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AI and Climate





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Climate Change & Climate Governance

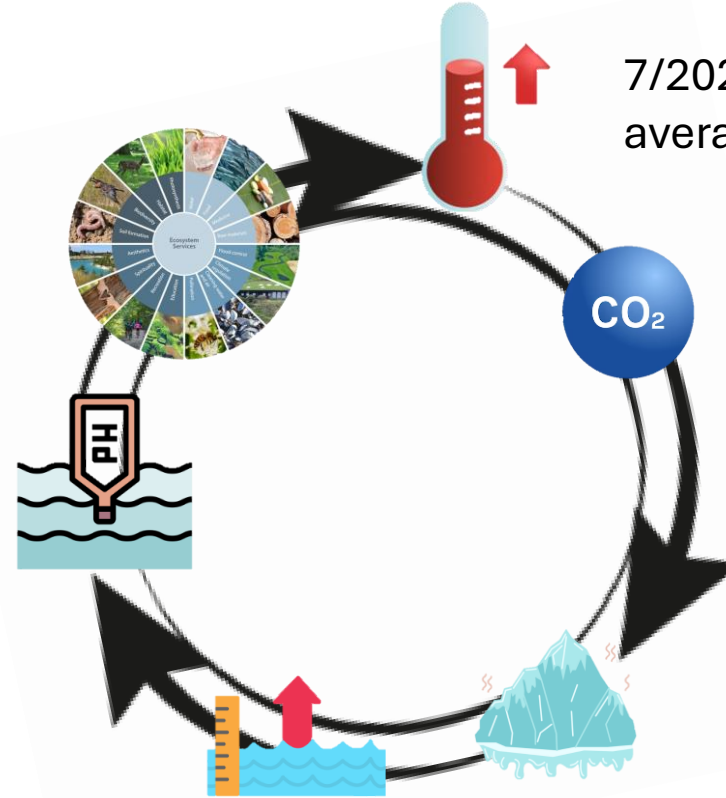
- Rising temperatures
- Highest CO₂ levels
- Ice Melting
- Sea Level Rise
- Extreme Weathers
- Ocean Acidification
- Biodiversity Loss
- Health Risks
- Economic Consequences
- Displacement & Migration
- Social Inequality

Up to **1 million** species are at risk of extinction

Ocean acidification has increased by c. **30%** since the pre-industrial era

Seawater pH has decreased from 8.11 in 1985 to **8.05** in 2021

Global sea levels have risen approximately **21-24 cm** (8-9 inches) since 1880



7/2024 hottest month - average **>1.5°C** warmed

June 24 peak CO₂ ~**427** parts per million (ppm)

Arctic sea ice extent has declined by about **40%** since the late 1970s

Climate governance mobilizes action to address all the above and more

Role of the Board

- Ensuring regulatory conformance
- Optimizing organization performance
- Ensuring long term resilience
- Assess short-, medium and long-term materiality of climate-related risks and opportunities.
- Sustainability and future proofing

WTW, a knowledge partner of various CGI chapters, informs business leaders:



Regulatory conformance

- build the necessary skills, culture, knowledge and governance structures at the board level.



Organizational performance

- embrace that the world has to transition to net zero,
- and find the opportunities to transform their business model accordingly, will reap the benefits.



Sustainability and futureproofing

- contribute to development of transition plans (business strategy, financial planning, risk management and culture alignment,
- adapt to ultimately survive and thrive in a lower-carbon economy to future-proof the organization.

Board directors are tasked with stewardship

AI for Climate Governance

Accountability

- Monitoring Compliance

Transparency

- Data Accessibility
- Automated Reporting

Collaboration

- Stakeholder Engagement Platforms
- Scenario Planning

Inclusivity & Incentivization

- Equitable Resource Allocation

Innovation

- Research and Development
- Smart Solutions Deployment

Resilience

- Risk Assessment and Management
- Adaptive Governance

PRINCIPLE 1
Climate accountability



PRINCIPLE 2
Subject command



PRINCIPLE 3
Board structure



PRINCIPLE 4
Materiality assessment



PRINCIPLE 5
Strategic integration



PRINCIPLE 6
Incentivization



PRINCIPLE 7
Reporting and disclosure



PRINCIPLE 8
Exchange

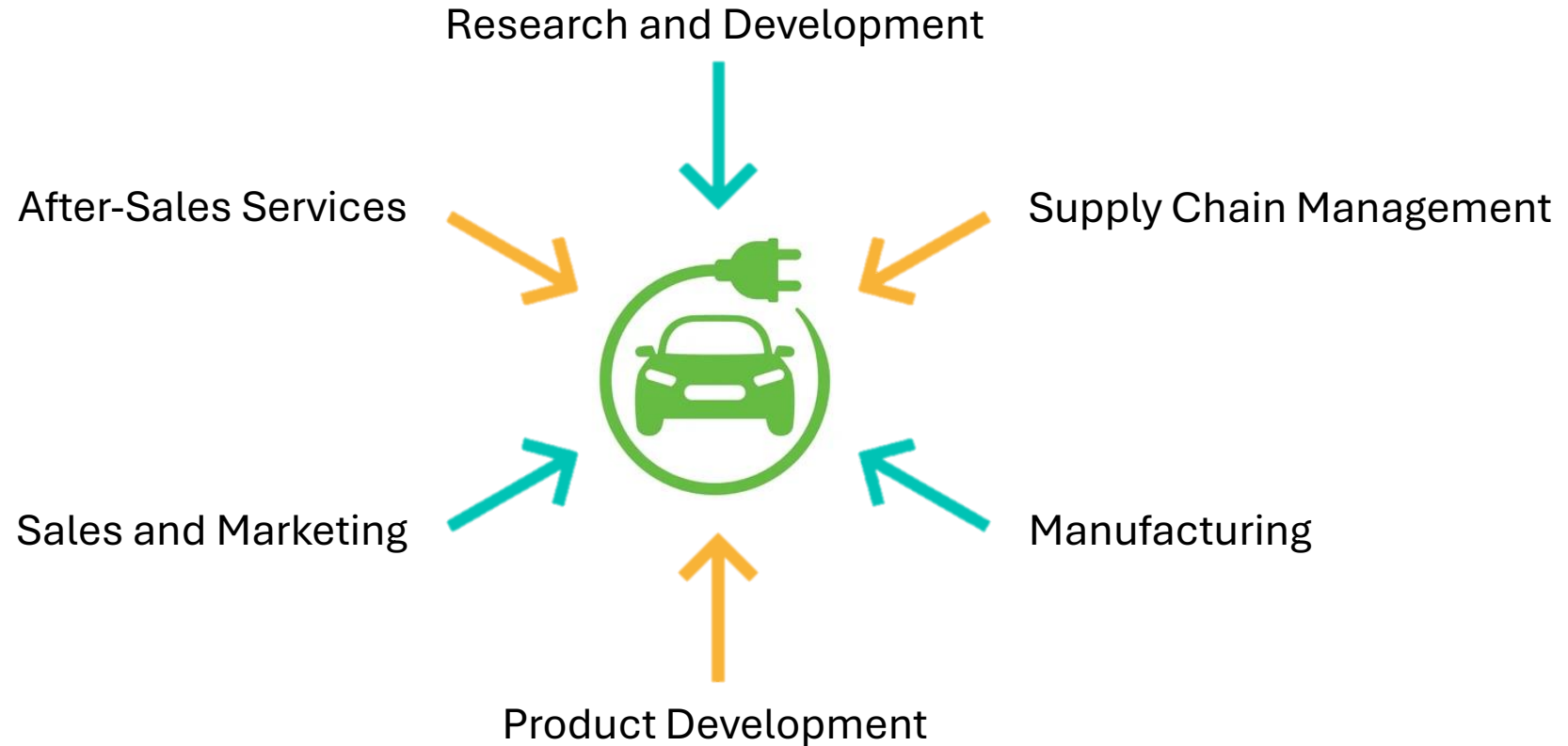


Principles of Climate Governance provides a comprehensive approach

AI in EV value chain

- Design Optimization
- Battery Development
- Prototype Simulation & Testing
- Development of New Materials
- Logistics Optimization
- Energy Management
- Active Monitoring
- Lifecycle Analysis
- Consumer Insights
- Smart Interactive Marketing
- Vehicle Performance Monitoring
- End-of-Life Management

Do stakeholders along the value-chain benefit from using AI?

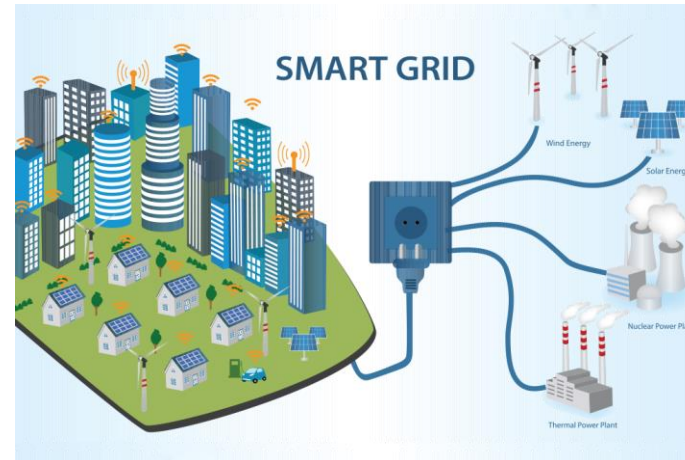


All stakeholders benefit from AI, which results in reduced redundancies

AI enables real economy decarbonization

- Smart Grids
- Renewable Energy Integration
- Smart Building Management
- Carbon Capture and Storage
- Optimize Route Planning
- Sustainable Agriculture
- Carbon Footprint Monitoring
- Climate Modeling and Risk Assessment

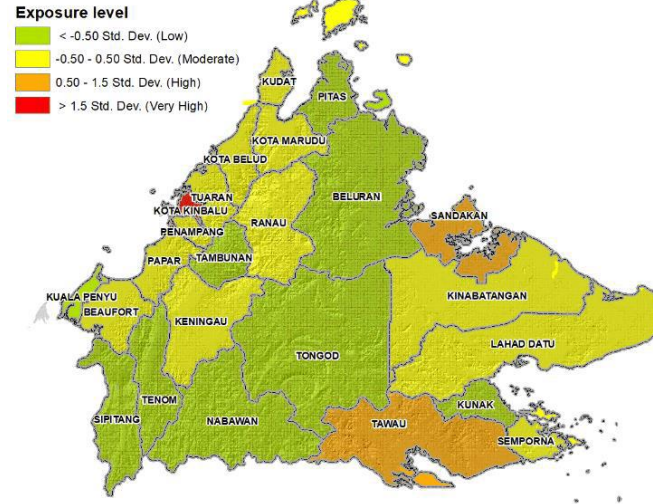
Does AI play a role in assisting corporate leaders effectively navigate the challenges of decarbonization?



AI + Data = powerful tool to effect transition to a low-carbon economy

Use Case - Climate Risk Assessment

- Vulnerability Mapping
- Proactive Adaptation Measures
- Model Impact
- Develop Effective Adaptation Strategies
- Community Awareness
- **Informs investment and financing decisions**



- Identify
- Assess
- Quantify



- Predictive modelling
- Use IoT monitoring
- Simulate effective strategies
- Visualize the impact



- Real time monitoring
- Plan ahead
- Alert those impacted
- Take appropriate action

Assess and quantify risks, provide solutions and protect the vulnerable

Case studies: The role of boards in driving climate action



20 April 2023

British Land: Making sustainability central to business decision-making

Sustainability is shaping the way industry leader British Land does business. Not only does it make business sense, but investors, employees and customers are increasingly demanding that sustainability is central to decision-making. It is also of key importance to the organisation's board.

Case study



20 April 2023

Metro Pacific Investments Corporation (MPIC): A holistic approach to finance, risk, climate and sustainability

Metro Pacific Investments Corporation (MPIC), a leading infrastructure investment company in the Philippines, is embracing bold sustainability leadership in a country highly exposed to climate impacts. With a climate-savvy board driving the organisation's sustainability strategy, MPIC is committe...

Case study



20 April 2023

Natura &Co: IP&L, circular carbon, and a triple bottom line approach

Brazilian beauty giant, Natura &Co, has long been a champion of sustainability. As the world's first publicly traded company to receive B Corp certification, it has an engaged board that sees sustainability as an opportunity rather than a compliance issue.

Case study



20 April 2023

Smurfit Kappa: A joined-up approach to climate and sustainability strategy

Packaging multinational Smurfit Kappa is steering towards net-zero by 2050 with its board playing an important role. At the core of Smurfit Kappa's approach is a circular business model, from sustainable sourcing of raw materials to production of recyclable and biodegradable packaging solutions.

Case study



16 January 2024

CLP Holdings Ltd: Overcoming Barriers to reach net zero in the energy sector

CLP Holdings Ltd has set ambitious targets to decarbonise its operations and support its customers' transition to a net-zero future, forcing it to confront some difficult strategic choices. A clear vision and mandate from the Board has been instrumental in delivering progress against the organisa...

Case study



23 January 2024

Cemex: Leading the way to net zero in the cement industry

Cemex is focused on applying best practices and the most stringent standards to all of its business units. This approach, coupled with the CEO's strategic vision and the Board's continued monitoring, has enabled the organisation to achieve global compliance as regulation evolves and to deliver si...

Case study



27 March 2024

Viña Concha y Toro: the role of the board in uncorking net zero

Viña Concha y Toro is a leading wine producer in Latin America, and the first publicly-listed company in Chile to achieve B Corp status. Through its sustainability strategy, Uncork a Better Future, the company has brought forward its net-zero target by ten years to 2040. This was enabled by a co...

Case study



27 March 2024

Viña Concha y Toro: el rol del Directorio para descorkar cero emisiones netas

Viña Concha y Toro es uno de los principales productores de vino de América Latina y la primera empresa chilena que cotiza en bolsa en alcanzar el estatus de B Corp. A través de su estrategia de sustentabilidad, Descorka un futuro mejor, la empresa ha logrado adelantar la fecha para lograr su ob...

Case study



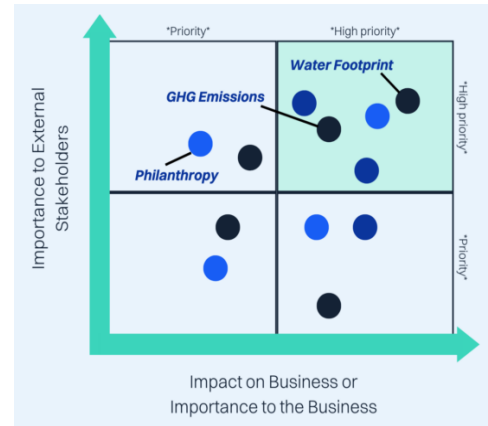
Mitigation

- Energy Management Optimization
- Renewable Energy Management
- Carbon Emission Tracking
- Sustainable Agriculture
- Transportation Efficiency
- Building Management
- Climate Modeling and Simulation
- Waste Management

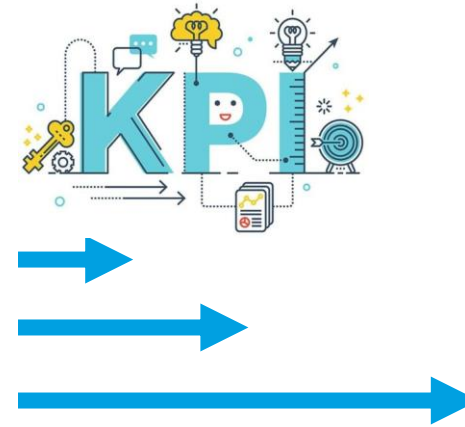
Adaptation

- Climate Risk Assessment
- Disaster Response and Management
- Water Resource Management
- Agricultural Adaptation
- Urban Planning and Infrastructure
- Ecosystem Monitoring and Management
- Infrastructure Monitoring

The next call to action ...



Identify Materiality Factors – your business and key actors in value chain



Set credible short, mid, & long term scientifically measurable KPIs



Be forwarding looking, open-minded and continuously upskill in AI, climate & nature

A credible transition plan should be top of the agenda for all Boards

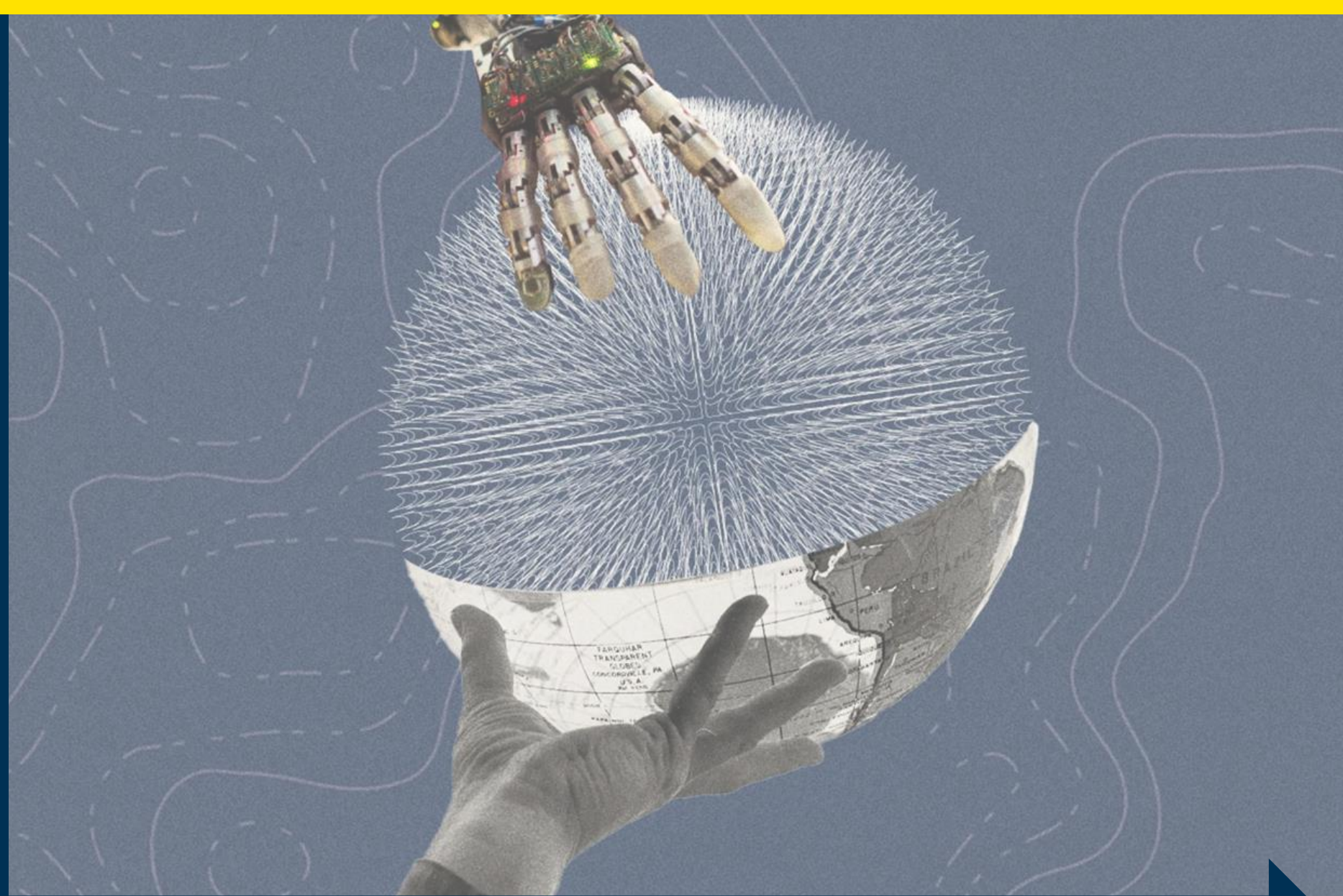
Summary

AI is:

- Powerful
- Timely
- Effective

... but

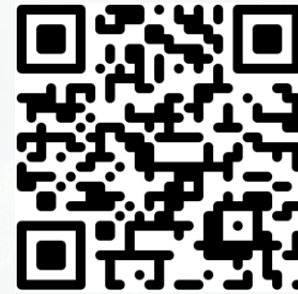
- Requires additional IOT
- Consumes additional power
- Data management, privacy and security concerns
- A wrong predictive model might bring negative impacts
- Data accessibility, quality and integration remain challenging



The World must unite & work collaboratively for a more sustainable future



**Climate
Governance
Initiative**

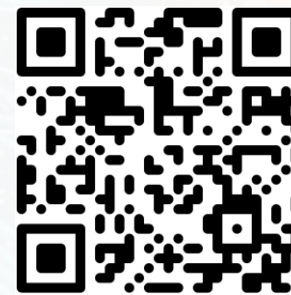


**Climate
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Hong Kong**

Act now, we must, and together we can do it



**Climate
Governance
Singapore**



CLIMATE GOVERNANCE MALAYSIA