



NAVIGATING UNCERTAINTY:

STRATEGIES FOR

RESILIENT FUTURE



Climate Risk Assessment

Satpal Singh DhillonChief Governance & Risk Officer, PLUS Malaysia Berhad

Malaysian Association of Risk & Insurance Management (MARIM) International Conference 2024



Sustainability Risk Presentation by Chief Governance & Risk Officer – Satpal Singh



This document is solely intended for the presentation at the Malaysian Association of Risk & Insurance Management (MARIM) International Conference 2024 organized by MARIM. Any unauthorized reproduction, disclosure, distribution and publication of this document is strictly prohibited. PLUS reserves the rights to take any legal action against any party responsible for the unauthorized actions. The following pages depict presentations that have been developed by PLUS. Hence information is restricted.





Speaker's Profile



Satpal Singh

Chief Governance & Risk Officer, PLUS Malaysia

- A Chartered Accountant, with extensive experience in Risk, Sustainability, Strategy. Currently leading governance, risk and compliance and ensures PLUS remains resilient and sustainable.
- Speaker at the COP28 at Malaysian Pavilion on climate adaptation and panelist at UNFCCC Climate Action Hub on transportation resilience.
- Represented Malaysia at the 77th United Nations General Assembly held in New York.
- Awarded as ASEAN Risk Professional of the Year for 2022 and guided PLUS Malaysia to win 3 UNGC Sustainability Awards over the last 3 years
- Frequent speaker at local & regional conferences, with a recent feature on **BFM Business Station's People & Planet** podcast advocating on building highway resilience.
- Previously was a Risk Consultant spearheading governance, risk, assurance & transformation programs for multinational companies in Asia Pacific & Middle East. Contributed to the formulation & review of Malaysia's Economic Transformation Plan.





Awards & Recognitions from UN on Sustainability Risks



UNGCMYB Forward Faster Awards 2023











- PLUS received the Pioneer Sustainable Development Action recognition for being the "first in the market" to conduct a comprehensive Climate Risk Assessment (CRA) within Malaysia's highway industry.
- The CRA is a breakthrough assessment where it utilizes collated past climate incidences across the
 country and embedding future climate data modelling using the RE Munich Model to identify
 climate vulnerabilities. This was validated through on-site technical assessments, reviewing
 preventing, corrective & detective controls on-site.

UNGCMYB Forward Faster Awards 2022



- PLUS spearheaded human rights practices within the industry by being the pioneer to undertake a Human Rights Risk Assessment (HRRA) which includes implementation across PLUS' operations and value chain based on an in-house developed methodology.
- This included a company-wide risk assessment by conducting document reviews, interviews and feedback collection through surveys amongst internal and external rights holders.
- The assessment results identified a set of action plans to further strengthen PLUS' human rights practices which includes the development of a dedicated Human Rights



Sustainability of Our Future







Table of Content



- 1 What is Sustainability?
- 2 Integrating Environment, Social & Governance (ESG) Into Risk Management
- 3 Climate Risk Assessment (CRA)



Table of Content



- 1 What is Sustainability?
- 2 Integrating Environment, Social & Governance (ESG) Into Risk Management
- 3 Climate Risk Assessment (CRA)



Defining Sustainability



What does Sustainability mean?



"Development that meets the needs of the present without compromising the capabilities of future generations to come to meet their needs" – United Nations, Bursa Sustainability Guide

Environmental



 Measures organization impact towards climate change and environment ensuring all activities are conducted in an environmentally conscious manner.

Social

 Symbiotic relationship between organization & the various communities it interacts with & ensures the business, its operations is conducted in a socially responsible manner.

Governance



 A commitment to conduct the companies business & operations in compliance to laws, regulators and upholds good governance principles.

Other Definition:

People



 End poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

Planet



 Protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.

Prosperity



 Ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

Peace



 Foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.

Partnerships



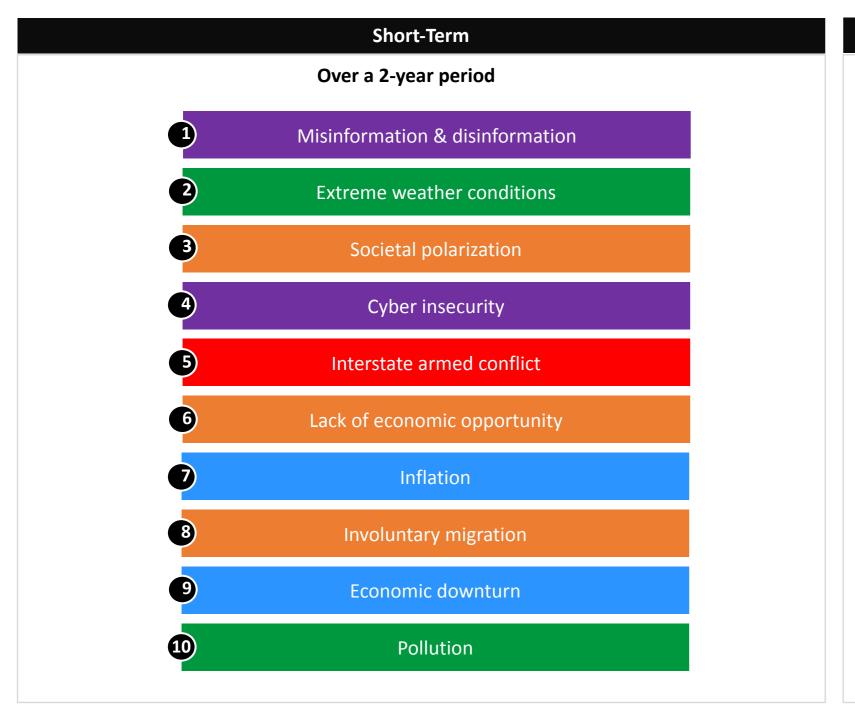
 Mobilize the means required to implement this Agenda through a revitalised Global Partnership for Sustainable Development.

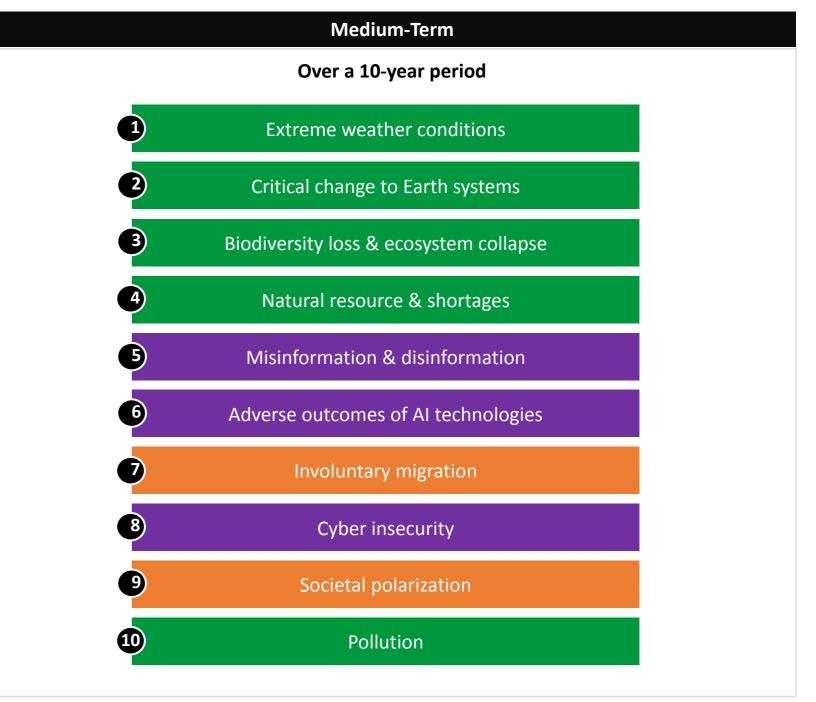


Key emerging risk are sustainability risks!



World Economic Forum - Global Risk Report 2024: Global risks ranked by severity over the short and long term:







What's the big deal?



Microsoft

Key Emerging Risk are Sustainability Risks

- According to the Global Risk Report 2024, the top global risks ranked by severity over the next 10-year period are sustainability-related risks:
- 1 Extreme weather conditions
- Critical change to Earth systems
- Biodiversity loss & ecosystem collapse
- Natural resource & shortages
- Misinformation & disinformation
- Adverse outcomes of AI technologies
- 7 Involuntary migration
- 8 Cyber insecurity
- 9 Societal polarization
- 10 Pollution

Sustainability is Becoming a Must Have for Business

III Government

- Allocation of RM2bil for National Energy Transition Facility
- Promote residential solar PV installation under NEM

9 Investors

- 79% global investors made investment based on the company's performance in managing ESG risks & opportunities.
- Around 50% ASEAN investors
 prioritise ESG due to pressure from
 employees and environmental
 regulation while 40% recognised
 that employing ESG strategies can
 improve returns or reduce risk.

Public

- Malaysian NGOs urging the stop of development projects that harm the environment & communities
- 90% of consumers in Asia Pacific are keen on embracing sustainable lifestyles and making eco-friendly purchases

Financial and Legal Implication of Neglecting Sustainability Risks



 Explosion of Deepwater Horizon causing severe damage to the environment and BP to pay \$20.8bn settlement.



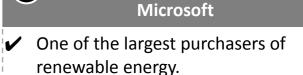
 Former workers claimed compensation over poor working and living conditions at their factories.



 Exploiting consumers' interest in sustainable apparel by using misleading marketing claims to 'greenwash' products.

Good Sustainability Practices Correlates to High Performance

 Businesses that are committed to good ESG practices observed increase in annual Earning Per Share (EPS).



✓ Invested \$50 million in AI to accelerate innovation to address sustainability challenges.





- ✓ Named the most sustainable company in the world in 2021
- Initiated the Energize consortium to strengthen ESG in their supply chain



Legend: Environmental Societal Technological



Sustainability is Becoming a Must Have



Government



Investors



Markets / Private Sector



Public



The Star (29 August 2023)

Govt to allocate RM2bil for National Energy Transition Facility

As part of the launching of Phase 2 of the National Energy Transition Roadmap (NETR), our Prime Minister announced that the government will allocate RM2 bil as seed funding for the National Energy Transition Facility (NETF), including EV value chain, hydrogen and carbon capture, utilisation and storage (CCUS) technologies.

PwC (15 November 2023)

ASEAN companies need to embrace ESG to draw foreign investors

According to PwC 2023 Global Investor ESG Survey, 75% of global investors claimed that a company's ESG performance in managing ESG risks and opportunities is pivotal to their investment decisions while over 57% of investors demands for greater clarity and consistency in sustainability reporting of businesses.

The Stars (28 February 2024)

Enhanced ESG reporting for Malaysian Companies, extending to SMEs

Businesses in Malaysia are seeing an increase in ESG reporting regulations, not just for listed companies, but also progressively extending to SMEs. Bursa Malaysia has enhanced its ESG reporting requirement to include climate reporting and launched its ESG Reporting Platform in Dec 2023. Capital Markets Malaysia (CMM) also launched the Simplified ESG Disclosure Guide (SEDG) in July 2023 to assist SMEs in adopting ESG practices via a standardised set of reporting disclosures...

The Stars (19 February 2024)

NGOs urges Govt to Stop Cameron Highlands Development Projects

The Pahang government has been urged by the Regional Environmental Awareness Cameron Highlands, a local NGO, to stop allowing development to be conducted on hillslopes with steep inclines at Cameron Highlands, following frequent landside incidents in the recent years.

The Edge (29 March 2024)

Govt to Spur Residential Solar PV Installation

The Ministry of Energy Transition and Water Transformation (PETRA) has introduced a solar incentive scheme (Solaris) to encourage installation of solar photovoltaic (PV) systems by domestic users in Malaysia. Solaris offers a rebate to new net energy metering (NEM) users who submit NEM applications to the Sustainable Energy Development Authority (Seda) Malaysia starting in April 2024.

Economist Impact (25 February 2022)

Commitment to sustainable finance in ASEAN is becoming a priority

<u>HSBC's Sustainable Financing and Investing Survey</u> stated three factors why investors from ASEAN are paying more attention to ESG: 50% of the respondents cited pressure from employees, 46% cited environmental regulation and 40% recognised the fact that employing ESG in one's strategy can improve returns or reduce risk.

The Edge (29 March 2024)

Selangor Govt. Partners with TNB to Explore RE Project Collaborations

Selangor State Development Corporation (PKNS)-owned Worldwide Holdings Bhd and TNB have inked a memorandum of understanding (MOU) to explore potential collaborations for various renewable energy projects, including the development of a centralised solar park (CSP), floating solar, battery energy storage and electric vehicle infrastructure projects...

UOB (21 August 2023)

The Rise of the Sustainable Consumer in Asia Pacific Region

UOB's ASEAN Consumer Sentiment Study 2023 revealed that 90% of consumers in the Asia Pacific region are keen on embracing sustainable lifestyles and making eco-friendly purchases. The decision to opt for sustainable products is primarily motivated by the aspiration to protect the planet for future generations (59%).



What happens if you don't manage sustainability risks? (1/2)



International

Environment Legal Implications



- In 2010, Deepwater Horizon (an oil rig owned by BP)
 exploded and released 5 million barrels of oil into the Gulf of Mexico which created severe damage to marine life, coral reefs and birds.
- This impacted hundreds of families which relied on tourism and fishing in the areas.
- BP was forced to pay **\$20.8bn in settlement** for the damage caused.

Social Legal Implications



- Oil giant PTT Plc was alleged by a USD1.3 trillion
 Norwegian fund for exposures on human rights violations
 for its operations in Myanmar, and have since been
 dropped from the fund's portfolio.
- The fund's ethics council expressed concerns that the partnership between PTT Plc (and its subsidiary) with the state-owned companies in Myanmar would provide the junta "with substantial revenue streams that can finance military operations and abuses".

Governance Legal Implications



• In Aug 2022, H&M received a lawsuit that alleges the firm is taking advantage of consumers' interest in sustainable apparel by using misleading marketing claims to promote its 'Conscious' collection.

misleading" marketing claims to promote its 'Conscious' collection

 The plaintiff claimed that H&M created an extensive marketing scheme to 'greenwash' its products in a bid to present them as environmentally-friendly when they are not.



What happens if you don't manage sustainability risks? (2/2)



Local



- Nestle Manufacturing (Malaysia) Sdn Bhd (Nestle Manufacturing) was **fined RM90,000**, RM50,000 for the first charge and RM40,000 for the second count caused by **releasing industrial effluent in excess** of the acceptable limit into inland waters.
- This is in violation of Regulation 11 (1) (b) of the Environmental Quality (Industrial Effluent) Regulations 2009
- The case took into account the gravity of environmental pollution, adding that it **involves public interest.**



- Ten (10) former workers from Dyson's biggest parts supplier, Malaysian firm ATA IMS Bhd, are claiming compensation from the home appliance maker over poor working and living conditions at ATA factories.
- Consequently, Dyson Ltd had terminated all contracts with its Malaysian supplier ATA IMS Bhd, following over forced labour allegations.

Governance Legal Implications



- A logging company was charged for three counts of **felling 707 logs illegally** in the Forest Reserves & State land, and another count for having 274 logs for which **royalty was not paid**.
- The logging activities carried out were without expressed authority under the Forest Enactment 1968, leading to an imposition of fines of up to RM 500,000 for each count and a jail term of between 1 to 20 years on conviction.
- The logs were later seized by the authorities and auctioned accordingly.



Correlation between good sustainability practices and high performance





- Taking responsibility on land footprint by committing to permanently protect and restore land use by 2025
- Water positive by 2030 Creating and employing tools to help address the world's water challenges including scarcity, pollution, and ocean health
- Zero waste by 2030 Reduce and eliminate waste by reusing materials, source reduction, and recycling and treated with environmentally responsible methods
- One of the largest purchasers of renewable energy
- Sound campus has been zero waste certified since 2016
- **Invested \$50 million** in AI for Earth to accelerate innovation to directly address sustainability challenges

Microsoft 2022 annual Earning Per Share was **USD9.65**, an **increase of 67.5%** as compared to 2020





- In 2021 a European multinational energy and automation provider, Schneider Electric was named the most sustainable company in the world
- Schneider Electric was recognised for its early and sustained commitment to environmental, social and governance issues. Key achievements through their products and solutions include:
 - o Saved 120mil tons in CO2 emissions from the atmosphere and given about 30mil more people access to energy
 - Helped local NGO partners train 300,000 people in energy management
 - Initiated the Energize consortium between 10 global pharmaceutical companies to ensure strong emphasise on ESG as part of the supply chain

Schneider's Electric 2022 annual Earning Per Share was **USD1.30**, an **increase of more than 49.4%** as compared to 2020





- 13 % virgin plastic reduction from 2019 baseline
- 21 % (145,000 tonnes) plastic packaging designed for recycling
- 97% of waste (548,000 tonnes) reused, recycled and recovered
- Launched the **Unilever Supplier Climate Programme** in 2021 to accelerate the decarbonisation of supply chains.
- 29 million m³ water use reduction in Unilever factories
- € 94.3 millions spent on community investment including charity donations
- 36 % women in total workforce with 34% women occupying senior management positions

Unilever 2022 annual Earning Per Share was **USD3.15**, an **increase of more than 30.2%** as compared to 2020



2018



Table of Content



- 1 What is Sustainability?
- 2 Integrating Environment, Social & Governance (ESG) Into Risk Management
- 3 Climate Risk Assessment (CRA)



Integrating Environment, Social & Governance (ESG) Into Risk Mgmt



Integrate ESG into the Risk Management Scope

We expanded the risk management scope to include ESG, **integrating sustainability** considerations into the management of risks & opportunities.



Project

Provide oversight on key risks to the Board & mgmt.



Manage risks that may impede project objectives.

Sustainability

Enterprise Resilience

Assess ESG-specific risks that impact the organization.

A Division/ Biz. Function Provide oversight on risks impacting operations.

Mitigate division-level exposure to bribery.

Address emergencies & crisis situations.

Incorporate Risk & ESG as a Permanent Agenda in Board & **Management Committees**

The tabling of sustainability updates & Corporate Risk Report is a permanent agenda in our quarterly sittings of the following committees:

- Board Governance, Risk & Sustainability Committee (BGRSC).
- Management Governance, Risk & Sustainability Committee (MGRSC).



MGRSC

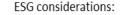
Provides oversight & direction on all corporate governance, risk management, sustainability, compliance and integrity matters.

Platform for senior leadership team to collectively deliberate, monitor & problem-solve.

Institutionalize ESG into Decision-Making

To ensure the successful execution of our key projects and initiatives, we embed risk and ESG thinking into decision-making to strengthen our ability to manage risks & opportunities (Board & Management-level decision-making committees).

Project risk considerations:





This project will enable further electricity Management savings, subsequently resulting in reducing Innovative energy management initiatives

> This project reinforce data strategy and enable a structured data management

> > This facilitates prevention of information security breaches and further strengthen cybersecurity resilience.

Specific Environmental & Social Assessments



Undertake specific **ESG risk assessments** in line with emerging sustainability trends and requirements, aligned with global best practices.

Climate Risk Assessment (CRA)

The CRA provides PLUS with insights on the impact of climate change to our business & operations and vice versa.

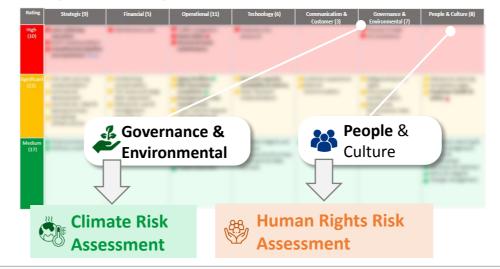


Human Rights Risk Assessment (HRRA)

The HRRA is conducted every 3-5 years or as required to identify key human rights that may impact PLUS and its ecosystem.

Integrate & Embed Sustainability Material Matters into the Risk Landscape

Introduce sustainability material matters as fundamental components of the corporate risk landscape to emphasize its criticality at the enterprise level.



Strengthen Resilience by Leveraging on ESG Data

Findings from the Climate Risk Assessment (CRA) has enabled the identification of locations that are prone to climate-related incidents based on historical & projected data. This enables PLUS to strengthen resilience measures, especially the Traffic Diversion Plan (TDP) as part of overall crisis preparedness.

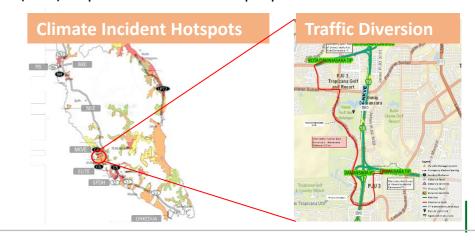




Table of Content



- 1 What is Sustainability?
- 2 Integrating Environment, Social & Governance (ESG) Into Risk Management
- 3 Climate Risk Assessment (CRA)



Climate Change: The Global Environmental Challenge



Unpacking the Climate Change Phenomenon

- GHG plays a pivotal role in the Earth's climate dynamics, trapping heat within the atmosphere and inducing a greenhouse effect.
- Burning fossil fuels contributes to the increase of GHG emissions. A significant **rise in GHG concentration** in the air induces an **increase** in **atmospheric temperature**, leading to the following:



Discernible and sustained rise in the average warmth of the Earth's surface.



Extreme weather patterns, encompassing both heightened warmth and intensified colds.



The escalating presence of hot air disrupts the delicate equilibrium within the stratosphere, triggering a series of climate-related events and consequences as follows:

- 1 Floods
- 2 Droughts
- 3 Damaged property
- 4 Soil erosion & destruction
- 5 Extinction of flora (including crops) & fauna



- This region significantly relies on agriculture (e.g. rice, palm oil and rubber).
- Climate change poses a substantial impact to crop yield, hence impacting the livelihood of Malaysians who depend on agricultural commodities as a source of income and the overall food security of the Nation.

Local Climate Change Disasters







International Climate Change Disasters









Climate Change: The Global Environmental Challenge



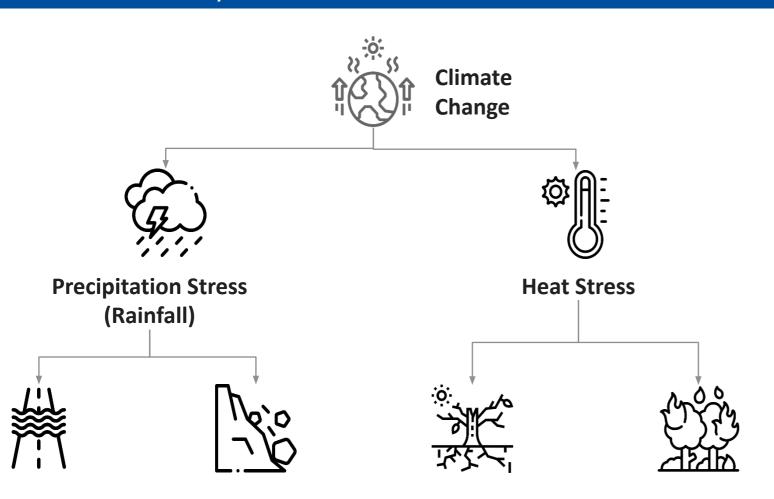




Pioneering Climate Risk Assessment for Highway Industry



Exposure to Climate Events in Malaysia



Riverine Flood and Flash Flood

A warmer climate can lead to increased evaporation and moisture in the atmosphere which can result in more intense rainfall events leading to increased frequency in flooding events.

Landslide

Climate factors such as heavy rainfall, strong winds, and temperature fluctuations can contribute to soil erosion which could lead to slopes/structural failure.

Drought

Increasing temperature in addition to changes in precipitation patterns can cause **drier weather** conditions leading to droughts events impacting economic, environmental and social impacts.

Fire Weather Stress & Wildfire

Climate warming is likely to increase the frequency and intensity of **heatwaves** leading to heat stress and **wildfires** incidents.

Climate Change Findings & Trends



Rising Sea Levels

111 towns & cities are at risk of floods from rising sea levels, including Penang, Selangor, Johor, Kedah, Melaka & Terengganu. This phenomenon, if left unchecked, will result in the **displacement** of **30% Malaysians** by 2100.



Severe Rainfall & Flood

Extreme weather conditions & increased frequency of severe rainfall & flood endanger people & assets, with **urban** areas facing **greater risk exposure** due to development.



Landslides

Deforestation causes soil softening, leading to landslide. Similarly, **development** in peat **soil areas** and **wetlands** have increased the risk exposure of such occurrence. Landslides and abandoned development have caused **damages of up to RM 4bil** since 2018.



Poor Land Use & Urban Planning

Poor land use has resulted in **low quality infrastructure** concentrated in **vulnerable locations**, whereas disorganized **drainage system** becomes **choke points**.

Climate Change Challenges

- Our Budgets and business cases for climate adaptation must move away from ROI, we need to capture and incorporate potential cost of inaction, cost of clean up.
- Incorporate quantitative measures on improvement in reputation/ public perception as a responsible organization, focusing on public safety.



PLUS' Crisis and Emergency Response towards Flood Incidents



PLUS has successfully designed and executed a comprehensive Flood Preparedness Plan, encompassing preventive, corrective and detective measures to ensure safety and security of our highway customers, vulnerable communities and employees during crisis and emergencies



Preventive

- 1 Identified hotspots / high-risk areas for all regions and performed regular inspection and routine maintenance on culvert and drainage
 - o Pavement 5,000km
 - o Bridges 705
 - o Slopes 8,346
 - Drains & culverts 6,036
- 2 Initiated flood wall extensions at locations with high vulnerabilities
- Ensuring readiness of equipment for rescue effort which includes:
 - Rescue boats, pool vehicles
- Safety equipment and accessories i.e. safety cone, blinkers etc.
- **5** Ensuring **readiness of personnel for rescue efforts** which include training for boat handling, first aider and others





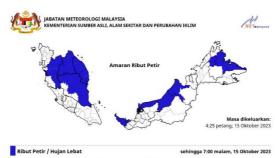






Detective

- **1** Monitor the flood situation via:
 - o 2,667 CCTV
 - Flood markers
 - Drones infused with AI
 - Visual inspection by PLUSRonda
- 2 Info captured by Southeast Asia biggest Traffic Monitoring Centre (TMC)
- 3 GPS signals sent to 590 patrolmen
- Monitor news and water level via MetMalaysia and "Public Infobanjir" website











- 1 Activate War Room & Emergency Response Plans (ERPs) and Response Teams (mainline, R&R, layby, tunnel)
- 2 Collaboration with authorities (i.e. PDRM, BOMBA, ambulance)
- 3 On-the-ground rescue efforts, temporary shelters, Identified crisis and holding center that can be used as:
- Activate alternative route plan (by region) and to perform continuous monitoring at the affected areas
- **5** Perform **immediate cleaning and desilting works** (by EIS) after the flood subside
- 6 Initiate communication with internal and highway users via VMS, PUTRI Chatbot and Twitter on flood situations and alternative routes







Climate Impact Adaption – Building Resilience against Climate Change Risks



Climate Risk Assessment Process



The past: Identify location-specific hazards and environmental risks for each asset type based on historical climate events through cross-functional climate risk workshop. We spoke to over 100 personnel across Malaysia.



The Future: Utilize climate modelling tool (Munich RE using 2, 3 & 4 degree scenarios) to identify potential future climate exposure to PLUS' highway infrastructure, subsequently establishing an integrated risk assessment heatmap.



On the ground : Conduct **site visits** to identified high-risk locations based on historical climate events and future climate modelling.

We physically **inspect & observe** on-site assets & facilities subject to exposure. Also, assessing impact to our personnel, highway users & communities living around the highways.



Actions: Propose specific **mitigation action plans** for the identified assets & facilities based on the findings from the overall assessment.

Key Learnings to Improve Climate Action



Turn policies into action

Effective climate action requires **visionary policies** which are developed at municipal level to be implemented. It is imperative that we work closely with **local governments** who have the authority to look after natural resources (e.g. land, water, slopes) in realizing climate adaptation strategies.



Facilitate capacity-building

Expertise and research capabilities mostly reside within the private sector. As such, we need to support the capacity-building at **local council** levels. This includes performing an **environment impact analysis** and embedding **climate considerations** as part of the **approval** required.



Keep communication relatable & simple

Words like resilience, mitigation and adaptation remain **big corporate words and don't inspire action**. To inspire action, we need to translate them into simple action for people on the ground, **making it mainstream.**



Promote organized planning for development

Integrate **climate considerations** into **planning and construction** activities from engaging developers and surrounding communities to understand their concerns to deploying mitigation measures as part of adaptation strategies.



Leverage on data for robust decision-making

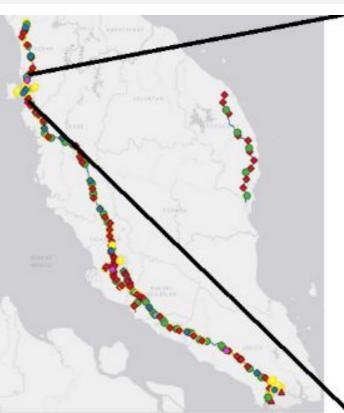
We have good weather data, but we need an **aggregated system that collect and analyses past flood information**, **beyond date and time**. We must identify the **KRI temperature change**, **wind movement**, **humidity** levels to improve how we predict flood accuracy.



Pioneering Climate Risk Assessment for Highway Industry (2/2)

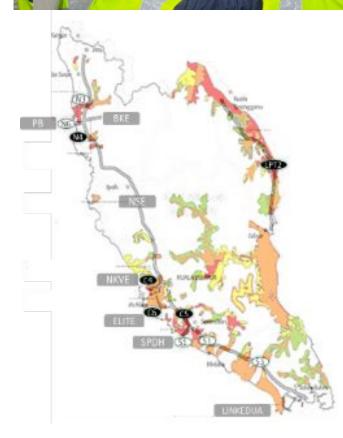






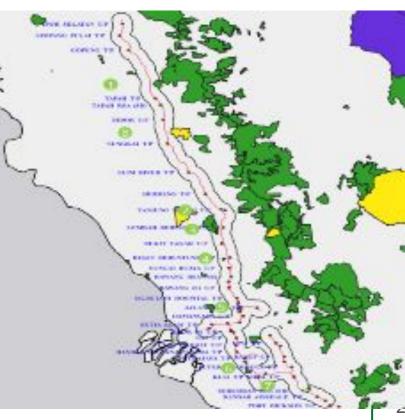














If you want to hear more





- BFM business station is an independent radio channel focused on business news and current affairs.
- PLUS's CGRO was invited for a podcast session under the "Morning Run" segment which discusses the theme of People, Planet and Profit.

Background

Countries around the world, including Malaysia, are looking to build the resilience of its infrastructure systems in the face of climate change risks. This includes PLUS which operates the biggest highway network in Peninsular Malaysia.

Topics Discussed



PLUS's sustainability mandate and its mission statement



PLUS's emissions reduction journey and key strategies to support the national net zero target



PLUS's role in facilitating the electrification of mobility



Climate change hazards and resilience within the highway ecosystem



Key measures to ensure stability & security of infrastructure and people against climate change



Key takeaways from COP28

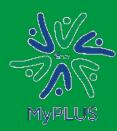


SCAN HERE to listen to the podcast









THANK YOU

Connect with PLUS at



www.plus.com.my

www.plusmiles.com.my



PLUS Malaysia

PLUSMiles



@plustrafik

@plus2u



plus_malaysia



PLUS Malaysia



PLUS Malaysia

