAIF	Northern Australia Infrastructure Facility
NAPIC	National Property Information Centre
NCES	National Centre for Education Statistics
NCIS	National Crime Intelligence System
NDWQS	National Drinking Water Quality Standards
NEM	Net metering
NHS	National Healthcare Service

List of Abbreviations

NRES	Natural Resources and Environment Sustainability
NRW	Non-revenue Water
NSCA	National Strength and Conditioning Association
NSDI	National Spatial Data Infrastructure
NUAR	National Underground Asset Register
O&G	Oil and gas
OGSE	Oil and gas, services and equipment
OLW	Outcome-linked worksheets
OSEIC	One Stop Early Intervention Centre
OSTP	One Stop Teenage Pregnancy Centre
PAWE	Pusat Aktiviti Warga Emas
PC&NM	Petroleum, Chemical and Non-Metallic Mineral Products
PCDS 2030	Post-COVID Development Strategy 2030
PCS	Port Community System
PEA	Power Exchange Agreements
PES	Payment for Ecosystem and Services
PFA	Permanent Forest area
PFE	Permanent Forest Estate
PFM	Public financial management
PG	Park Guides
PKB	Program Khas Bumiputera
PLI	Poverty Line Income
PLKK	Program Latihan Kemahiran dan Kerjaya
PLKS	Program Latihan Kemahiran Sarawak
POC	Proof of concept
POCT	Point-of-Care Testing
PPA	Power Purchase Agreements
PPCC	Power Planning and Coordination Committee

List of Abbreviations

PRABN	Pusat Ramalan dan Amaran Banjir Negara
PTC	Public Transport Council
PTP	Port Tanjung Pelepas
PUB	Public Utilities Board
PVP	Professional Visit Pass
PwDs	People with disabilities
RBB	Results-based budgeting
RBI	Rural Broadband Initiative
RSPO	Roundtable on Sustainable Palm Oil
SAIC	Sarawak AI Centre
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SBA	Small Business Administration
SBF	Singapore Business Federation
SC	Steering Committee
SCATS	Sydney Coordinated Adaptive Traffic System
SCHB	Senior Citizen Health Benefit
SCORE	Sarawak Corridor of Renewable Energy
SCS	Sarawak Civil Service
SDG	Sustainable Development Goals
SDMS	Sarawak Data Management System
SDRP	Sarawak Digital Residency Programme
SDX	Sarawak Data Exchange
SEAC	Sarawak Economic Action Council
SEB	Sarawak Energy Berhad
SEDC	Sarawak Economic Development Corporation
SFS	State Financial Secretary
SIC	Smart Innovation Competition
SIDC	Sarawak Infectious Disease Centre
SIMU	State Implementation Monitoring Unit
SIOC	Sarawak Intelligent Operations Centre
SKM	Skill Kemahiran Malaysia

List of Abbreviations

SMART	Sarawak Multimedia Authority Rural Telecommunication
SME	Small medium entreprise
SMIS	Sarawak Minerals Information System
S-MM2H	Sarawak-Malaysia My Second Home
SNEC	Special Needs Excellence Centre
SPACK	Sarawak Employment Package
SPEAK	Sistem Pesanan Kerjaya
SPK	Skim Pembesaran Kampung
SPP	Sustainable Procurement Policy
SPS	Skim Penempatan Semula
SRAS	Sarawak Rental Assistance Scheme
SSL	Self-Sufficiency Level
SSWFF	Sarawak Sovereign Wealth Future Fund
SSWI	Sarawak Social Well-being Index
STA	Sarawak Transport Authority
STATOS	Sarawak Trade and Tourism Office Singapore
STI	Sarawak Technology & Innovation
SURIG	State Urban Renewal Implementation Guidelines
SWA	State Water Authority
SWB	Sibu Water Board
SWIS	Sarawak Workforce Information System
TC	Technical Committee
TOT	Training of Trainer
TVET	Technical and Vocational Education and Training
TWG	Technical Working Group
UN	United Nations
UNEG-DI	United Nations Electronic Government Development Index Survey
VIC	Visitor Information Centres
VRE	Variable Renewable Energy
VTMS	Vessel Traffic Management System
WDAs	Workforce Development Agreements
WST	Women Skill Training
WtE	Waste-to-Energy

Appendix

List of Strategies by 15 Key Socio-Economic Sectors and Enablers

Energy Transition

HLS	Strategy No.		Lead Ministry/Agency
HLS 1	ET-S1	Create hydrogen value chain through facilitating strong supply and demand	MEESTy
	ET-S2	Expand grid and energy storage infrastructure to accommodate higher renewable energy capacity	MEESTy
	ET-S3	Ensure electricity access and energy security with clean energy in rural areas	MEESTy
	ET-S4	Increase fuel efficiency of the transportation sector, including expanding EV charging infrastructure at key urban areas	MEESTy
	ET-S5	Catalyse R&D of new technologies through piloting large-scale commercialisation	MEESTy
	ET-S6	Drive energy efficiency by changing behaviour	MEESTy
	ET-S7	Introduce sustainable financing and funding strategy to drive innovation and implementation	MEESTy
HLS 3	ET-S8	Enhance policy and regulatory support to grow clean and new energy development as part of Sarawak's energy transition strategy	MEESTy
HLS 6	ET-S9	Consider just energy transition perspective as natural gas is still considered a transitional fuel and human capital development for the new industries	MEESTy

Infrastructure & Utilities (1/2)

HLS	Strategy No.		Lead Ministry/Agency
HLS 1	IU-S1	Legislative and regulatory enhancements for the energy sector with enhancement and reinforcement of rural electricity grid supply for supply reliability and sustainability	MUT
	IU-S2	Accelerate gas production efforts and prioritise key sectors with high economic impact through policy intervention	MUT
HLS 3	IU-S3	Enhance asset management strategies for government buildings	MIPD
HLS 4	IU-S4	Provide incentives and support for BIM upskilling initiatives	MIPD
	IU-S5	Mandate the application of BIM in building lifecycle	MIPD
	IU-S6	Strengthen project management capabilities of Public Works Department (JKR)	MIPD
	IU-S7	Collaborate with private sector through Public-Private-Partnerships (PPP) for improved project management	MIPD
	IU-S8	Centralise procurement, bulk purchase, and long-term supply contracts	MIPD
	IU-S9	Local material sourcing and development	MIPD
	IU-S10	Development of utility infrastructure database and integrate utility planning into all development approval process	MUT
	IU-S11	Renewal of ageing pipes and digitalisation efforts to tackle NRW	MUT
	IU-S12	Enhance and establish additional water treatment facilities	MUT

Infrastructure & Utilities (2/2)

HLS	Strategy No.		Lead Ministry/Agency
HLS 4	IU-S13	Review existing water tariffs for sustainable water sector development	MUT
	IU-S14	Streamline water sector governance by empowering SWA to be the single authority for water supply and resources	MUT
	IU-S15	SWA to be supported by an organisational setup with an executive team to help execute the regulatory functions of SWA	MUT

Digital Transformation

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	DT-S1	Drive digital business development and high-tech high-value investment in strategic industries	MUT
	DT-S2	Accelerate digitalisation in priority economic sectors	MUT
	DT-S3	Catalyse Artificial Intelligence (AI) opportunities leveraging the Sarawak AI Centre (SAIC)	MUT
HLS 3	DT-S4	Enhance the data governance landscape in Sarawak	MUT
	DT-S5	Enhance baseline cybersecurity and resilience of Sarawak's critical infrastructure	MUT
	DT-S6	Enhance public awareness on cybersecurity threats via CyberSarawak	MUT
	DT-S7	Strengthen capabilities and digital infrastructure in data centre operations and high-performance computing	MUT
HLS 5	DT-S8	Provide high-speed, reliable and affordable internet connectivity to improve regional and global connectivity	MUT
	DT-S9	Facilitate adoption of digital technologies among Sarawakian communities	MUT
HLS 6	DT-S10	Build digitally skilled workforce and match talent needs with the future needs of the digital economy	MUT

Innovation

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	IN-S1	Strengthen local and global linkages and partnerships, particularly between research institutions, innovation hubs and industries to maximise the value of R&D and commercialisation	MEITD
	IN-S2	Enhance facilitation services to support innovation and scaling up across borders	MEITD
HLS 3	IN-S3	Facilitate private investment into the startup ecosystem, targeting strategic economic sectors of Sarawak	MEITD
	IN-S4	Create and implement mechanisms to assess the innovation ecosystem in Sarawak	MEITD

Manufacturing & SME Development

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	M-S1	Strengthen local supply chains by fostering partnerships, and building capacity to meet investor needs	MINTRED
	M-S2	Advance into higher-value downstream activities for long-term resilience	MINTRED

Commercial Agriculture

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	CA-S1	Provide and strengthen essential supporting services to support agriculture ecosystems	M-FICORD
	CA-S2	Increase yields by increasing adoption of modern farming practices and technology	M-FICORD
	CA-S3	Improve farmers' access to financial services to adopt agricultural machinery and expand production	M-FICORD

Tourism, Arts, Culture & Creative Industries

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	T-S1	Enhance tourism offerings and promotion efforts through strategic partnerships, capacity building and technological adoption	MTCP
	T-S2	Expand and deepen creative industries by empowered communities and responsible action	MTCP
	T-S3	Elevate both eco-tourism and luxury tourism offerings tapping into natural reserves and high-end market	MTCP

Mining & Oil and Gas

HLS	Strategy No.		Lead Ministry/Agency
HLS 2	MOG-S1	To progress the OGSE sector up the value chain by enhancing collaboration, innovation and skills	PETROS
	MOG-S2	Explore partnerships with established downstream players to identify and develop opportunities for value-added activities	PETROS
	MOG-S3	Explore and assist in the development of Carbon Capture, Utilisation and Storage (CCUS) sector	PETROS
HLS 3	MOG-S4	Foster development of the local downstream mining industry	MUDENR
HLS 6	MOG-S5	Improve access to manpower and build capacity of local human capital	MUDENR
HLS 9	MOG-S6	Expedite geological mapping and mineral prospecting activities	MUDENR

Business Services

HLS	Strategy No.		Lead Ministry/Agency
HLS 3	BS-S1	Enhance foundational enablers to drive industry competitiveness	MINTRED
	BS-S2	Facilitate digitalisation of key public services for investors in the mining industry	MUDENR
	BS-S3	Streamline approval processes while enforcing robust post-approval standards	MUDENR
	BS-S4	Adopt a comprehensive and collaborative approach to effectively integrate illegal tourism service providers into the formal economy	MTCP
	BS-S5	Strengthen regulations and guidelines in the tourism industry	MTCP
	BS-S6	Review maritime cabotage policy	MIPD
	BS-S7	Improve air connectivity and aviation facilities to establish an aviation hub in Sarawak	MOTS
	BS-S8	Enhance efficiencies of port equipment through targeted upgrades and replacement	MIPD
	BS-S9	Enhance transparency and simplify processes to attract and support energy-related investors	MEESTy
	BS-S10	Accelerate technology adoption within the public sector to improve efficiency	STIU
	BS-S11	Optimise agricultural areas and enhance infrastructure development to increase agriculture and aquaculture production	M-FICORD
	BS-S12	Attracting and retaining new or Sarawakian talent	MYSED

Government Transformation

HLS	Strategy No.		Lead Ministry/Agency
HLS 3	GT-S1	Empowering people-centric and integrated digital service delivery driven by the Whole of Government digital service approach	STIU
	GT-S2	Strengthen the digital capabilities of the SCS	STIU
	GT-S3	Establishing a conducive digital ecosystem for the digital work environment of civil servants	STIU
	GT-S4	Enhance data governance within the civil service	STIU
	GT-S5	Streamline policy/regulation and process/procedures to improve citizen-centric service delivery and ease of doing business	STIU
	GT-S6	Develop frameworks for effective collaboration between agencies to break down silos and enhance governance	STIU
	GT-S7	Improve integration between federal and state initiatives	STIU
	GT-S8	Improve career and well-being programmes to increase job satisfaction within the SCS	STIU
	GT-S9	Develop new revenue streams to reduce dependence on tax revenues from oil and gas related activities	STIU
	GT-S10	Sustainably preserve and grow the wealth of Sarawak	STIU
	GT-S11	Reform Sarawak’s public finance management	STIU
	GT-S12	Strengthen digitalisation in state budgeting, e-procurement and financial management activities	STIU

Transport & Logistics

HLS	Strategy No.		Lead Ministry/Agency
HLS 3	TL-S1	Develop, upgrade, and expand freight and logistical infrastructure with dedicated driver facilities	MIPD
	TL-S2	Collaborate with private sector players for data sharing on demand	MOTS
	TL-S3	Expedite initiatives on improving maritime traffic management	MOTS
	TL-S4	Review policies and ordinances governing the port sector	MIPD
HLS 4	TL-S5	Develop Sarawak's Aerospace Ecosystem	MOTS
	TL-S6	Implementation of aids to navigation (AtoN) for major maritime and riverine routes	MOTS
	TL-S7	Review existing policies and regulations governing maritime and riverine transport	MOTS
	TL-S8	Maritime study for potential development of the riverine economy	MOTS
	TL-S9	Enhance training and competency for maritime and riverine personnel	MOTS
HLS 5	TL-S13	Establish a centralised transport data management system to improve public transport planning	MOTS
	TL-S14	Enhance public transport infrastructure and services by implementing improved traffic management and road safety initiatives with integrated infrastructure and connectivity advancement	MOTS

Forestry, Natural Asset Management & Conservation (1/2)

HLS	Strategy No.		Lead Ministry/Agency
HLS 4	FNAM-S1	Enhance yield and sustainability of planted forests through targeted efforts, research initiatives and community participation	MUDENR
HLS 7	FNAM-S2	Enhance response to regular flooding in Sarawak and disaster risk reduction strategy	MUDENR
HLS 8	FNAM-S3	Mainstream environmental sustainability across the various economic sectors	MEESTy
	FNAM-S4	Facilitate private sector participation through ESG adoption and financing	MEESTy
	FNAM-S5	Better pollution control at source and enforcement	MEESTy
	FNAM-S6	Facilitate carbon trading and ecosystem	MEESTy
	FNAM-S7	Price carbon through compliance or voluntary market	MEESTy
	FNAM-S8	Formulate a sound policy and plan that incorporates conservation of environment related to climate related hazards due to climate change	MEESTy
	FNAM-S9	Enhance measurement, reporting and verification (MRV) of GHG emissions throughout Sarawak	MEESTy
	FNAM-S10	Mainstream climate adaptation in planning	MEESTy

Forestry, Natural Asset Management & Conservation (2/2)

HLS	Strategy No.		Lead Ministry/Agency
HLS 9	FNAM-S11	Ensure economic benefits from forestry activities are realised by rural communities	MUDENR
	FNAM-S12	Intensify cooperation between tourism and forestry, particularly in the eco-tourism sector to enhance sustainable development and forest conservation efforts	MUDENR
	FNAM-S13	Facilitate the availability of raw materials for high value-added industry	MUDENR
	FNAM-S14	Bolster enforcement and forest landscape restoration efforts	MUDENR
	FNAM-S15	Strengthen participation and capability of private sector and NGOs to develop high-quality conservation projects	MUDENR
	FNAM-S16	Ensure water availability, quality and sustainable water consumption and management	MUDENR
	FNAM-S17	Conduct biodiversity assessments to ensure better management of natural assets	MUDENR
	FNAM-S18	Enhance sustainable marine fisheries and leverage blue economy potential	MUDENR
	FNAM-S19	Integrate land use management decisions with natural resource management and conservation goals	MUDENR

Social Services (1/3)

HLS	Strategy No.		Lead Ministry/Agency
HLS 5	SS-S1	Increasing supply of affordable housing, particularly in urban areas	MPHLG
	SS-S2	Strengthening planning, coordination and monitoring of housing development in Sarawak	MPHLG
	SS-S3	Introduce a comprehensive and integrated approach to urban renewal planning and policymaking that prioritises suitability, inclusivity and resilience for all Sarawakians	MPHLG
	SS-S4	Facilitating home ownership or rental, particularly for households in need	MPHLG
	SS-S5	Improving accessibility to healthcare facilities and services	MPHLG
	SS-S6	Raising awareness and education on health and lifestyles	MPHLG
	SS-S7	Formalising strategic partnerships and alliances in the healthcare sector	MPHLG
	SS-S8	Advancing infrastructure and innovation related to health	MPHLG
	SS-S9	Enhancing income generation opportunities through targeted support	KPWK/URDD
	SS-S10	Strengthening implementation of social welfare programmes	KPWK/URDD
	SS-S11	Improving access to essential services	KPWK/URDD

13MP Strategies – 15 Key Socio-Economic Sectors and Enablers

Social Services (2/3)

HLS	Strategy No.		Lead Ministry/Agency
HLS 5	SS-S12	Creating a conducive environment for family establishments	KPWK
	SS-S13	Enabling workforce participation and equal access to economic and leadership opportunities for women	MEITD
	SS-S14	Enhancing access, equity and quality early childhood care, education and special needs early intervention	KPWK
	SS-S15	Enhancing social protection and support systems for the elderly community	KPWK
	SS-S16	Creating economic opportunities that harness the potential of healthy and productive PWDs (Special Needs)	KPWK
	SS-S17	Leveraging partnerships to drive community development, outreach and support	KPWK/URDD
	SS-S18	Strengthening healthcare and social services infrastructure	MEITD/KPWK
HLS 6	SS-S19	Nurturing a pipeline of healthcare workforce	MPHLG
HLS 7	SS-S20	Enhancing security in coastal areas	UKPS
	SS-S21	Strengthening border security	UKPS

Social Services (3/3)

HLS	Strategy No.		Lead Ministry/Agency
HLS 10	SS-S22	Accelerating socio-economic development of indigenous communities with continuous engagements and in a phased manner (Penan)	EPU
	SS-S23	Supporting existing communities and growing populations with basic infrastructure (Penan)	EPU
	SS-S24	Establishing long-term monitoring and support systems to address emerging issues and ensure the sustainability of indigenous and resettled communities (Resettlement)	EPU
	SS-S25	Supporting resettlement communities through economic diversification and growth (Resettlement)	EPU
	SS-S26	Improving connectivity and access to essential services and facilities (Resettlement)	EPU

Education & Human Capital

HLS	Strategy No.		Lead Ministry/Agency
HLS 5	EHC-S1	Introducing a dedicated and holistic youth policy in Sarawak	MYSED
	EHC-S2	Promoting accessibility to sports offerings and infrastructure for the general public	MYSED
HLS 6	EHC-S3	Building capacity and professional expertise/specialisation of teachers	MEITD
	EHC-S4	Enhancing education accessibility, standards and mindsets in Sarawak	MEITD
	EHC-S5	Nurturing young leaders that can drive the future socio-economic development of Sarawak	MYSED
	EHC-S6	Enhancing development and performance of homegrown athletes (including PWDs) in a targeted and structured manner	MEITD
HLS 10	EHC-S7	Fostering a skilled and agile workforce that meets industry needs and enhances productivity	MEITD
	EHC-S8	Strengthening youth employability and economic participation	MYSED

Waste & Circularity

HLS	Strategy No.		Lead Ministry/Agency
HLS 8	WC-S1	Adopt targeted waste management strategy and technology	MPHLG
	WC-S2	Increase private sector interest and participation in circularity, targeting high-value and high-volume wastes	MPHLG
	WC-S3	Implementation of centralised sewerage system for major urban centres in Sarawak	MPHLG
	WC-S4	Improve treatment and collection of greywater	MPHLG
	WC-S5	Strengthen local governments' capacity and community participation in waste management and circular development	MPHLG

Economic Planning Unit Sarawak
Department of the Premier of Sarawak
6th, 7th and 12th Floor, Wisma Bapa Malaysia
Petra Jaya, 93502 Kuching, Sarawak

Tel : (+6)082 – 319380 / 440857
Fax : (+6)082 – 449481 / 442536