



**ASIA
INFRASTRUCTURE
FORUM**

4-5 June 2024 | Singapore

SUSTAINABLE INFRASTRUCTURE: TRANSFORMING ASIA'S JOURNEY

POST-EVENT REPORT



Introduction

The **Asia Infrastructure Forum (AIF)** is the foremost platform for infrastructure players and thought leaders to discuss key issues such as the future state of infrastructure, sustainable financing, innovation and collaboration.

Themed **'Sustainable Infrastructure: Transforming Asia's Journey'**, AIF 2024 focused on the need to accelerate Asia's green transition and sustainable infrastructure development amid urgent climate challenges. Over two days, delegates discussed innovative and actionable strategies to harness infrastructure opportunities while navigating environmental, economic and societal complexities to pave the way for a more sustainable Asia.

Key Highlights of AIF 2024



Showcasing more than 30 regional investment opportunities worth over US\$20 billion



Exchanging of 4 Memoranda of Understanding with regional government offices in Indonesia and The Philippines



Unveiling of the Women's Infrastructure Network's (WIN) first Chapter in Asia – WIN Singapore

[Click here to watch the event highlights](#)



AIF 2024 by Numbers



Over 1,000 delegates across **more than 26** countries



106 speakers from the infrastructure ecosystem



Up to 80 pieces of media coverage



4 Main Plenaries

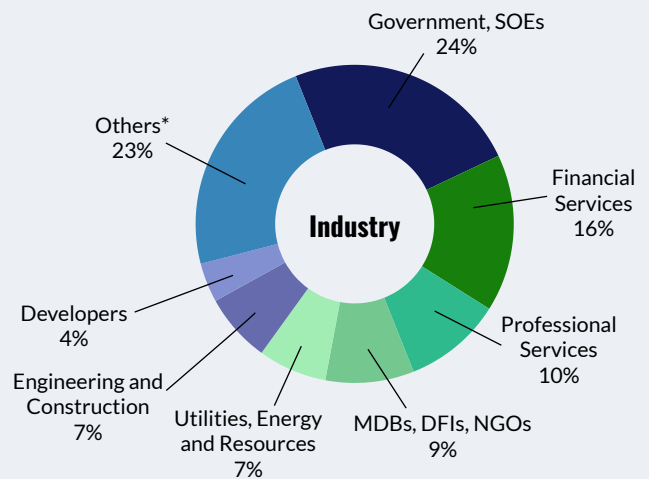
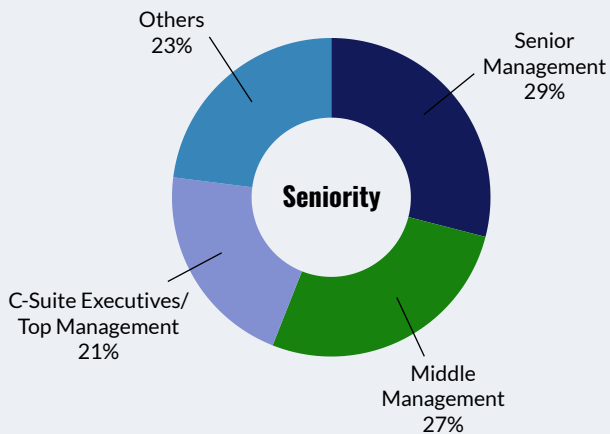


4 Ideation Roundtables

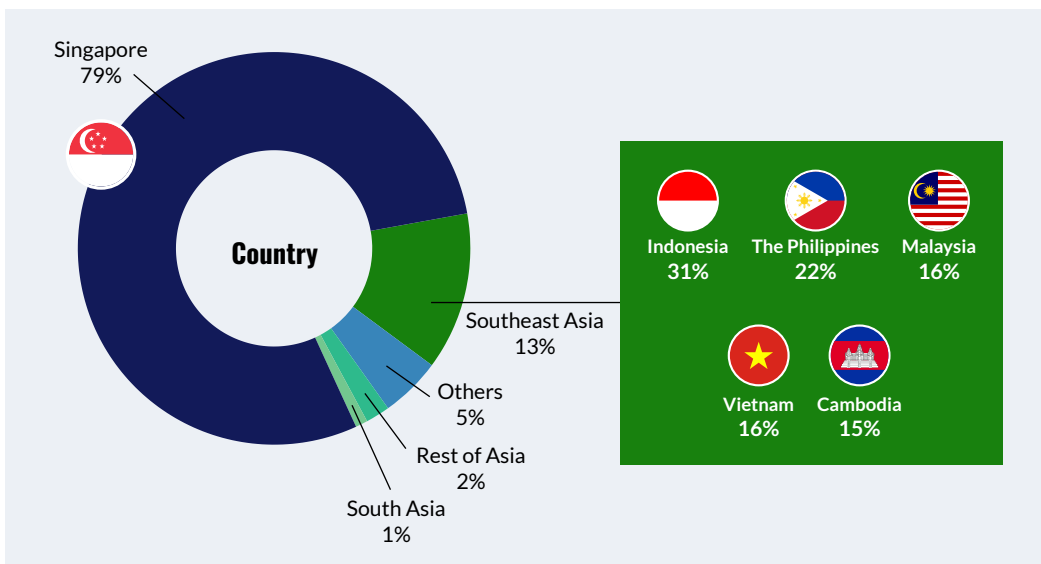


6 Project Discussions

Level of Representation



*Legal Services, Technology and Solution Providers, Academia and more



The Big Picture

Day 1

Welcome Address



Lavan Thiru, Executive Director, Infrastructure Asia, highlighted the pressing global challenges posed by climate change. He stressed the need for fresh strategies to address the complex interplay between environmental, economic and social factors.

Keynote Address



Asia's green economy holds immense potential for transformation. **Indraneel Rajah**, Minister in the Prime Minister's Office, Second Minister for Finance and National Development, Singapore, emphasised the importance of enhanced collaboration throughout the infrastructure project lifecycle to advance Asia's sustainable infrastructure journey.

She also announced the launch of **WIN Singapore**, a platform aimed at fostering a more diverse and inclusive infrastructure industry through networking, mentorship and knowledge sharing.

Special Address



Chen Guangzhe, Vice President for Infrastructure, World Bank, emphasised the broad impact of infrastructure – particularly its role in facilitating trade, communication and community building. He urged for greater investments in regional connectivity infrastructure to support low-emission economic development and highlighted several untapped opportunities for trade in environmental services.

The Big Picture

Day 2

Keynote Address



Bhargav Dasgupta, Vice President (Market Solutions), Asian Development Bank (ADB), stressed the need for strong, sustainable and inclusive growth. He focused on the importance of making greenfield infrastructure sustainable and brownfield infrastructure resilient. He highlighted the importance of collaboration among governments, multilateral development banks, development finance institutions and the private sector to finance the net zero transition. While acknowledging the challenges and capital requirements, he also highlighted the opportunities in new technologies, financial products and markets that this transition presented.

Keynote Address



Lee Chuan Teck, Executive Chairman, Enterprise Singapore, cautioned about the immense cost of climate inaction. Outlining Asia's unique challenge, he discussed the need to transition existing coal-fuelled plants while meeting growing energy demands. He identified offshore wind as a promising renewable energy source but acknowledged the challenges in building renewable energy infrastructure and upgrading power grids. He advocated for regional collaboration in power integration projects, green hydrogen transportation and climate technology innovation to address these challenges effectively.

Remarks by LIB-SI



Given the emerging infrastructure trends and priorities post-pandemic, **Bannaseng Syphoxay**, Deputy Director General, Department of Housing and Urban Planning, Ministry of Public Works and Transport, Lao PDR, emphasised the importance of exchanging information on best practices and establishing financing mechanisms for smart and sustainable urban projects.

Ministerial Panel

Framing Asia's Green Transition

Programme Partner

ARUP

Government leaders and policy makers emphasised the critical role of infrastructure development, innovative financing models and international collaboration in driving Asia's green transition. Moderated by **Jerome Frost**, Chair, Arup Group, the panellists discussed the challenge of balancing economic growth with addressing climate challenges and stressed the need for cohesive standards to support Asia's green ambition.



Alexander Nanta Linggi, Minister of Works, Malaysia, spoke on sustainable infrastructure's role in improving quality of life and upholding human dignity as well as driving greater economic growth. He also spoke on the importance of giving Malaysia's green initiatives global recognition.



Indraneel Rajah, Minister in the Prime Minister's Office, Second Minister for Finance and National Development, Singapore, acknowledged that the green transition will be challenging due to the costs involved in building capabilities. However, Singapore has reframed this challenge as an opportunity. The finance, professional and engineering sectors are set to produce new capacities that engender job creation. Crucially, the green transition requires societal buy-in to truly take flight.



Jaime Bautista, Secretary, Department of Transportation of The Philippines, acknowledged the role of Infrastructure Asia in facilitating a major Public-Private Partnerships (PPP) project in The Philippines' transportation sector. He also noted the economic value created by green infrastructure through investments in offshore wind farms and discussed The Philippines' programmes to incentivise electric vehicle (EV) manufacturing.



Sim Vireak, Undersecretary of State, Ministry of Economy and Finance, Kingdom of Cambodia, highlighted Cambodia's infrastructure ambitions, including electrification and flood prevention, supported by PPPs. He also underscored the need for international cooperation and clarity in green standards.



Industry Leaders Panel

Enabling Asia's Green Transition

Programme Partner

ARUP

*This panel, moderated by **Ethiopia Tafara**, discussed key trends shaping Asia's infrastructure landscape, focusing on the roles of government and the private sector in crafting policies and incentives essential for complex sustainable infrastructure development.*

The green transition requires effective planning and deployment of renewable energy projects, particularly in Southeast Asia where grids are fragmented. **Wong Kim Yin** highlighted the need for a robust and interconnected supply network to drive success. He called upon financiers to provide more support to the development of grid infrastructure across Asia.

Lim Wee Seng stressed the need for enabling regulatory frameworks to attract green infrastructure investment. Clear and supportive policies would help channel more private sector involvement in sustainable projects. Alluding to Kim Yin's earlier point on strengthening grid infrastructure, he noted that the privatisation of grid infrastructure in Asia could generate significant deal flows. He also advocated for replicable templates in blended finance and not to "reinvent the wheel".

Satish Shankar highlighted that robust top-down policies could improve the bankability of infrastructure projects, referencing the example of Cambodia's collaboration with industry players on green corridors. Despite current protectionist trends, this is playing out quite strongly in China and India as well, where fairly aggressive industrial policies are driving the growth of the renewable sector. He stressed that ASEAN and Asia "cannot afford to be left behind" in this global shift towards sustainable development.

Xin Weibin focused on how international partnerships through China's Belt and Road Initiative can advance infrastructure development and contribute to Asia's green transition. He highlighted how China's experience and capabilities from growing their own green sectors would have much to contribute across the infrastructure value chain to support ASEAN and Asia.

The private sector is expected to provide the bulk of investment in low-carbon infrastructure. Cooperation between governments, multilateral development banks and private investors is crucial to reduce political risks and enhance project bankability. **Marie Lam-Frendo** underscored the importance of international benchmarks for sustainability, noting that they are vital for attracting seasoned investors. She referenced international standards under the International Sustainability Standards Board (ISSB), a taskforce for climate disclosures that are important for the development of a project.

Panellists agreed on the need for better coordination at the project preparation stage and capacity building to boost investor confidence. By focusing on pragmatic solutions, supportive policies and substantial investments, Asia can effectively navigate the complex landscape of sustainable infrastructure development.



Speakers List

Ethiopis Tafara	<i>Vice President, Chief Risk, Legal & Sustainability Officer and Partnerships, Multilateral Investment Guarantee Agency (MIGA), World Bank Group</i>
Lim Wee Seng	<i>Group Head of Energy, Renewables and Infrastructure, Institutional Banking Group, DBS Bank</i>
Marie Lam-Frendo	<i>Chief Strategy Officer, Meridiam</i>
Satish Shankar	<i>Asia Pacific Regional Managing Partner, Bain & Company</i>
Wong Kim Yin	<i>Group President & CEO, Sembcorp Industries</i>
Xin Weibin	<i>Deputy Head of Green Finance Division of Global Banking Department, ICBC</i>

Financing Panel

Financing Trends and Innovation in Reaching Net Zero

**Joint session with the World Cities Summit (WCS)*

This panel, moderated by Isabel Chatterton, discussed the future of infrastructure financing, focusing on the role of digitalisation and technology to achieve net zero. The panel also discussed the challenges of enabling sustainable investments and the role that financial institutions play for the low-carbon economy.

Panellists emphasised the vital role of collaboration between governments and the private sector, tapping on digitalisation as an enabler in achieving net zero infrastructure. **Sylvi J. Gani** shared about Indonesia's PT Sarana Multi Infrastruktur (Persero)'s (PT SMI) support for infrastructure projects that leverage technology and digitalisation, such as improving street light energy efficiency. To bridge the funding gap in such projects, she advocated for blended finance, which combines public and private capital to mobilise investment in sustainable projects. **Luca Tonello** expanded on this, emphasising the role of financial institutions in leveraging such financing mechanisms and philanthropic capital, which can accept a lower rate of return, to accelerate projects with lower projected returns.

Sadek Wahba noted that technology is revolutionising the conservative infrastructure sector by enabling essential services through innovations like drone data capture and Internet of Things (IoT) applications. These advancements are driving rapid changes and highlighting the need to bridge the gap between technology and infrastructure investments.

Programme Partners

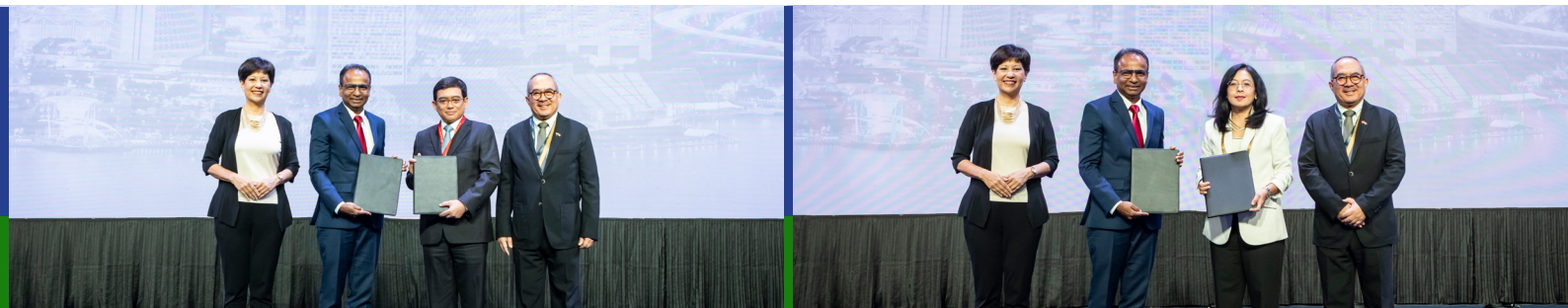


Sheikh Fazle Noor Taposh added that Dhaka in Bangladesh is embracing more smart technology and innovation to ensure operations remain smooth and transparent. For example, procurement is now 100% system-based to attain transparency. This approach ensures community engagement and involvement in the system.

Panellists emphasised that responsible investment in infrastructure development requires transparency, impact measurement and a focus on sustainable outcomes. They also stressed the importance of partnerships in technology, blended finance, capacity building, knowledge sharing and technical assistance to achieve net zero goals.

Speakers List

Isabel Chatterton	<i>Regional Industry Director, Infrastructure and Natural Resource, Asia Pacific, International Finance Corporation (IFC)</i>
Luca Tonello	<i>Managing Director and Co-Head of Structure Finance, Asia Pacific, SMBC</i>
Sadek Wahba	<i>Chairman & Managing Partner, I Squared Capital</i>
Sheikh Fazle Noor Taposh	<i>Mayor, Dhaka South</i>
Sylvi J. Gani	<i>Director of Financing & Investment, PT SMI</i>

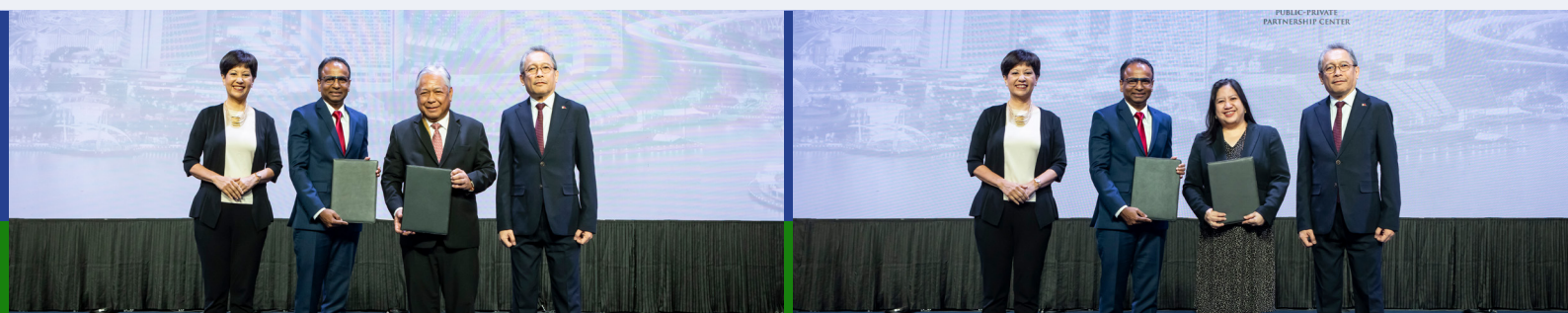


Special Feature

Exchanging of 4 Memoranda of Understanding

To further strengthen collaborations within the region, Infrastructure Asia exchanged 4 Memoranda of Understanding (MoUs) with regional government agencies at AIF 2024. These agencies are (i) Indonesia Infrastructure Guarantee Fund, (ii) PT Sarana Multi Infrastruktur (Persero), (iii) Department of Transportation of The Philippines and (iv) Public-Private Partnership Center of The Philippines.

The objectives of the MoUs are to curate and facilitate connections to Singapore-based infrastructure players, collaborate on project development and market sounding activities and facilitate capacity building initiatives.



Featured Session

Speeding up the Scaling of Asia's Energy Transition

Programme Partner



**The 6th ASEAN Infrastructure Discussion Series was held as part of AIF 2024*

Tadahiro Kaneko opened the session by introducing SMBC's Transition Finance Playbook, which outlines the bank's approach to transition finance and aims to bridge net zero commitments and financing transition activities. He also addressed key challenges and opportunities in the decarbonisation pathway and concluded by reaffirming SMBC's commitment towards developing new financial mechanisms for climate transition.



C-Suite Industry Panel

*This panel, moderated by **Luca Tonello**, discussed key enablers needed to support the energy transition in Asia at an ecosystem level. The discussions also touched on plausible approaches for the integration of the energy ecosystem and strategies to drive greater energy resilience in the region.*

Luca advocated for a pragmatic approach to achieving net zero with a mix of coal phase-out projects, judicious use of gas as a transition fuel, significant growth in renewables and substantial investments in the grid while fostering innovation in new solutions. He recognised the critical role of blended finance as a catalyst in this process.

Building on this, **Joan Larrea** highlighted that concessionary capital, such as philanthropic capital, serves mainly to catalyse the bankability of projects and stimulate domestic capital markets, particularly during the challenging development phase. She also proposed aggregating smaller projects to enhance their attractiveness to commercial investors.

Addressing the challenges of the decarbonisation pathway, **Abdan Satria** discussed the economic and social issues associated with early coal plant retirement, including stranded assets and job displacement. He also echoed Luca's sentiment on blended finance, spotlighting the great potential in mechanisms like transition credits to accelerate coal phase-out.

Harsh Agrawal emphasised that as part of the energy transition, instead of just shutting down assets like coal plants, there could be latent value unlocked through potential repurposing of these assets.

Federico D'Amico acknowledged the role of transitional fuels like natural gas in certain geographies, such as Vietnam, albeit with a view towards future decarbonisation of the asset.



Project-level Roundtable #1: Coal Managed Phase-Out

*This deep dive session, moderated by **Rakhi Anand**, explored opportunities and challenges in coal managed phase-out (MPO), both at the project and country-level.*

Rakhi highlighted that scaling up coal MPO projects requires significant financing and stakeholder alignment. Multiple factors across the social, economic and technological spectrum will also have to be considered.

Jackie Surtani touched on the complex interplay between international climate commitments with domestic energy needs and economic development, describing this as an “energy trilemma” (i.e., security, affordability and transition).

Joko Sogie emphasised that attracting investors to finance coal MPO projects remains a key challenge. He underscored the importance of catalysers, citing ADB’s Energy Transition Mechanism (ETM) as an example which offers blended finance and transition credits to bridge the gap between project costs and private investment.

In line with this, **Osamu Shimbara** shared that pilot projects, like ADB’s collaboration with Marubeni on ETM, can serve as models for broader adoption, demonstrating successful stakeholder engagement and paving the way for standardised solutions towards coal MPO. **Yuki Yasui** also observed financial institutions increasingly revising their internal policies to support coal MPO.



Project-level Roundtable #2: Enabling New Energy Investment in Asia

This deep dive session, moderated by Serene Tan, discussed how investors are approaching new energy investment opportunities such as the integration of renewable energy generation and battery storage systems and how policymakers are formulating policies to incentivise such investments.

Serene stressed the importance of a stable regulatory framework for mobilising investment in renewable energy. It is crucial for industry players and policymakers to consider plans for the long term, given the extended investment horizon for infrastructure assets as well as policy innovation to achieve far reaching efforts in scaling up such investments in Southeast Asia.

Grégory Thomassin observed that more companies are looking to diversify beyond traditional energy sources, like oil and gas, and profitability remains a key agenda in supporting such investments. **Eduardo Karlin** emphasised the need for robust market fundamentals and favourable regulations for the successful implementation of large-scale renewable energy projects.

Marissa Cerezo shared examples on existing and upcoming policy measures to attract investors and scale up the deployment of renewable energy in The Philippines. One such measure is the Energy Virtual One-Stop Shop (EVOSS), which streamlines the approval and regulatory process for energy projects.

Panellists concurred that successful collaboration in implementing sustainable infrastructure projects should focus on transparency, open communication and recognising the value of different industry players. **Kitty Bu** advocated for more creativity in policy innovation and forging new partnerships to navigate the unknown territory of greenfield investments. **Simon Wilson** highlighted that predictability was key in facilitating renewable energy investments, especially given the long lifecycle of infrastructure assets.

Speakers List

Abdan Satria	<i>Executive VP, Business Development & Investment, PT PLN</i>
Eduardo Karlin	<i>General Manager, Asia Pacific, Mainstream Renewable Power</i>
Federico D'Amico	<i>CEO, EDF India</i>
Grégory Thomassin	<i>Head of Business Development, Renewables, Asia Pacific, TotalEnergies</i>
Harsh Agrawal	<i>Senior Partner, I Squared Capital</i>
Jackie Surtani	<i>Regional Director, Singapore Office, ADB</i>
Joan Larrea	<i>CEO, Convergence</i>
Joko Sogie	<i>Vice President, Investment, Indonesia Investment Authority</i>
Kitty Bu	<i>Vice President, Asia, Global Energy Alliance for People and Planet</i>
Luca Tonello	<i>Managing Director and Co-Head of Structured Finance, Asia Pacific, SMBC</i>
Marissa Cerezo	<i>Director, Renewable Energy Management Bureau, Department of Energy of The Philippines</i>
Osamu Shimbara	<i>COO, Marubeni Asia</i>
Rakhi Anand	<i>Executive Director, SMBC</i>
Serene Tan	<i>Director, New Energies Asia, Structured Finance Asia, SMBC</i>
Simon Wilson	<i>General Manager, JERA</i>
Tadahiro Kaneko	<i>Senior Assistant to Head of Units, Global Banking & Wholesale, SMBC</i>
Yuki Yasui	<i>Managing Director, Asia Pacific Network, GFANZ</i>



Ideation Roundtable 1

Winning with Offshore Wind

Programme Partner
Enterprise
Singapore

This session, moderated by Mark Hutchinson, discussed opportunities and challenges for developing offshore wind (OSW) in Asia. Key focus areas included the need for regional collaboration to establish OSW supply chains within Asia, and the role of government support in ensuring bankability and market viability for OSW projects.

Soh Leng Wan opened the session, highlighting that countries in developing Asia **accounted for half of global emissions in 2023** due to their reliance on traditional energy sources. While solar and onshore wind have gained traction, he pointed out the untapped potential of OSW as a promising renewable energy source for the region but stressed that financing it would require sustained effort.

With the OSW industry in Asia still at a nascent stage, both **Lu Yi-Hua** and **Zhang Minghui** noted that the region's existing OSW supply chain constraints and restrictive regulatory policies (e.g., local content requirement) could limit the growth of the industry. Mark suggested that supply chains could be optimised through regionalisation to enhance cost-efficiency.



While the panel agreed that a regional OSW supply chain would provide developers with supply chain pipeline security and could potentially decrease the levelised cost of electricity for OSW, they also acknowledged that it might be pragmatically difficult to implement given trade-off considerations (e.g., localisation) and nuances amongst governments. **Ganesh Padmanabhan** also cautioned that any supply chain centralisation should consider optimal risk allocation. Given the size of OSW projects, there is often no single engineering, procurement and construction company responsible for the entire project and risk is typically highest during the project completion phase.

Considering the significant cost and long-term nature of OSW projects, **William Jackson** discussed the crucial role of governments in creating a conducive investment environment and potentially taking on some risk. **Lee Keng Lin** agreed, adding that the demand for renewable energy sources like OSW is largely driven by the governments' net zero targets. The panel concurred that the use of well-structured Power Purchase Agreements could make OSW projects more attractive to financiers.

Speakers List

Ganesh Padmanabhan	<i>Managing Director and Head of Project Finance, Institutional Banking Group, DBS Bank</i>
Lee Keng Lin	<i>Group CEO, Cyan Renewables</i>
Lu Yi-Hua	<i>Head of Asia Pacific, Corio Generation</i>
Mark Hutchinson	<i>Director, Asia, Global Wind Energy Council</i>
Soh Leng Wan	<i>Assistant Managing Director, Enterprise Singapore</i>
William Jackson	<i>Director, Green Giraffe Advisory</i>
Zhang Minghui	<i>Asia Pacific Offshore Wind Segment Lead, DNV (Det Norske Veritas)</i>





Ideation Roundtable 2

Mobilising Debt Capital Markets for Sustainable Infrastructure in Emerging Asia

Programme Partner
MOODY'S
 RATINGS

This session, moderated by Ray Tay, discussed the challenges and opportunities for financing climate-friendly infrastructure projects in emerging markets. Reflecting on the significant climate finance gap, the session highlighted the importance of scaling up existing and innovative funding through collaboration between governments, development finance institutions, financial institutions and businesses.

Philippe Valahu opened the session, sharing Private Infrastructure Development Group's (PIDG) role in financing infrastructure projects across Africa and Asia through comprehensive guarantees and a low-risk debt fund. He elaborated that early-stage project development and stable regulatory frameworks are key to attract institutional investors and drive innovation, citing the example of Bayfront Infrastructure Management's securitisation of projects.

Muhammad Wahid Sutopo's keynote address talked about the significant infrastructure funding gap in ASEAN, emphasising the limited private sector participation and heavy reliance on government funding. He pointed out political risk and bankability as major barriers to investment, despite Indonesia's fiscal policies and initiatives to promote PPPs.

In his presentation, **Spencer Ng** underscored the pressing need for increased clean energy investments in the coming decade for Southeast Asia to meet its climate goals. He highlighted how country risks could impact infrastructure sectors and discussed effective credit enhancement approaches, including full guarantees and partial insurance that can help improve the financeability of new projects.

Isabel Chatterton noted that guarantees, such as credit enhancements, could help secure financing for fundamentally viable projects that might otherwise struggle to obtain funding. **Shiv Sivarajah** posited that credit enhancements should serve as a kick-starter or last-mile solution for fundamentally sound projects.

Expanding on this, **Nishant Kumar** highlighted the growing scarcity of patient capital from banks, a crucial funding source for infrastructure projects which require long-term financing. He emphasised the need for innovative financial models that can recycle capital and attract alternative investors to support these developments after the initial phase; in turn, releasing capital back to banks to fund new projects. **Lawrence Wu** also brought up the importance of accounting for political, force majeure and legal changes in such guarantees.

The panellists agreed that multilateral development banks, financial institutions, private businesses and governments all have a role to play in making debt financing more attractive. Muhammad Wahid Sutopo stressed the need for robust project preparation, de-risking strategies and environmental, social and governance (ESG) considerations to attract institutional investors and advance infrastructure projects effectively. **Mark Lim** echoed this sentiment, stressing that with the right regulatory and policy support, sustainable infrastructure investments in Asia can be significantly scaled up.

Speakers List

Isabel Chatterton	<i>Regional Industry Director, Infrastructure and Natural Resources, Asia Pacific, IFC</i>
Lawrence Wu	<i>CFO, EDP Renewables Asia Pacific</i>
Mark Lim	<i>Vice President, Asia & Emerging Markets, GIC</i>
Muhammad Wahid Sutopo	<i>President Director, Indonesia Infrastructure Guarantee Fund</i>
Nishant Kumar	<i>Managing Director, Asia, GuarantCo</i>
Philippe Valahu	<i>CEO, PIDG</i>
Ray Tay	<i>Senior Vice President, Moody's Ratings</i>
Shiv Sivarajah	<i>Head of Project Finance Asia, Mitsubishi UFJ Financial Group (MUFG)</i>
Spencer Ng	<i>Vice President, Senior Credit Officer, Moody's Ratings</i>



Ideation Roundtable 3

Transforming Food Supply Chains for a Sustainable Tomorrow

Programme Partner



This session, moderated by **Alex Holmes**, explored the state of Southeast Asia's food supply chain, highlighting both the region's vulnerabilities and its potential for growth, with a focus on transport and logistics for food security.

In his opening address, **Chen Guangzhe** highlighted the crucial link between transport, logistics and food security in fostering regional prosperity. While noting overall improvements in the region's food security over the past decade, he cautioned about potential disruptions from climate shocks, geopolitical risks and protectionist trends.

Mathew Moore's presentation further emphasised the complexity of food supply chains, noting the frequent misalignment of supply and demand. He observed that traditional supply chains often prioritise short-term gains over long-term optimisation and advocated for creating safe and efficient pathways between production and consumption while reducing waste.

Echoing Mathew, **Koh Chaik Ming** emphasised the critical role of data-driven analysis to identify key food items, optimal production and consumption locations and system inefficiencies, while **Robert Yap** discussed the potential of technologies like automation and drones to improve efficiency and reduce food waste.

Neelamani Muthukumar highlighted the limited adoption of PPP models in the agriculture sector due to the lack of policy clarity, but gave examples on how aggregators, small-holders and the government can work in partnership for sustainable production. **Jaime Bautista** concurred on the need for governments to support farmers by facilitating direct market access and providing accessible financing options to invest in their operations.



Panellists concurred on the importance of collaboration among different stakeholders – governments, farmers, the private sector, consumers and academia – to avoid a “zero sum game” and ensure food security in Southeast Asia. Investing in regional connectivity, including cold chain infrastructure and multimodal hubs, was identified as a crucial step to achieve this.

Closing the ideation roundtable, **Julia Fraser** outlined the significant market opportunity for food supply chains in Asia, bolstered by the region’s growing population. She urged relevant supply chain stakeholders and complementary service providers to leverage the insights discussed, thereby enhancing efficiency and resilience throughout the entire value chain.



Speakers List

Alex Holmes	<i>Regional Director, Asia Pacific, Economist Intelligence Unit</i>
Chen Guangzhe	<i>Vice President for Infrastructure, World Bank</i>
Jaime Bautista	<i>Secretary, Department of Transportation of The Philippines</i>
Julia Fraser	<i>Director, Singapore Office, World Bank</i>
Koh Chaik Ming	<i>Senior Research Fellow, National University of Singapore</i>
Mathew Moore	<i>Vice President, Global Market Strategy, Americold</i>
Neelamani Muthukumar	<i>CFO, Olam Group</i>
Robert Yap	<i>Executive Chairman, YCH Group</i>



Ideation Roundtable 4

Capturing Value from Waste for the Circular Economy

Programme Partner



This session explored the concept of a Circular Economy (CE) and its application in designing and developing cities that can support more sustainable and resilient communities for the future.

In his keynote address, **Matthew Vickerstaff** emphasised the importance of circularity, a concept he believes is still evolving in its definition. Drawing on automotive company Tesla's bold characterisation of circularity as an "industrial revolution", he stressed that this approach is indeed necessary for our future.

Prashant Kapoor and **Alissa Raj** set the scene from a global imperative and emphasised the importance of blended finance and PPPs to realise large-scale CE initiatives.

Mike Collins underscored the crucial role of comprehensive city planning, encompassing long-term operation, maintenance, a holistic approach to urban systems and tapping on the private sector's expertise in circular thinking. **Tina Qiu** shared insights from projects where circularity shaped the outcome and highlighted the importance of circular thinking in everything from materials to overall project execution. **David Kim** advocated for Design for the Circular Economy principles, including disassembly-friendly designs and digital solutions. **Jayendra Shah** presented the role of circular and innovative engineering in saving and extending the lifespans of critical infrastructure.

The panel also recognised the pivotal role of consumers in driving circular practices, highlighting their power to influence supply chain changes. **Melanie Uzzell** shared a successful trial of the world's first town-sized Deposit Return Scheme in the United Kingdom, highlighting the potential of technological solutions in enabling a more circular economy.

Panellists concluded by stressing the imperative of designing and developing cities with resilience at their core, considering ESG factors throughout the planning process.

Speakers List

Alissa Raj	<i>Deputy Regional Director for East, Southeast Asia and Oceania, C40</i>
David Kim	<i>Technical Director, Sustainability, Mott MacDonald</i>
Jayendra Shah	<i>Partner, Foster + Partners</i>
Matthew Vickerstaff	<i>Deputy CEO & Head of Project Finance, Infrastructure and Projects Authority</i>
Melanie Uzzell	<i>Director of Circular Economy, Waste & Resources Action Programme Asia Pacific</i>
Mike Collins	<i>Head of Infrastructure Asia Pacific, UK Department for Business and Trade</i>
Prashant Kapoor	<i>Chief Industry Specialist, IFC</i>
Tina Qiu	<i>Director, PLP Architecture</i>

Special Feature

AIF 2024 spotlighted a robust pipeline of

over 30 infrastructure opportunities valued over US\$20 billion across Southeast Asia and South Asia.

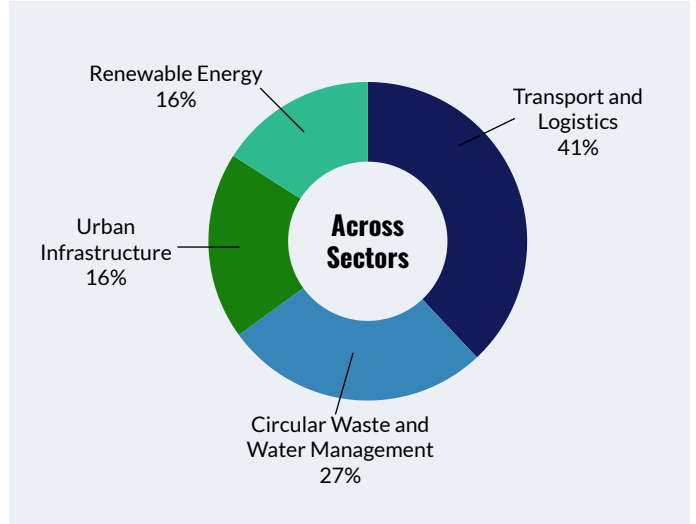
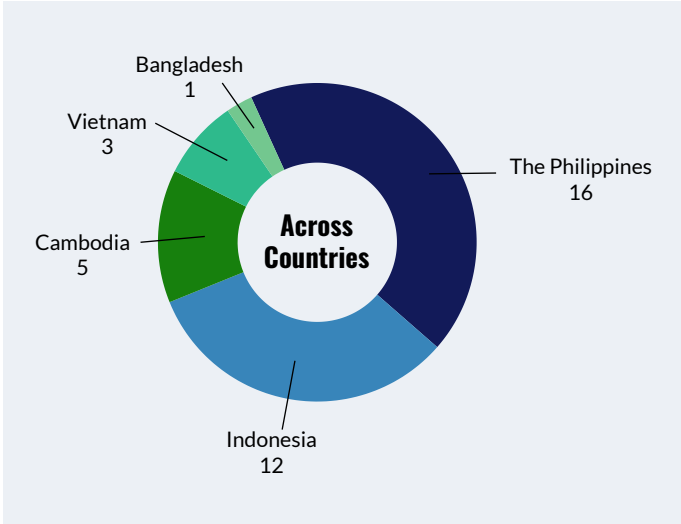
These projects, spanning sectors including transport and logistics, waste management, renewable energy, water treatment and urban development, are at various stages, with some ready for private participation as early as within the next 3-12 months, underscoring the region's commitment to sustainable growth and development.

This pipeline represents a significant step towards realising Southeast Asia's potential to **unlock US\$300 billion through green investments by 2030.**



Project Spotlights At A Glance

AIF 2024 showcased the immense potential of the region, with 37 projects across 4 sectors and 5 markets.



Urban Infrastructure

Indonesia

Project Title	Project Description
Bandung Smart Street Lighting	This project is a Design-Build-Operate (DBO) for smart street lighting in Bandung Regency, West Java. The estimated cost is \$16 million.
Denpasar City Smart Street Lighting	This is a PPP project for smart street lighting in Denpasar City under a Build-Operate-Maintain model. The estimated cost is \$12 million.
Upgrading and Privatisation of a Hospital in Samarinda	This is a hospital upgrading project located in Samarinda City, East Kalimantan. The estimated cost is \$46.7 million with an indicative concession period of 20 years.
Nusantara Affordable Public Housing	This project is a Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) for affordable public housing with government guarantees from Indonesia’s Ministry of Finance and the Indonesia Infrastructure Guarantee Fund. The PPP concession period is expected to be 10-15 years. The estimated cost is \$455 million.

Urban Infrastructure

Indonesia

Project Title	Project Description
Karawang Affordable Public Housing	This project is a DBFOMT with a housing capacity of 580 units. The estimated cost is \$20 million with an indicative concession period of 12 years.

Vietnam

Project Title	Project Description
PPP Healthcare Infrastructure - Nguyen Tri Phuong Hospital, Le Van Thinh Hospital in Thu Duc City, and Ho Chi Minh City Stroke Hospital	The Ho Chi Minh City Department of Health is developing 6 specialised medical clusters, with 7 medical projects calling for PPP investments.



Renewable Energy

Vietnam

Project Title	Project Description
260 MW Tra Vinh Green Hydrogen/Ammonia Manufacturing Plant	The Green Solutions Group is developing a \$636 million green hydrogen/ammonia manufacturing plant in Tra Vinh province, South Vietnam. The 260 MW plant will produce 182,500 tonnes of high-purity green ammonia annually.
Ho Chi Minh City Climate Finance for Low Carbon City Programme	This project consists of 4 initiatives to reduce greenhouse gas emissions and generate carbon credits. It will be funded by a mix of public and private sector financing. The estimated cost to finance LED street light upgrades is \$35-42 million, while the estimated cost for the rooftop solar project is \$60-70 million. It will be tendered out with the support of a transaction advisor.

Indonesia

Project Title	Project Description
Central Java 100 MW Floating PV	This project involves a 100 MWp floating solar PV in Kedung Ombo Dam initiated by PT PLN Indonesia Power. The estimated cost is \$140 million.
Bali (Nusa Penida) 10 MW Wind Energy Power Plant and 4.5 MW Solar PV Expansion	Bali plans for Nusa Penida to transit to 100% renewable energy by 2030 and is inviting unsolicited proposals from developers for a 10 MW wind farm and 4.5 MW solar power expansion with battery storage solutions.
West Java 2,000 MW Floating Solar PV	This project is calling for investment interest to participate in a 2,000 MW floating PV project opportunity in Cilamaya Karawang, West Java. The estimated cost is \$1.3 billion.

Renewable Energy

Bangladesh

Project Title	Project Description
100 MW Solar PV Power Plant for Bangabandhu Sheikh Mujib Shilpa Nagar Industrial City	The Ministry of Power, Energy and Mineral Resources is planning to develop a 100 MW solar power plant through a PPP model in Chattogram, Bangladesh, on a design, build, finance, operate and transfer model. The estimated cost is \$72 million with a contract period spanning 15 years.

Circular Waste and Water Management

Indonesia

Project Title	Project Description
Balikpapan's Manggar Waste Management	This project is calling for proposals for an upcoming tender to finance, develop and operate a waste treatment facility, collection and transportation of household waste in the Manggar Subdistrict in Balikpapan City. The estimated cost is \$23-36 million.
Jatigede Regional Water Supply System	This project involves the development of a 1,500 L/s fresh water supply project in West Java Province. The estimated cost is \$140 million.
Sinumbra Water Supply System	This project involves the development of a 1,200 L/s fresh water supply project in Metropolitan Bandung Raya under the Drinking Water Supply System initiative. It is seeking developers and investors in the upcoming tender scheduled for Q4 2024, and has an estimated cost of \$50 million.
Denpasar Water Supply System	This project involves the improvement of the water supply distribution network and metering system. The project scope also involves the reduction of non-revenue water. The estimated cost is \$54 million.

Circular Waste and Water Management

The Philippines

Project Title	Project Description
Bislig City Septage Treatment	This project involves the design, finance, construction, operations and maintenance of a septage system/facility. The estimated cost is \$1.39 million.
Bislig City Water Supply	This project involves the design, finance, construction, operations and maintenance of a bulk water supply and the rehabilitation of the Bislig City Water District’s distribution network. The estimated cost is \$12.2 million.
Catanduanes Solid Waste Management	This project involves the transportation and disposal of solid waste in a sanitary landfill in the Province of Catanduanes. It also includes a sanitary landfill and 3 transfer stations. The estimated cost is \$15.7 million.



Circular Waste and Water Management

The Philippines

Project Title	Project Description
New Clark City Water Supply and Wastewater Infrastructure	This project involves the design, finance, engineering, construction, operations and maintenance of a water supply and wastewater infrastructure in New Clark City over a project period of 30 years.
General Santos City Sanitary Landfill	This project involves the operations and maintenance of the General Santos Sanitary Landfill and the establishment and maintenance of a waste conversion programme, across a period of 25 years. The estimated cost is \$3.1 million.

Cambodia

Project Title	Project Description
Wastewater Treatment & Solid Waste Management Projects	These projects are planned for 2024 to 2028, and involve the design, finance, engineering, construction, operations and maintenance of the sanitation and wastewater management systems in identified provinces and municipalities.



Transport and Logistics



The Philippines

Project Title	Project Description
Metro Manila EDSA Busway	This project involves the re-development of a Bus Rapid Transit System along the National Capital Region Epifanio de los Santos Avenue (NCR EDSA). It includes design improvements aimed at enhancing accessibility, addressing overcrowding, ensuring safety and security, improving bus scheduling and implementing Information Technology and Systems technology for operational control and its Passenger Information System. The estimated cost is \$506.2 million.
Cebu Bus Rapid Transit (CBRT)	This project involves the establishment of a Bus Rapid Transit (BRT) system in Cebu that will traverse through Cebu City's Central Business District, from Lawaan I, Talisay City to Talamban, Cebu City. The estimated cost is \$491.1 million.
Davao Public Transport Modernisation (DPTM)	This project involves the development of a bus-based public transport system for Davao City which consist of a core bus network of over 100 km and a feeder network of over 500 km. The estimated cost is \$1.26 billion.
North Integrated Transport System (NITS)	This project is an integrated, multi-modal transport and logistics system. It is expected to host northbound provincial buses (from Metro Manila and vice versa), serve passengers bound for/ departing from areas in northern National Capital Region and connect passengers to other urban transport systems which are serving inner Metro Manila. The estimated cost is \$59.7 million.
New Cebu International Container Port (NCICP)	This project will equip quay cranes on a reclaimed island located in Consolacion, Cebu, to accommodate two 2,000 TEU vessels. It is intended to share the excessive cargo volume of Cebu Baseport with the new port. The estimated cost is \$288.6 million.

Transport and Logistics

The Philippines

Project Title	Project Description
Marikina-Pasig-Laguna Lake Ferry System (MaPaLLa)	This project involves the design, finance, construction, purchase, operations and maintenance of a high capacity, high-frequency, low-carbon ferry system that will strategically link Manila Bay and Laguna Lake through the Pasig River. The estimated cost is \$502.9 million.
Bundle Regional Airports	The Department of Transportation of The Philippines will identify 6 regional airports for development to extend inter-island mobility and support the recovery of their domestic tourism.
Philippines Automated Fare Collection System (PAFCS)	This project involves the establishment of national standards, business rules, facilities and institutions that will ensure full interoperability and integration under an open payment Automatic Fare Collection framework. The estimated cost is \$85.4 million.
Metro Manila Subway (MMS)	This project involves the operations and maintenance of the 36 km MMS that connects Valenzuela City, Paranaque City and Ninoy Aquino International Airport (NAIA) Terminal 3. It will have 17 stations along the corridor, a depot and an Operations Control Centre. The estimated cost is \$1.23 billion.
North to South Commuter Rail System	This project involves the operations and maintenance of the 147 km North-South Commuter Rail System. It will have 35 stations. The estimated cost is \$2.95 billion.
Metro Rail Transit Line 3 (MRT 3)	This project involves the operations and maintenance of the 16.9 km MRT 3's rolling stock fleet, 13 stations, 1 depot, fare collection system and more.

Transport and Logistics

Cambodia

Project Title	Project Description
Comprehensive Intermodal Transport and Logistics System Master Plan 2023-2033	This master plan aims to continue to improve and develop the transport and logistics system in Cambodia by promoting \$36 billion development of hard and soft infrastructure towards highly inter-connected intermodal transport system for both in-country and the region.
Waterway Ports for Transportation of Agricultural Products	This project aims to build an effective and low-cost waterway transport system to support local farmers and agricultural entrepreneurs to transport their products and build an agricultural market network. The estimated cost is \$10 million.
Phnom Penh Logistics Complex	This multi-modal supply chain infrastructure is an integral part of Cambodia's logistics masterplan 2023-2033. This project brings step-change in logistics efficiency and connectivity for both the international trade and domestic market. The estimated cost is \$220 million.
Sihanoukville Logistics Complex	This project has been identified in the Comprehensive Intermodal Transport and Logistics System Master Plan 2023-2033 and selected to be for PPP. The size of construction is around 100 hectares and has an estimated cost of \$120 million.

Note: All estimated project costs are in US dollars and accurate as of June 2024.

Interested in learning more about the projects? Access comprehensive overviews of each individual project in the link below:

[Download the AIF 2024 Project Discussion Presentation Decks](#)

Project Discussions Speakers List

Project Discussion 1: Enhancing Connectivity through Urban Transport for a Low Carbon Future (The Philippines)

Jaime Bautista	<i>Secretary, Department of Transportation of The Philippines</i>
Medardo G. Macaraig	<i>Ambassador Extraordinary and Plenipotentiary, Embassy of the Republic of The Philippines in Singapore</i>
Timothy John Batan	<i>Undersecretary, Planning and Project Development, Department of Transportation of The Philippines</i>

Project Discussion 2: Urban Infrastructure: Balancing Growth and Sustainability (Indonesia)

Andre Permana	<i>Business Director, Indonesia Infrastructure Guarantee Fund</i>
Billi Dentiala	<i>Project Development Team / PPP Project Team, PT SMI</i>
I Putu Wisnu Wijaya Kusuma	<i>Head, BAPPEDA Government of Denpasar City</i>
Iendra Sofyan	<i>Head, West Java Regional Development Planning Board</i>
Kunal Shah	<i>Chief Growth Officer & Managing Director, Asia, Anaergia</i>
Luke Foley	<i>Deputy Head of Technical Assistance, PIDG</i>
Paul Zuber	<i>Technical Director, Treatment, Mott MacDonald</i>
Reetta Pranari	<i>Project Manager, PT SMI</i>
Zuchrufjati Muchlis	<i>PPP Unit, West Java Province Government</i>

Project Discussion 3: Enhancing Circularity in Water & Waste Resource Management (The Philippines)

Cynthia Hernandez	<i>Executive Director, Public-Private Partnership Center of The Philippines</i>
Fe Carmina D. Balajadia	<i>Engineer IV, Bases Conversions and Development Authority</i>
Ike R. Escudero	<i>Department Manager, Engineering, Bislig City Water District</i>
Kohei Kimura	<i>BOT Development Director, SUEZ Southeast Asia</i>
Leonard V. Flores	<i>City Economic Manager, City Government of General Santos</i>
Nathan Schmidt	<i>Regional Head, Asia, Climate Fund Managers</i>
Oliver Redrup	<i>Associate Partner, Ernst & Young</i>
Prince Lim Subion	<i>Officer-in-Charge, Environment and Natural Resources Office, Provincial Government of Catanduanes</i>
Pritha Hariram	<i>Head, Water Infrastructure & Climate Adaptation, Asia Pacific, Ramboll Singapore</i>

Project Discussion 4: Unlocking Growth through Infrastructure Development (Cambodia)

Chhieng Pich	<i>Director General, Ministry of Public Works and Transport (MPWT)</i>
Eric Chan	<i>Head of Corporate Development, YCH Group</i>
Heng Nan	<i>Secretary of State, MPWT</i>
Sim Vireak	<i>Undersecretary of State, Ministry of Economy and Finance, Kingdom of Cambodia</i>
Sopheak Phibal Chao	<i>Director General, General Department of Sewerage and Wastewater Management, MPWT</i>
Sopheavatey Sorn	<i>Deputy Director General, General Department of Logistics, MPWT</i>
Suthy Heng	<i>Deputy Director General, General Department of Waterway, Maritime Transport and Port, MPWT</i>

Project Discussion 5: Accelerating Healthcare Development & Green Hydrogen Growth (Vietnam)

Elieen Ng	<i>Director, Plenary Asia</i>
Frankie Lim	<i>Senior Vice President (Architecture), CPG Consultants</i>
Jade Shu Yu Wong	<i>Infrastructure Finance Specialist, Global Infrastructure Facility (GIF)</i>
Mukta Malhotra	<i>Senior Infrastructure Finance Specialist, GIF</i>
Narsingh Chaudhary	<i>President - Asia Pacific & India Region, Black & Veatch</i>
Nhan Hoang Vo	<i>Principal Officer of Planning and Finance Division, Department of Health, Ho Chi Minh City</i>
Nhi Lam	<i>Director of Finance & Investment, The Green Solutions Group</i>
Pham Thanh Kien	<i>Vice Chairman, Ho Chi Minh City People's Council</i>
Yang Lu	<i>Executive Director, Clean Technology Investment Banking, Standard Chartered</i>
Zaheer Minhas	<i>Partner, Accuracy</i>

Project Discussion 6: Empowering the Future with Renewable Energy (Indonesia & Bangladesh)

Darren Chua	<i>General Manager, M&A and Commercial, Summit Power International</i>
Geoffrey Tan	<i>Managing Director, Asia Pacific, U.S. International Development Finance Corporation (DFC)</i>
Jane Tay	<i>Head of PPA Origination and Energy Offtake, ib vogt GmbH</i>
Jen Tan	<i>Head of Renewables, Singapore and Indonesia, Sembcorp Industries</i>
Kwon Jae Hyung	<i>Head of India, MIGA</i>
Lawrence Ang	<i>Managing Partner & Founder, Climate Smart Ventures</i>
Li Xiangnan	<i>Executive Director, Project Finance, Institutional Banking Group, DBS Bank</i>
Marlistya Citraningrum	<i>Senior Analyst, Institute for Essential Services Reform</i>
Md. Mushfiqur Rahman	<i>CEO, Public-Private Partnership Authority (PPPA) Bangladesh</i>
Shemane Chan	<i>Partner (Construction & Projects, Energy & Resources), Rajah & Tann</i>

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About Infrastructure Asia

Infrastructure Asia is a project facilitation office established by the Singapore Government (set up by Enterprise Singapore and the Monetary Authority of Singapore) to support Asia's social and economic growth through sustainable infrastructure development.

We are committed to developing a robust pipeline of bankable projects and investments opportunities by working closely with regional governments, private companies, and both commercial and multilateral development banks.