SUSS
SINGAPORE UNIVERSITY OF SOCIAL SCIENCES

2025 SUSTAINABLE ASIA CONFERENCE | 29–30 OCT

Conference Programme and Guide

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Message from the

Chairperson, Board of Trustees (SUSS)

Mrs Mildred Tan
Chairperson, Board of Trustees
Singapore University of Social Sciences

Welcome, distinguished guests, esteemed academics, industry leaders, and SUSS partners from around the world. It is my great pleasure to convene with you at the 2025 Sustainable Asia Conference, a gathering that brings together some of the brightest minds and boldest thinkers to shape a more sustainable and equitable future for our region and our planet. At SUSS, we applaud and embrace the diverse perspectives in applied research on sustainability, as it tells us the path to sustainable growth cannot be one-dimensional. It demands that we listen – to science, to communities, to industries, and most importantly, to one another. The diversity of our ideas, cultures, and disciplines is our greatest strength as we work together to craft economic community and government policies that serve both present needs and future generations.

We are honoured to welcome leading academics, thought leaders, industry experts, and the Hoffmann Fellows, whose innovative work bridges science, policy, and practice. Our collaboration with the World Economic Forum underscores the importance of global partnerships in advancing sustainability, not as an abstract ideal, but as a shared responsibility and opportunity. Over the coming days, we will engage in meaningful conversations, exploring new frameworks for sustainable economies, inclusive growth, and responsible innovation. Together, we can chart pathways that balance prosperity with purpose, growth with equity, and progress with preservation.

On behalf of the organisers, I thank you for being here and for lending your voice, your expertise, and your commitment. May this conference inspire not only dialogue, but also decisive action – for our planet, our people, and the generations to come.

Thank you, and welcome once again to the 2025 Sustainable Asia Conference.

Welcome Message from the

Conference Chair

Dr Tan Eng Joo
Co-Chair, University Sustainability Committee
Head, Master and Graduate Diploma Programmes in Sustainability Management
School of Business, Singapore University of Social Sciences

Welcome to the inaugural Sustainable Asia Conference.

Research is most powerful when it is applied, and nowhere is this truer than in the pursuit of sustainability, where the stakes have never been higher. This conference was created with a clear purpose: to bridge ideas and action, and to foster collaborations that translate knowledge into tangible impact for our region.

As an applied university, we believe research must not only advance theory but also shape practice. The dual academic–industry co-review model introduced at SAC2025 embodies that belief, ensuring every submission is both rigorous and relevant. Our Sustainability Hackathon reflects the same philosophy, bringing students, faculty, and companies together to solve authentic sustainability challenges in real time.

When I first entered academia, a mentor from industry told me, half in jest, that people in business play with real bullets. I smiled, thinking that perhaps they do, but sometimes they are not quite sure where they are aiming. In sustainability, we need both the precision of research and the immediacy of practice if we are to hit the mark. I encourage our industry practitioners to share generously the pressing sustainability questions that demand deeper inquiry, and our academic colleagues to see this as a chance to create impact that traditional journal metrics cannot capture. When we next convene, I hope to hear not only about your research but about the practical changes it has inspired.

Let this conference mark the start of lasting partnerships that drive measurable progress, from decarbonisation and sustainable finance to social resilience and a just transition. Thank you for being part of this journey toward a more sustainable Asia.

About

Singapore University of Social Sciences (SUSS)

At SUSS, we have a singular vision to be a university that inspires learning for life. We have a diverse student community that reflects this vision: from recent junior college and polytechnic graduates to seasoned professionals and individuals redefining their careers in their golden years, all coming together for one common goal—to empower themselves with an education that impacts lives and society.

Since becoming an Autonomous University in 2017, more than 25,000 graduates have experienced our distinctive approach to applied education. Today, over 19,000 students are pursuing their studies with us across more than 110 undergraduate and graduate programmes offered in both full- and part-time modes, alongside a wide range of continuing education and training modular courses designed to support lifelong learning.

Driven by our sustainability mission, SUSS is committed to establishing best practices within the university and catalysing sustainable growth in the communities we serve. We advance sustainability through our governance and culture, campus operations, curriculum design, applied research, investment and procurement policies, and partnerships, nurturing responsible, future-ready learners and a more sustainable society.

About

School of Business

The School of Business at SUSS is committed to shaping agile thinkers and effective leaders equipped to thrive in today's fast-evolving business landscape. Our programmes blend strong business fundamentals with specialised expertise across industries, fostering a deep understanding of both strategy and practice.

Guided by SUSS's mission to inspire lifelong learning and serve society through applied education and research, the School of Business places strong emphasis on industry relevance, experiential learning, and societal responsibility. Working closely with partners across sectors, the school bridges academia and industry to advance real-world innovation, responsible leadership, and sustainable business practices, creating impact that extends well beyond the classroom.

About

Sustainable Asia Conference (SAC2025)

Theme

Building a Resilient Asia: Innovating through Infrastructure, People, and Finance

The Sustainable Asia Conference (SAC2025), convened by the Singapore University of Social Sciences (SUSS) and organised jointly by its School of Business and its Sustainability Committee, brings together leaders from business, academia, and policy to address Asia's most pressing sustainability challenges. Home to over 60% of the world's population, Asia stands at the frontline of climate risk. Rapid urbanisation, rising consumption, and more than half of global carbon emissions converge to test the region's ability to adapt. Building resilience will demand innovation that links infrastructure, people, and finance, ensuring sustainable and inclusive growth.

Purpose

- To facilitate interdisciplinary knowledge exchange between academia and industry
- To showcase data-driven research that informs sustainability strategies and policymaking
- To address Asia-specific sustainability challenges through innovative, scalable solutions
- To engage higher education institutions in catalysing a just transition for Asia

Highlights

- Academic-Practitioner Co-Review Process: Each paper is reviewed by both an academic expert and an industry practitioner, ensuring intellectual rigour and practical relevance.
- Plenaries with Keynotes and Expert Panels: Hear from distinguished leaders across sectors as they share ideas that shape the next decade of sustainability practice and research.
- Parallel Track Sessions and Poster Presentations: Explore cutting-edge studies and applied innovations across multiple sustainability themes in both oral and interactive formats.
- Hoffmann Fellows Research Showcase: Gain first-hand insights from Hoffmann Fellows with the World Economic Forum, featuring pioneering research at the nexus of sustainability, innovation, and global policy.
- Hackathon Finals: Experience the energy of the SUSS Sustainability Hackathon as finalist teams pitch breakthrough ideas to drive sustainable transformation across the region.

Conference

Tracks

TRACK 1
Accelerating the Renewable Energy Transition in Asia

TRACK 2
Sustainable Urbanisation & Green Infrastructure for Future Cities

TRACK 3
Thriving Together: Advancing Social Sustainability for Organisations & in Communities

TRACK 4
Financing a Greener Future: Advancing Green Finance & Sustainable Investments in Asia

TRACK 5
Promoting Sustainability through Behavioural Insights

TRACK 6
Innovating for Resilience & Sustainable Development

TRACK 7
Sustainable Business Practices: Driving Long-Term Resilience in Asian Businesses

POSTER TRACK

Conference Tracks

Track 1: Accelerating the Renewable Energy Transition in Asia

This track highlights cutting-edge strategies, technologies, and analytical approaches that advance Asia's transition toward a sustainable energy future. The studies collectively demonstrate how data-driven modelling, AI-enabled reporting, and hybrid energy systems can strengthen decision-making, improve environmental accountability, and enhance energy efficiency. By integrating economic, environmental, and social dimensions of the energy transition, these works reflect the growing convergence of digital innovation, sustainability analytics, and clean technology applications. Together, they showcase how interdisciplinary research and practical solutions are accelerating the region's renewable energy transformation and supporting the achievement of global climate goals.

Track 2: Sustainable Urbanisation and Green Infrastructure

This track examines innovative policies, technologies, and community practices shaping sustainable and resilient cities in Asia. Papers explore a wide spectrum of approaches—from collaborative governance in Cambodia's special economic zones and stakeholder-responsive urban mobility policies in India to circular water governance innovations in Taiwan. Studies on Kyoto's nature-based cooling strategies, LNG cold energy optimisation, and environmental due diligence in green construction highlight emerging methods for low-carbon urban infrastructure. Complementing these are case studies on Singapore's wartime vernacular gardens and community gardens in Shanghai and Bandung, which underscore the social and ecological value of small-scale green commons. Together, the works in this track reveal how adaptive governance, technological innovation, and citizen engagement can drive sustainable urbanisation and enable greener, more inclusive urban futures across Asia.

Track 3: Thriving Together—Advancing Social Sustainability for Organisations and in Communities

This track highlights how leadership, education, governance, and workplace practices collectively shape more inclusive and resilient societies. The papers explore diverse contexts—from female political leadership in Singapore's Parliament and India's gender-equity and governance interventions, to inclusive education for students with disabilities and diversity learning among university students. Studies on CSR-driven employee creativity in Vietnam, the #MeToo movement's impact on career progression, and psychological well-being at work uncover the organisational dimensions of social sustainability. Complementing these are contributions on youth-led technical education for circular innovation and on virtue ethics as a framework for rebuilding democratic and communal trust. Together, these studies provide fresh insights into how values-driven leadership, inclusive learning, and ethical organisational cultures can enable individuals and institutions to thrive together in pursuit of social sustainability.

Track 4: Financing a Greener Future—Advancing Green Finance and Sustainable Investments in Asia

This track delves into how financial systems, governance, and investor behaviour can accelerate Asia's transition toward a low-carbon economy. The papers examine the interplay between foreign direct investment, renewable energy, and environmental quality in Central Asia, offering policy insights for aligning financial flows with sustainability goals, and board composition and ESG performance, highlighting how board expertise and diversity influence firms' sustainability outcomes. Further contributions include an empirical assessment of China's green tax reform, showing how environmental fiscal policy can lower firms' cost of equity and incentivise cleaner operations, and an experimental study on investor reactions to AI-driven stranded asset decisions, shedding light on market expectations in the era of net-zero transition. Together, these studies underscore the critical role of green finance, governance innovation, and investor confidence in driving sustainable economic transformation across Asia.

Track 5: Promoting Sustainability through Behavioural Insights

This track highlights how behavioural science can drive sustainable choices across individuals, organisations, and societies. The studies explore diverse applications—from encouraging employee green behaviours in Singapore's public sector and shaping household preferences for electric buses, to using empathy and "fresh start moments" to promote sustainable travel and pro-environmental action. Other papers examine drivers of composting and eco-conscious consumption, religious and ethical perspectives on cultured meat, and behavioural dynamics in food waste reduction and sustainable eating across generations. Extending behavioural frameworks to industry, the track also includes insights on green consumerism in India and Vietnam and pilot decision-making in aviation fuel management. Together, these studies demonstrate how targeted behavioural interventions—rooted in psychology, culture, and social norms—can effectively translate awareness into action, advancing sustainability goals in both everyday life and organisational practice.

Track 6: Innovating for Resilience and Sustainable Development

This track presents forward-looking research and practical innovations that strengthen systems, communities, and industries against emerging sustainability challenges. The studies range from simulation-optimisation models for industrial symbiosis and data-driven frameworks for credible plastic offset schemes, to microbial protein innovations that build circular and resilient food systems in Asia. Complementing these technological and engineering advances are socially oriented approaches, including deep-plan row housing for community cohesion, digital tourism for post-extractive livelihoods in Nigeria's Niger Delta, and social enterprise-led recycling in Hong Kong. Further contributions examine urban water innovation ecosystems, geotechnical resilience through reinforced footing design, and thermal comfort assessment in tropical cities. Together, these works showcase interdisciplinary pathways—spanning technology, design, and policy—that advance resilience, circularity, and inclusive sustainable development for rapidly changing societies.

Track 7: Sustainable Business Practices—Driving Long-Term Resilience in Asian Businesses

This track brings an enterprise lens to sustainability, spanning strategy, leadership, finance, technology, and markets. Papers examine social equity in mountain tourism and coalition-building for community waste governance, alongside firm-level levers: leadership pathways and people-centric HR systems that unlock innovation, capital structure's link to social donations, and nuanced evidence on ESG–performance trade-offs in China. Sector studies probe climate adaptation for mega-events, data-centric resilience in aviation, ownership and regulation effects on emissions in multinationals and power plants, and AI-driven analysis of climate risks in the semiconductor industry. Taken together, these studies demonstrate how governance structures, incentive mechanisms, and human-technology systems can translate sustainability ambitions into durable, competitive business practices across Asia.

Poster Track

This poster session brings together interdisciplinary research addressing critical sustainability challenges across consumer behaviour, technological transformation, and environmental design. Featured studies explore how perceptions of eco-friendly branding shape consumer attitudes, the role of digital platforms in empowering rural livelihoods, and strategies for fostering inclusivity in higher education. Other contributions examine behavioural interventions for energy conservation, psychological drivers of voluntary carbon offsets, and innovative façade systems for tropical urban health. Additional work highlights sustainable packaging preferences, corporate environmental performance, and emerging biopolymer and nano-encapsulation technologies for therapeutic applications. Insights into microenterprise digitalisation and sustainability strategies further underscore the session's practical relevance. Collectively, these projects offer evidence-based approaches and actionable solutions for advancing global sustainability goals through integrated social, technological, and ecological pathways.

Conference Organisation

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Head, Master and Graduate Diploma Programmes in Sustainability Management
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Changemaker in Education

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Industry Partners

The industry partner plays a vital role in bridging academia and practice at SAC2025. By supporting the conference, the partner helps foster dialogue between scholars, practitioners, and policymakers, contributing valuable industry insights to enrich discussions on real-world challenges and innovations. The collaboration also enhances opportunities for knowledge exchange, networking, and applied research that align with industry needs and emerging trends.

Our conference tracks are co-reviewed by the following industry partners:

BIT

Centre for Strategic Energy and Resources

CFA Society Singapore

ESGpedia

RAMBOLL

SINGAPORE GREEN BUILDING COUNCIL

SIP SOCIAL INNOVATION PARK

SMF

Special Address Speaker

Ms Durreen Shahnaz
Chief Executive Officer
Impact Investment Exchange

Ms Durreen Shahnaz, a global leader of social impact and impact investing, is the founder of Impact Investment Exchange (IIX) and IIX Foundation. Over the past three decades, her mission has been to build a more inclusive, sustainable world by transforming financial markets and bringing underserved women to the forefront of capital markets. Ms Shahnaz's work has helped thousands of entrepreneurs, investors, governments and impact stakeholders around the world to play a role in sustainable development and women's empowerment.

Ms Shahnaz has built a track record with a career spanning the globe, starting out in finance at Morgan Stanley (New York) and Grameen Bank (Bangladesh), moving into media at Hearst Magazines International (New York), and then research and education at the National University of Singapore. As a pioneer in social impact, Ms Shahnaz has led IIX to create the world's first social stock exchange, the largest crowdfunding platform for impact investing (Impact Partners) and innovative financial structures such as the Women's Livelihood Bond series. Ms Shahnaz developed industry benchmarks such as Impact Reporting and Investment Standards (IRIS), the generally accepted performance metrics for impact investors and is launching IIX Values, a technology-driven impact measurement and management platform.

As an academic, Ms Shahnaz created and spearheaded the Programme for Social Innovation and Change at the Lee Kuan Yew School of Public Policy at NUS and created a proprietary Impact Assessment methodology that is now the most widely used impact methodology in Asia. Ms Shahnaz advised and supported the development of Impact Reporting and Investment Standards (IRIS) of the Global Impact Investing Network (GIIN).

Additionally, she founded, grew and sold oneNest (New York) – an impact enterprise and online marketplace for handmade goods. oneNest was sold to Novica United, working in association with the National Geographic Society. Through these roles, Ms Shahnaz has broken down walls and built bridges in order to connect the backstreets of underserved communities to the Wall Streets of the world and in 2021 she was recognized by Forbes as one of the 50 women over the age of 50 changing the world through politics, education, law and social entrepreneurship.

For her work in innovative finance and gender lens investing, Ms Shahnaz was recognized in 2020 by UN Women with a WEP award for leadership action and commitment to advancing gender equality and women's economic empowerment. Ms Shahnaz was recognized in 2021 by Forbes as one of the 50 women over the age of 50 changing the world. She has served on, or currently serves on, advisory boards for the UNDP, United Nations ESCAP, and the G20 Steering Committee for Impact Investing, and was also an appointed member of the World Economic Forum's Global Agenda Council.

Ms Shahnaz is the recipient of the 2019 Sustainability Superwoman Award from CSRWorks, the 2017 Oslo Business for Peace Award, often referred to as the 'Nobel Prize for Business', the 2017 Global Steering Group for Impact Investment Impact Market Builder of the Year award, the 2016 Asia Game Changer Award, in addition to the prestigious 2014 Joseph Wharton Social Impact Award given by the Wharton School of University of Pennsylvania. She has been a programme advisor to the Clinton Global Initiative, a 2010 TED fellow, a TED speaker. in 2021, she made Forbes 50 over 50 – investment list.

Ms Shahnaz is also the author of The Defiant Optimist™ – Daring to Fight Global Inequality, Reinvent Finance, and Invest in Women, her highly anticipated debut book on the subject of inclusion and equity and enabling finance for the 99%.

Plenary Speaker

Ms Penny Low
Founder and President, Social Innovation Park
Former Member of Parliament, Singapore

Ms Penny Low is a senior advisor to C-suite executives and government leaders, with expertise spanning technology, innovation, township development, and mindful leadership. She served as an elected Member of Parliament of Singapore for nearly 15 years, where she shaped national policies, oversaw eight key ministries, and pioneered the country's first award-winning eco-town and digital town.

Penny has mentored global business and political leaders, spearheaded the creation of over 70 deep-tech research institutes and 350 innovation centers with industry giants, and founded Social Innovation Park (SIP), whose initiatives have impacted more than 13 million people worldwide.

A sought-after speaker at the World Economic Forum, Boao Forum, Milken Institute, MISK Global Forum, Horasis, and many other international platforms, Penny is recognized as a thought leader in social innovation, leadership transformation, and mindful leadership.

Her contributions have earned her numerous prestigious recognitions, including founding member of the World Economic Forum's Young Global Leaders and founding curator of the Global Shapers Community. She is also a Yale World Fellow, Aspen Scholar, NTU–Lien Ying Chow Legacy Fellow, Salzburg Global Fellow, and continues to serve on various university boards, including Imperial College London, Yale University, and the Singapore Institute of Management.

Keynote Speakers

Ms Esther An
Chief Sustainability Officer
City Developments Limited

Impact Leader of the Year 2024, The Business Times Singapore
TIME100 Climate Leaders in Business 2023, TIME
SDG Pioneer 2018 for Green Infrastructure & a Low-Carbon Economy, UN Global Compact

A sustainability practitioner for three decades, Esther has been instrumental in building up the sustainability leadership of CDL, which has been ranked top among real estate companies on the Global 100 Most Sustainable Corporations in the World, announced at the World Economic Forum in Davos.

She published Singapore's first sustainability report in 2008 and led CDL to become the first Singapore company to issue a green bond in 2017. Conferred the 2018 SDG Pioneer for Green Infrastructure and a Low Carbon Economy by the UN Global Compact, she was also named among 25 Trailblazing Women against Climate Change by Reuters (2023) and on the inaugural TIME100 Climate Leaders in Business (2023) list.

Esther serves on the boards or advisory platforms of numerous international organisations, including the World Green Building Council as Corporate Advisory Board Chairperson, the UN PRI Real Estate Advisory Committee, the UN ESCAP Sustainable Business Network Executive Council, and the Taskforce on Nature-related Financial Disclosures (TNFD) as a Taskforce Member.

She also sits on the Global Reporting Initiative (GRI) Supervisory Board, chairs the IFRS Corporate Reporting Best Practice Group APAC, and contributes to the Urban Land Institute (ULI) through the Randall Lewis Center Advisory Board for Sustainability in Real Estate and the ULI Asia Pacific Net Zero Council.

In addition, she also serves on the Asia Pacific Real Estate Association (APREA) Board of Directors and chairs its ESG Committee, while also holding positions on the GRESB Foundation Board, MITSolve Climate Advisory, and the World Economic Forum Nature-Positive Cities Global Commission (2022–24).

She also sits on Nanyang Technological University's Industry Advisory Council for the Centre for Professional and Continuing Education (PACE) as Sustainability & ESG Reporting Sub-committee Advisor.

In 2017, Esther founded the Women4Green and Youth4Climate networks to empower women and youths to champion climate action and sustainable development.

Keynote Speakers

Prof Benjamin Horton
Chair Professor of Earth Science; Dean
School of Energy and the Environment
City University of Hong Kong

Professor Benjamin Horton is the Dean of the School of Energy and the Environment at City University of Hong Kong (CityU).

Prior to becoming Dean, he was the Director of the Earth Observatory of Singapore and the Chair of the Asian School of the Environment at Nanyang Technological University (NTU). He was appointed the AXA Chair in Natural Hazards from 2020 to 2025.

Professor Horton was a Professor of Marine Science at Rutgers University and an Associate Professor at the University of Pennsylvania. Professor Horton obtained his PhD from the University of Durham, UK.

Professor Horton has won several awards in his career. In 2019 and 2025, he was appointed the President's Chair in Earth Sciences at City U and NTU for outstanding achievement. For excellence in research, he received the Plinius Medal from the European Geosciences Union, the Voyager Award from the American Geophysical Union, and the W. Storrs Cole Award and this year the Kirk Bryan Award from the Geological Society of America. He was elected Fellow of the Geological Society of America and the American Geophysical Union.

Professor Horton is distinguished for his research into sea-level change, significantly enhancing our understanding of the mechanisms that have determined sea-level changes in the Earth's past, and which will shape such changes in the future.

Horton's leadership in sea-level science has led to invitations to contribute to the activities of the two major bodies assessing global climate change, the Conference of the Parties (COP) and IPCC. Similarly, he has been called upon to provide advice and evidence to politicians, government agencies and businesses. Horton has recently

been an invited speaker to the World Bank and at the Arctic Council in Germany, Russia, and Norway to present his research.

Professor Horton has published over 270 articles in peer-reviewed journals and 12 books or edited volumes. He has published over 40 articles in high-profile journals such as Science, Nature, and Proceedings of the National Academy of Sciences. Professor Horton is supervising or has supervised 27 students to the degree of PhD and 23 postdoctoral scientists, of which 20 now have permanent academic positions. His H-index is 87 and he has >20,000 citations. Professor Horton has been awarded US$50 million in research funding.

Keynote Speakers

Ms Fang Eu-Lin
Sustainability & Climate Change Leader, PwC Singapore
Lead, PwC Asia Pacific Centre for Sustainability Excellence
Asia Pacific Financial Services Sustainability Leader,
PwC Asia Pacific

Eu-Lin leads the Sustainability & Climate Change practice across PwC Singapore, drives the PwC Asia Pac Centre for Sustainability Excellence based in Singapore and is a member of global sustainability leadership teams at PwC. She is also the Asia Pacific Sustainable Finance Leader. Prior to assuming the Sustainability & Climate Change practice head role at PwC Singapore in 2016, she was a financial services specialist partner.

Eu-Lin graduated with a Master's in Public Administration from Harvard Kennedy School, Harvard University and is an alumna of Harvard Business School. As a practicing Singapore Chartered Accountant, she believes that accountants can play an important role in fighting climate change and advancing sustainability in business and in the community.

She serves on various boards and committees where she contributes in areas of the audit committee, risk committee and sustainability. She serves of the boards of the National Environment Agency, Temasek Polytechnic, National Institute of Early Childhood Education and the Singapore Institute of International Affairs. She is the Co-Chairman of the MSE SG Eco Fund and serves on the MAS Corporate Governance Advisory Committee. She is the Chairman of the Institute of Singapore Chartered Accountants Sustainability Committee which supports in capacity building, technical review of sustainability reporting standards and engaging the accounting community on emerging sustainability issues and served on the ACRA-SGX Regco Sustainability Reporting Advisory Committee.

Keynote Speakers

Prof Chang Xin
Professor of Finance; Associate Dean (Research)
Nanyang Business School
Nanyang Technological University

Professor Chang Xin is a Professor of Finance and Associate Dean (Research) at Nanyang Business School (NBS), Nanyang Technological University (NTU), where he oversees the School's PhD programs and research activities.

From 2015 to 2018, he was a tenured University Reader in Finance at Cambridge Judge Business School, University of Cambridge. During this period, he also held the titles of J.M. Keynes Fellow in Financial Economics, Fellow of Darwin College, and Research Fellow at the Cambridge Endowment for Research in Finance. Prior to that, he served as a Lecturer and later a tenured Senior Lecturer in Finance at the University of Melbourne between 2004 and 2008.

Professor Chang specializes in corporate finance, with particular research interests in capital structure, corporate innovation, mergers and acquisitions, equity valuation, and sustainable finance. He has taught extensively across undergraduate, honours, master's, and doctoral programmes at leading institutions including the Hong Kong University of Science and Technology (HKUST), University of Melbourne, University of Cambridge, and NTU.

His excellence in research and teaching has been widely recognized. He received the Research Excellence Award at the University of Melbourne in 2006 and the Certificate of Teaching Excellence in 2007. At NTU, he has been awarded numerous accolades including Researcher of the Year (2009), MBA Teacher of the Year (2011), Division Teacher of the Year (2013), and NTU Best PhD Supervisor Award (2020). He also received the Peter Brownell Award for Best Publication in Accounting and Finance (2007), multiple Best Paper Awards at international conferences (SFM 2008 and 2011, World Business Ethics Forum 2012), the "Best Professor in Financial Management" award at the 2012 Asia's Best B-Schools Awards, the Best Paper Award

in Corporate Finance from the Chinese Finance Association (TCFA) in 2013, and the Best Paper Award on Research Integrity in 2023.

Professor Chang has published over a dozen papers in internationally leading journals, including the four top finance journals (Journal of Finance, Journal of Financial Economics, Review of Financial Studies, and Journal of Financial and Quantitative Analysis) and top-tier accounting journals (Journal of Accounting Research, The Accounting Review, and Contemporary Accounting Research). He serves as Associate Editor of the International Review of Finance and the Asia-Pacific Journal of Financial Studies, and as Editor of Risk Sciences, The International Journal of Theoretical and Applied Finance, and the Journal of Internet and Digital Economics. He is also a member of the editorial board of Accounting Open.

Panel Speakers
Industry Panel I: Asia & Infrastructure

Title

Towards a More Sustainable Asia: What Are the Unique Challenges Faced by the Region and Its Infrastructure?

Synopsis

Given that Asia is the most populous region with the highest carbon emissions, it is essential to bring together experts from diverse sectors and areas across the continent. This panel shares collective insights from experts across various industries and countries, who face distinct challenges in responding to sustainability.

The panel includes top experts from across Asia specialising in future infrastructure development, addressing regional challenges, and leading energy and environmental policy initiatives, partnerships, and sustainable leadership.

Ms Yvonne Soh
Chief Executive Officer
Singapore Green Building Council

Yvonne Soh is an advocate for corporate climate action and leads the team at the Singapore Green Building Council (SGBC), an industry-led organisation grounded in public-private collaboration to accelerate the transformation of Singapore's built environment. She has extensive experience spanning both the public and private sectors, including engineering consulting with an international professional services firm; establishing operations for the Waste Management and Recycling Association of Singapore; and policy development, regulatory administration, industry promotion, and R&D with the Building and Construction Authority.

Yvonne is a Green Mark Accredited Professional, Greenhouse Gas Professional and Professional Engineer (Civil). She is Deputy Chair of the Singapore Accreditation Council (SAC), Chair of SAC Council Committee for Certification, and a member of Enterprise Singapore's Standards Committees for Building & Construction, and Environment & Resources standards. She is also a member of the Advisory Board of the Circular Future Cities project, an interdisciplinary project between research groups in Switzerland and Singapore.

Dr Renard Siew
Head of Corporate Sustainability
Yinson Holdings Berhad

Dr Renard Siew is the Head of Corporate Sustainability for Yinson where he is responsible for advancing the organisation's work in the field of climate change and sustainability. He is also currently the President of the Malaysia Carbon Market Association (MCMA) looking into spurring the growth of the carbon markets nationally.

Prior to this, he was involved in the implementation of the sustainability agenda for a number of public-listed corporations (Sime Darby, CIMB, MRCB) and was a researcher at the Centre for Energy and Environmental Markets (CEEM) contributing thought leadership in: sustainability/ integrated reporting, GHG reporting and verification, ESG integration, socially responsible investment (across different asset classes: equities, infrastructure and property/real estate), climate change and sustainable construction for the building/ infrastructure sector. Renard is a graduate of Cambridge University, UNSW, and the Harvard Kennedy School. In 2013, he was selected as one of 15 scholars to attend the PhD Academy at the Swiss Federal Institute of Technology (ETH). He has published in many international refereed journals. In 2014, he won a Highly Commended Paper award by the Emerald Literati Network and was inducted into the prestigious Global Young Academy as recognition of his research impact.

He was the Co-Chair of the Climate Change & Disaster Risk Management Working Committee and UNEP-FI's Collective Commitment on Climate Action. In 2020, he was appointed an SDG Champion-Climate Action by the World Economic Forum (WEF). He

is a member of the WEF Expert Network Group, serves on the WEF Global Future Council on SDG Investment. He was accepted into the Forbes Fellowship Programme and attended the inaugural UN Climate Action Summit in New York in 2019.

Mr Karthik Ganesan
Fellow and Director, Strategic Partnerships
Council on Energy, Environment and Water

Karthik Ganesan is a seasoned researcher specialising in energy and environmental issues, with a focus on India's electricity system. Over the last decade he has been instrumental in conceptualising and building a number of research verticals at CEEW, and brings an edge to the organisation’s quantitative policy analysis work. As Director, Strategic Partnerships, he now dons the hat of internal adviser across research teams and creates institutional platforms and partnerships that strengthen CEEW's foundation for world-class research and enhance its impact.

Karthik holds a Master’s degree in Public Policy from the Lee Kuan Yew School of Public Policy at the National University of Singapore. He also holds an undergraduate degree in Civil Engineering and an M.Tech in Infrastructure Engineering from the Indian Institute of Technology, Madras. He is an avid birder, Scrabbler and can spend hours talking about the benefits of composting.

Dr Michael Lochinar Abundo
Chief Executive Officer, OceanPixel Pte Ltd
Chief Thinking Officer, BluC53 Pte Ltd

Dr Michael Abundo is a green and blue techno-preneur who specialises in Marine Renewable Energy (with pilot projects in small island developing states and 'tropical' solutions) and other technology-enabled, innovation-infused sustainability transitions, especially in the Blue Economy.

Dr Mike Abundo has over twenty (20) years of experience in various roles in Green and Blue Economy development, including sectors such as Renewable Energy, Smart and Sustainable Cities & Communities, Decarbonisation, ClimateTech (including R&D), Portfolio/Programme/Project development management and other sustainable development & impact initiatives. He has spearheaded and significantly contributed to the inclusion of Ocean Renewable Energy (and other Marine Renewables) into South East Asia's Energy mix at various scales (e.g. energy harvesting, micro-grid, grid-tied/large scale) and for a spectrum of applications (e.g. vessel, ports, water, aquaculture, tourism, etc.)

Dr. Abundo's expertise cover a wide base that includes Sustainability, Energy, Innovation, Research, Development, & Demonstration (RD&D) Ecosystems of the Asia Pacific Region working with academe, industry, and government which involve Portfolio, Programme, and Project Management (Technical and Operational), Product Development, Engineering, Management Consulting, Technology and Venture Incubation, as well as Design-based Innovation.

He holds a doctorate degree in Electrical and Electronics Engineering with a focus on Marine Renewable Energy, a master's degree in Electrical Engineering (specialising in Instrumentation and Control) and a master's degree in Technopreneurship and Innovation, and has applied various frameworks (e.g., design thinking, blue ocean) in various organisational and project/programme contexts and aspects.

He has worked with organizations such as Asian Development Bank, United Nations, ASEAN Centre for Energy, International Energy Agency, Blue Economy Cooperative

Research Centre, Department of Energy (Philippines), Nanyang Technological University (NTU), Energy Research Institute @ NTU, Rolls-Royce, Saab AB, Energy Market Authority (Singapore), Sustainable Energy Association of Singapore, Deloitte, KPMG, Meralco, Aboitiz, KeppelFELS, Rolls-Royce, Emerson, Nanyang Technopreneuship Centre, Ideaspace Foundation to name a few.

He has successfully initiated, executed, and handed over a community-based energy intervention programme, especially for accelerated post-disaster recovery, with a sustainability plan involving various stakeholders (e.g. NGOs, academia, industry, local government).

Panel Speakers
Industry Panel II: Corporate Sustainability

Title

From Compliance to Core: How Chief Sustainability Officers Are Redefining Corporate Strategy

Synopsis

Sustainability has moved from the margins of business to the centre of strategy, but what does it take to make that shift real? This panel brings together Chief Sustainability Officers from diverse industries for a candid discussion on the toughest questions they face: how to translate ambition into execution, navigate competing pressures, and make sustainability a catalyst for growth and resilience rather than a compliance exercise.

As climate, nature, and social risks evolve into strategic and financial risks, the CSO's role is being reimagined. Join this conversation to explore how leadership mindsets are changing, where cross-sector collaboration becomes indispensable, and what new approaches may define the next phase of corporate transformation.

Mr Helge Muenkel, CFA
Chief Sustainability Officer
DBS Bank

Helge is the Chief Sustainability Officer at DBS. He is responsible for developing DBS's overarching sustainability framework and driving sustainability initiatives across the bank. He acts as Secretary to the bank's Board Sustainability Committee, and chairs the Group Sustainability Council, which comprises senior leaders across business and support units. Helge represents DBS in several global and regional bodies and

working groups such as the World Business Council for Sustainable Development, the technical committee of the Global Reporting Initiative (GRI), which will develop its first global reporting sector guidance for banks, the Green Skills Committee convened by Singapore's Ministry of Trade & Industry in partnership with SkillsFuture Singapore or Singapore's Sustainability Reporting Advisory Committee. Helge also serves as a Member of the ExCo of the Singapore Sustainable Finance Association and is appointed as an alternate director in Climate Impact X Pte Ltd, a Singapore based global carbon market and exchange. In addition, he also sits on the Impact Advisory Panel of the Asia Impact First Fund and the Management Advisory Board of the Sustainable and Green Finance Institute at the National University of Singapore (NUS). Prior to joining DBS, Helge was Head of Asia Pacific, Sustainable Finance and Global Capital Markets at ING, where he worked for 10 years. In this role, he successfully grew the bank's regional business of sustainability-related advisory services and sustainable finance transactions across products. He was also part of ING's global Sustainable Finance and Capital Markets management teams as well as the bank's global Sustainable Finance Quality Board. Before that, he spent more than 12 years in various roles at Deutsche Bank AG and UniCredit Group being based in different cities across Europe, the US and Asia Pacific. Helge holds a Master's Degree in Economics from Munich University (major in Developing Economics) as well as a postgraduate degree in sustainability from Cambridge University. He is also a CFA charter holder.

Mr David Fogarty
Executive Director
United Nations Global Compact Network Singapore

David Fogarty is the CEO and Executive Director of the United Nations Global Compact Network, Singapore (UNGCNS) and a sustainability professional with more than 25 years of strategic leadership experience.

He spent 14 years at CBRE, where he held senior roles in Singapore, Southeast Asia, Australia, and the UK. Most recently, he served as Head of Sustainability and ESG Consulting at CBRE, leading teams on ESG strategy, net zero decarbonisation, sustainability reporting, climate risk assessments, circular economy initiatives, and Green, WELL and Smart Building certifications.

David currently serves as a Fellow of the Royal Institution of Chartered Surveyors (RICS) and sits on its Global Standards & Regulations Board. He is also a member of the International Society of Sustainability Professionals (ISSP) and the Institute of Sustainability and Environmental Professionals (ISEP), where he is a Registered Environmental Practitioner.

In Singapore, he has contributed to a range of industry bodies, including the Asia Pacific Real Assets Association (APREA) Singapore Board, APREA APAC Sustainability Committee, the Australian Chamber of Commerce Green Committee, the British Chamber of Commerce Sustainability & Resilience Committee, and the Urban Land Institute Sustainability Committee.

David has completed executive education and sustainability programmes at leading institutions including Harvard University (Certificate of Management Excellence), University of Cambridge Institute for Sustainability Leadership (Business Sustainability Management), and MBA from Southern Cross University.

Mr Marcus LeMaster
Global Director, Logistics Sustainability
Schneider Electric

Marcus LeMaster is a seasoned supply chain expert with 35 years of global leadership experience in supply chain and technology. As the head of Schneider Electric's global logistics sustainability function, Marcus focuses on driving strategies for freight decarbonisation. His previous role involved developing global supply chain modelling and network design competencies at the company. Marcus frequently presents on integrating sustainability into global supply chain strategies, showcasing its potential commercial benefits.

Having lived in Singapore for 19 years, Marcus has spent the last 11 years with Schneider Electric, following roles at Zuellig Pharma and DHL. Prior to that, he spent 10 years with Canadian Pacific Railway in Canada. He holds an MSc in Logistics and Supply Chain Management from Cranfield University, UK, and is a Chartered Professional Logistician from the Logistics Institute of Canada.

Dr Pang Chin Hong
Head of Group Sustainability
Mapletree Investments

Dr Pang Chin Hong is currently the Head of Group Sustainability with Mapletree Investments, a global real estate development, investment, capital, and property management company with a diverse asset portfolio of S$80 billion in assets under management, which includes three REITs and nine private equity real estate funds. He is responsible for spearheading the group's corporate sustainability strategy and initiatives, which include driving the Net Zero Carbon 2050 goal, managing climate risk, sustainability reporting, and advancing ESG practices within the group.

Before Mapletree, Dr Pang was the Senior Vice President, Group Sustainability at Frasers Property Limited, one of the largest listed Integrated Real Estate Groups in Singapore, where he held various roles, including group corporate planning, corporate development in China, and was instrumental in internalising sustainability practices for Frasers Property since 2014. He was a member of the BCA Green Built-Environment Advisory Committee from 2019 to 2022, and Board Member of the Singapore Green Building Council from 2017 to 2019, and is currently on SGBC's SG Green Magazine Editorial Committee. In 2019, he received the SGBC-BCA Sustainability Leadership Awards – Green Advocate – in recognition of his consistent contribution to the development of a green and sustainable built environment. He is currently a member of the Sustainability Taskforce at the REIT Association of Singapore and a Volunteer Career Advisor at Workforce Singapore.

He graduated with a Bachelor of Civil Engineering (First Class Honours) from the University of Manchester and a Doctor of Philosophy (PhD) in Civil Engineering from the National University of Singapore.

Ms Clara Kwan
Chief Sustainability Officer
Singapore Manufacturing Federation

Clara Kwan is Chief Sustainability Officer at the Singapore Manufacturing Federation where she drives the advancement of sustainability strategies that align business ambition with recognised ESG standards. She works with companies across the region to embed ESG into core operations, strengthen assessments and chart strategic roadmaps for long-term resilience. With leadership experience spanning investment management, legal compliance and business operations, Clara has served in senior roles including COO, Head of Sustainability and Managing Director at a regional green power producer, and Global Head of Sustainability and Impact Investments at an international creative change firm. A recognised advocate for sustainable development and social impact, she contributes at board and advisory levels, guides organisations on governance, investment and ESG matters and mentors the next generation of leaders. Clara also shares her expertise as a lecturer in sustainability leadership and governance. She holds a Bachelor of Laws (Honours) from NUS, an Executive MBA from Kellogg-HKUST and multiple professional certifications in ESG and sustainability standards.

Panel Speakers
Industry Panel III: Sustainable Finance

Title

Financing the Transition: How the Financial Ecosystem Can Mobilise Capital for Asia's Net-Zero Future

Synopsis

Asia's path to net zero will demand trillions in new investment, but unlocking that capital is far harder than setting the ambition. This panel brings together leaders from across the financial ecosystem to explore how different actors can overcome barriers and align to channel capital where it's needed most. The conversation will tackle core challenges such as data gaps, policy constraints, and market incentives, and examine how collaboration can accelerate finance into high-impact transition opportunities.

As the focus shifts from funding "pure green" projects to transforming carbon-intensive industries, the complexity and urgency of the task are growing. With disclosure standards tightening, taxonomies evolving, and stakeholders demanding credible transition plans, the financial sector faces a pivotal test. This session asks what innovation, partnerships, and financial structures are needed to turn ambition into action and to finance Asia's transition at the speed required.

Ms Fang Eu-Lin
Sustainability & Climate Change Leader, PwC Singapore
Lead, PwC Asia Pacific Centre for Sustainability Excellence
Asia Pacific Financial Services Sustainability Leader,
PwC Asia Pacific

Refer to **Keynote Speakers** page for profile bio.

Ms Melissa Moi
Head of Sustainable Business
Corporate Sustainability Office, UOB

Melissa Moi is the Head of Sustainable Business in the Corporate Sustainability Office at UOB. In her role, she supports the delivery of a sustainable business strategy across UOB's footprint including the management and mitigation of ESG risk and driving the bank's leadership in sustainability and sustainable finance. Prior to joining UOB, Melissa spent a decade at Bank of America where she led the firm's ESG efforts in Asia Pacific. Her role included client facing advisory on sustainability, supporting a sustainable finance strategy in the region as well as the implementation of corporate ESG initiatives across risk, social investment and environmental footprint.

Mr Eric Nietsch, CFA
Former Head of Sustainable Investing
Manulife Investment Management

Eric is a highly regarded sustainable investment practitioner with over two decades of experience in various roles with leading firms including Manulife IM, Barclays, and S&P Global. As the Head of Sustainable Investing in APAC for Manulife IM he led a team of eight to grow the AUM in custom sustainability mandates into a multi-billion dollar business segment. He also designed and implemented the region's stewardship strategy.

Eric co-chaired and helped to launch the Natural Capital and Biodiversity working group of Singapore Sustainable Finance Association (SSFA). He also founded and co-chairs the Physical Risk & Resilience working group of the Asia Investor Group on Climate Change (AIGCC). The working group provides a forum for collaboration and increasing knowledge of investor practice on the physical risks of climate change and opportunities related to adaptation and resilience. Eric has also contributed to the Investment Leaders Group of the Cambridge Institute of Sustainability Leadership (CISL).

Eric holds a Bachelor of Arts in Psychology from Colgate University. He is a CFA charter holder and a member of the CFA Society of Singapore.

Ms Kavitha Menon, CFA
Director
Singapore Sustainable Finance Association

Kavitha Menon joined SSFA in October 2023 as its Director. As the head of SSFA, she is responsible for ensuring that the association achieves its mission of building a vibrant and inclusive ecosystem for sustainable finance in Singapore. Apart from the day-to-day running of the association, Kavitha's role involves stakeholder engagement, membership recruitment, thought leadership, and enabling collaborations across the financial sector, non-financial sector, and government organisations to advance sustainable finance in Singapore.

Prior to her current role, Kavitha was the Global Head of Equity Research team at Foord Asset Management in Singapore where she headed their ESG integration process. She has over 15 years of experience in equity investment management, specialising in Global Financials, based out of Singapore and India.

Kavitha has a Master's in Public Administration from Harvard University, John F. Kennedy School of Government, where she was a John F. Kennedy Fellow and Edward S. Mason Fellow. She is a Chartered Financial Analyst (CFA) and has a Master's in Business Administration (Finance) from Narsee Monjee Institute of Management Studies (India) and a Bachelor of Engineering (Electronics and Communication) from Anna University (India).

Hoffmann Fellows Research Showcase

About the Hoffmann Fellowship

The André Hoffmann Fellowship offers the chance to hold a joint appointment between the World Economic Forum and a recognised academic institution. This two-year programme enables Fellows to contribute new expertise and knowledge, fostering collaborations and progress within the Forum's centres and initiatives. The Hoffmann Research Showcase invites current Fellows and alumni to present their work on global sustainability challenges, highlighting the diverse issues they have addressed through their research with the Forum.

Message from Interim Co-Chair, World Economic Forum

Mr André Hoffmann
Vice-Chairman, Roche Holding
Interim Co-Chair, World Economic Forum

True prosperity requires replenishing the natural, human and social capital on which it depends. The Hoffmann Fellowship equips emerging leaders to operate at this frontier, grounding ambition in evidence and coupling innovation with governance, finance, and policy. In Singapore, six Fellows will show what it takes to move from insight to implementation: sharper metrics, cross-sector coalitions, and prototypes that scale. Their projects speak to Asia and the world: nature-positive value chains, resilient health systems, and inclusive finance. Please engage them. Ask questions. Offer partnerships. Together, we can prove that better business is underway.

Invited Speaker & Moderator

Ms Veronika Linardi
Co-Founder
Eternami Global

Veronika Linardi is a serial entrepreneur, impact investor, and co-founder of Eternami, a science-backed longevity clinic and platform in Singapore. Built to optimize life, Eternami blends advanced diagnostics, AI-driven protocols, and behavioral health; making longevity a lifestyle, not a luxury. Within two months of launch, it was featured in Tatler, CNA, Straits Times, and Business Times.

Her investment focus is on sustainability and alternative investments in high-growth emerging markets, backing transformative ventures in health tech, agri tech, clean mobility, education, supply chains, and the future of work: driving scalable innovation across Southeast Asia.

Veronika also co-founded one of Indonesia's largest human capital companies, impacting millions across employment and workforce development. Her work has helped shape a future-ready workforce and advanced the role of purpose-led businesses in Southeast Asia.

Named a Young Global Leader by the World Economic Forum, Veronika has been recognized by Forbes, Her World, Globe Asia, and UBS for her leadership and impact.

She holds a Master's degree in Strategic Digital Marketing & Management Information Systems from Carnegie Mellon University, and a Bachelor's degree in Advertising from the University of Texas at Austin.

Hoffmann Fellows

Mr Shinnosuke Komiya (University of Tokyo)

Shinnosuke Komiya is a designer-researcher and Hoffmann Fellow focused on visual technologies for sustainability. He builds geospatial storytelling systems that help governments, researchers, and communities see and act on climate and biodiversity risks. Shin led the development of Re:Earth Visualizer in Eukarya Inc. as co-founder, and is a doctoral researcher at the University of Tokyo (Interdisciplinary Information Studies). His recent work centers on Nature Positive metrics—linking local actions to planetary boundaries through interactive maps, AIassisted narratives, and public installations. Previously, he earned an MPS from NYU's ITP and a Master's in Design Engineering from Tokyo Metropolitan University. He collaborates with partners across academia, industry, and international organizations.

Mr Levi Orero (LUISS Guido Carli)

Based in Rome at LUISS Guido Carli, Levi is a World Economic Forum Hoffmann Fellow working on food systems and their intersection with water and health systems. With a specific focus on data and digital solutions, Levi works at the intersection of innovation and high technology as key drivers of food systems transformation. With a background in statistics and data science, he is researching how great innovation ecosystems work and how to unlock financing that makes them tick. His ultimate goal is to help build data and digital ready food systems that work for all.

Dr Anushka Rege (EcoCaraga)

Dr. Anushka Rege is a conservation scientist and social impact strategist working at the intersection of ecology, data science, and community engagement across Asia. A former Hoffmann Fellow with the NUS Centre for Nature-based Climate Solutions and the World Economic Forum, she co-led global workstreams on biodiversity credit metrics with the UN Biodiversity Credit Alliance. She holds a PhD from Nanyang Technological University and has worked across India, Indonesia, and the Philippines. Currently Social Impact Lead at EcoCaraga, Anushka focuses on advancing inclusive, high-integrity nature-based solutions in tropical landscapes by combining participatory, community-centered approaches with data-driven ecological and social insights.

Dr. Pepe Puchol-Salort (Imperial College London)

Dr. Pepe Puchol-Salort is an architect, systems thinker, and urban sustainability expert whose work bridges design, environmental resilience, and innovation. He specialises in water management, strategic urban planning, and inclusive approaches to city transformation, bringing together academia, industry, government, and communities to co-create systemic solutions for complex urban challenges. Currently a Hoffmann Fellow at the World Economic Forum and Imperial College London, Pepe has worked across Europe, Africa, Asia, a nd the Americas. His research and practice focus on enabling environments that accelerate sustainable innovation, advance resilient infrastructure, and foster more inclusive, equitable, and future-ready cities worldwide.

Dr Chitresh Saraswat (Australia National University)

Dr Chitresh Saraswat, is a Fellow/Senior Lecturer at the ANU School of Cybernetics. His work focuses on exploring new models of governance and accelerating transformation towards sustainability. As a former AI professional turned toward evidence-informed policy making, Dr Saraswat applies his expertise to explore the role of innovation and emerging technologies for sustainable development, with a particular emphasis on water sustainability and governance. Previously, he worked as an Andre Hoffmann Fellow with the World Economic Forum, Geneva, and the Fenner School of Environment & Society, ANU, investigating the role of innovation in climate adaptation and catalyzing business engagement for Early Warning Systems.

Dr Hatzav Yoffe (Tel Aviv University)

Dr Hatzav Yoffe is a landscape architect and sustainability researcher at Tel Aviv University and an André Hoffmann Fellow in Buildings & Climate Change (World Economic Forum). He specialises in sustainability assessment for urban landscapes and infrastructure, and in enhancing ecosystem services through design. Recent work applies environmental due diligence and prospective life-cycle modelling to move low-carbon construction materials from lab to market and to provide clear, usable evidence for policy, design, procurement and investment. This includes low-carbon clinker, bio-composite insulation panels and bio-cement for additive manufacturing, delivered with industry and academic partners. Earlier at the University of Toronto he built a high-resolution construction-emissions budget for Canada, and at Harvard GSD he co-led sustainability assessments of large-scale public–private partnership (PPP) infrastructure in Latin America. He holds an MLA from the Harvard Graduate School of Design and a PhD from the Technion. He also co-leads the development of SLIL™: Israel's first rating system for landscape development.

Invited Speakers

Track 1

Dr Sanjib Panda
Associate Professor of Electrical & Computer Engineering
College of Design & Engineering, National University of Singapore

Sanjib Kumar Panda (S'86-M'91-SM'01-F'21) received B. Eng. Degree from the South Gujarat University, India, in 1983, M.Tech. degree from the Indian Institute of Technology, Banaras Hindu University, Varanasi, India, in 1987, and the Ph.D. degree from the University of Cambridge, U.K., in 1991, all in electrical engineering.

He was the recipient of the Cambridge-Nehru Scholarship and M. T. Mayer Graduate Scholarship during his PhD study (1987-1991). Since 1992, he has been holding a faculty position in the Department of Electrical and Computer Engineering, National University of Singapore and currently serving as an Associate Professor and Director of the Power & Energy Research Area.

Dr. Panda has published more than 530 peer-reviewed research papers, co-authored one book and contributed to several book chapters, holds ten patents and co-founder of three start-up companies. His research interests include high-performance control of motor drives and power electronic converters, condition monitoring and predictive maintenance, building energy efficiency enhancement etc. He is serving as an Associate Editor of several IEEE Transactions, e.g., Power Electronics, Industry Applications, Energy Conversion, Access, and IEEE Journal of Emerging and Selected Topics in Power Electronics. Dr. Panda is serving as an IEEE PELS Distinguished Lecture for 2022-26. He had served as the Chair of the IEEE PELS Technical Committee, TC-12: Energy Access and Off-grid Systems 2021-2023.

Dr. Panda is also serving as R-10 Membership & Chapter Development Coordinator for IEEE PELS since 2016 till date. Dr. Panda has been elected as Member-at-Large(MAL) for the IEEE PELS (Jan. 2025 – Dec. 2027).

Track 2A

Ms Yvonne Soh
Chief Executive Officer
Singapore Green Building Council

Refer to **Industry Panel I: Asia & Infrastructure** page for profile bio.

Track 2B

Prof Ron Corstanje
Professor of Environmental Data Science & Head of Centre
Cranfield Environment Centre, Cranfield University

Professor Ron Corstanje is Professor of Environmental Data Science and Head of Centre, Cranfield Environment Centre at Cranfield University. The Environment Centre is focussed on the development of sensor technology and their application, modelling, informatics, data and decision sciences. The Centre covers research on air quality and climate change, soil quality, crop growth and monitoring, natural capital, resilience, ecosystem goods and services and on urban systems. The Centre has a long track record in research on the resilience and viability of built infrastructure to natural hazards (flooding, landslides, subsidence) and how this is changing and projected to change as a consequence of climate change.

Professor Ron Corstanje's research programme broadly covers the development and application of modelling, informatics and statistical methods to current problems in agriculture and in the environmental sciences, ranging from fundamental methodological developments to their application in these fields. He has applied this to understanding the importance of green space infrastructure on urban systems, both in Europe and South East Asia, understanding how rapid urban expansion impacts and affects the spatial configuration of greenspace and its benefits to the urban population. Conversely, he currently leads a research programme that is looking into the nature, type and value of greenspace interventions in Urban Systems and their benefits to air quality but also ecosystem services and considering social benefits.

Track 4

Assoc Prof Liang Hao
Associate Professor of Finance, Lee Kong Chian School of Business
Academic Director, Singapore Green Finance Centre
Singapore Management University

Dr. Liang Hao is an Associate Professor of Finance, the Academic Director of the Singapore Green Finance Centre (Singapore's first centre of excellence for sustainable finance), and the Co-Lead of the Sustainable Business Research Peak at Singapore Management University (SMU). He holds the Ho Bee Professorship in Sustainability Management and has been awarded the BNP Paribas Fellowship, DBS Sustainability Fellowship, and Lee Kong Chian Fellowship.

He is a research member of the European Corporate Governance Institute (ECGI) and an extramural fellow at Tilburg University, where he received his PhD in Finance and won the university-wide Best Dissertation Award in 2015. Additionally, he serves on the Steering Committee of the Impact & Sustainable Finance Faculty Consortium, the board of Global Research Alliance for Sustainable Finance and Investment, the Scientific Committee of the Geneva Centre for Philanthropy, the Technical Committee for Sustainable Finance of Enterprise Singapore, the ESG Advisory Group of World Federation of Exchanges, and has been nominated to the China ESG 30 Forum by Caixin Magazine.

Dr. Liang's research interests include sustainable finance, impact investing, corporate finance, and governance. He has published in prestigious academic journals, such as the Journal of Finance, Journal of Financial Economics, Review of Finance, Journal of International Business Studies, Management Science, Organization Science, and Journal of Business Venturing. He is the Section Editor (Finance & Business Ethics) for the Journal of Business Ethics, an Associate Editor for Management Science, Journal of Business Research, Asia-Pacific Journal of Financial Studies, and the British Accounting Review, and serves on the editorial review board of the Strategic Management Journal.

Professor Liang received the Alliance for Research on Corporate Sustainability Emerging Scholar Award in 2020 and has twice won the prestigious Moskowitz Prize for Socially Responsible Investing (2014 & 2019). At SMU, he teaches Sustainable Finance, Entrepreneurial Finance, Corporate Finance, and Applied Econometrics at the undergraduate, master's, DBA, executive, and PhD levels. He frequently contributes to the Harvard Law School Forum on Corporate Governance and the Oxford Business Law Blog, among other media outlets.

Track 5A

Prof Yohanes Eko Riyanto
Professor of Economics, School of Social Sciences
Nanyang Technological University

Yohanes Eko Riyanto is a Professor of Economics at Nanyang Technological University, Singapore. Before joining NTU, he was a faculty member in the Department of Economics at the Faculty of Arts and Social Sciences, National University of Singapore, and a Post-Doctoral Fellow in Economics at the University of Groningen, Netherlands. He earned his Ph.D. in Economics from the Catholic University of Louvain (Katholieke Universiteit Leuven), in Louvain (Leuven), Belgium.

His research focuses on Experimental and Behavioral Economics topics. He utilizes controlled laboratory experiments to investigate how i ndividuals make various

economic decisions and how they are influenced by their preferences and beliefs, their environment (market and non-market institutions surrounding them), and their strategic interactions with other individuals. He incorporates insights from microeconomics, game theory, and behavioral sciences to formulate testable experimental hypotheses. He has published his research in leading international refereed journals such as the Journal of Finance, Management Science, Economic Journal, Journal of Economic Theory, Review of Economics and Statistics, Games and Economic Behavior, International Economic Review, European Economic Review, Experimental Economics, Journal of Economic Dynamics and Control, and Journal of Economic Behavior and Organization (JEBO).

Currently, he is an Associate Editor of JEBO. His work has also been covered by the popular press such as The Economist, the Wall Street Journal, the Financial Times, and the New Statesman. He teaches Behavioral Economics and Microeconomics courses at Nanyang Technological University.

Track 6A

Mr Benjamin Soh
Founder & Managing Director
ESGpedia

Benjamin Soh is the founder and Managing Director of ESGpedia - Asia's leading ESG technology company. A serial entrepreneur who previously founded a multinational FinTech firm, Benjamin has led ESGpedia to provide a one-stop digital sustainability solution that has supported more than 1,000 companies in the APAC regions, enabling businesses to streamline their sustainability efforts, generate comprehensive datasets and reports seamlessly, gaining competitive advantages in the landscape of a heightened emphasis on corporate sustainability. With a personal purpose to bring about positive change in the world with technology, Benjamin shares his ESG Tech expertise with the leaders of today and the next generation, through frequent thought leadership articles and the various global stages and industry talks he is regularly invited to speak at.

Track 6B

Dr Yvonne Wong
Head of Design (APAC), Design Excellence Board
Ramboll

Dr. Yvonne Y.B. Wong is the Head of Design in the buildings market at Ramboll Singapore. With a profound dedication to advancing architectural practices, she works closely with the Design Excellence Board at Ramboll. The Design Excellence Board within Ramboll's Buildings Market promotes and articulates the latest ideas relating to design, technology, environment, and ethos within the design industry and the built environment at large. As an advocate of design excellence, Dr. Wong ensures that her team adheres to rigorous standards and innovative methods to achieve sustainable and high-quality outcomes.

Dr. Wong holds a PhD in Architecture and Sustainable Design from Singapore University of Technology and Design. Her doctoral research focused on "Rework and its Impact on Engineering Productivity in Building Design," where she extensively studied the effects of rework on construction productivity, delving into the causes and responses to rework within building design processes. Her contributions to this field are highlighted by the development of the RePrAM design tool, aimed at aiding designers and managers to systematically address and mitigate rework in building design processes.

Prior to her PhD, Dr. Wong completed her MSc in Advanced Structural Engineering at Imperial College London in 2015. With three years of practical experience as an engineer, she has been involved in various large-scale construction projects in Singapore, refining her understanding and interest in design workflow and construction project management.

Her research combines design methodologies with construction management techniques, striving to enhance building design productivity and streamline processes, thereby informing policy decisions and best practices in the industry. Dr. Wong is fervent about improving design processes in the built environment and continues to explore innovative avenues to contribute to sustainable development and resilience.

At Ramboll, Dr. Wong advocates for sustainable and regenerative design practices. Her work includes supporting projects that exemplify these principles, such as the new school in Sundby, Denmark, which has been awarded the Nordic Swan Ecolabel ensuring a healthy and productive learning environment. Additionally, projects like Kampung Admiralty in Singapore demonstrate Ramboll's commitment to promoting environmental, social, and biodiversity regeneration – principles that Dr. Wong passionately champions in her role.

Track 7A

Mr Thomas Thomas
Founder and Chairman
ASEAN Responsible & Inclusive Business Alliance (ARAIBA) Sdn Bhd

Thomas is the founder Chairman of ARAIBA Sdn Bhd, the successor organisation to ASEAN CSR Network of which he was the founder and CEO. He is also the co-convenor of the ASEAN Circular Economy Business Alliance (ACEBA). Thomas has been involved in responsible business, CSR and sustainability since 2004, when he co-chaired Singapore's National Tripartite on CSR and set the direction for business responsibility in Singapore. Thomas has extensive experience in CSR and responsible business conduct, serving on various initiatives in the region and globally as the founder of Singapore Compact for CSR (2005) and in the set-up of ASEAN Corporate Social Responsibility Network (ACN) in 2010.ACN was established to promote and enable responsible business conduct in ASEAN Member States.

Thomas is the Chair of the ISO26000 Stakeholder Global Network (SGN) since 2022. Thomas had been active with trade unions, co-operatives, the consumer movement and social enterprises and also served as a Nominated Member of Parliament in Singapore. Thomas holds a Master of Arts in Industrial Relations from Warwick University, UK.

Track 7B

Dr René Van Berkel
International Faculty, School of Global Studies,
Thammasat University
Co-convenor, ASEAN Circular Economy Business Alliance
Member, International Resource Panel
Senior Expert (Circular Economy), EU SWITCH-Asia Programme

Dr René Van Berkel is a leading international expert in circular economy, resource efficiency and innovation, with over 35 years of professional experience as international development professional and academic. In 2023 he joined Thammasat University as an international faculty member on circular economy and social innovation. He also serves as lead circular economy expert for the EU SWITCH-Asia Policy Support Component. Since 2024, he has also served as founding co-convenor of the ASEAN Circular Economy Business Alliance (ACEBA). In 2025 he was invited as member of the International Resource Panel, the leading science to policy body on sustainable resource management and use.

Earlier, he served for over 15 years in different thematic and Asian leadership roles in the United Nations Industrial Development Organization with emphasis on energy and resource efficiency, cleantech innovation, productivity and digitalization. During 1999-2006 he was Professor of Cleaner Production at Curtin University, Australia, following a 10+ year applied research and leadership career at the University of Amsterdam, The Netherlands.

Dr Van Berkel is a Dutch national with a PhD in Environmental Science from the University of Amsterdam and a Masters in Environmental Hygiene from Wageningen University and Research, both in The Netherlands.

Workshop

Title

Mindfulness for Sustainable Impact

Synopsis

Today's world of constant disruption, accelerating change and information overload keeps many of us in a state of chronic stress. This triggers the release of cortisol, putting the brain into fight-or-flight mode and impairing the prefrontal cortex—the centre that supports focus and long-term decision-making. When those capacities are impaired, our choices become more reactive and short-sighted, with negative implications for both wellbeing and sustainable action. This experiential workshop empowers participants to reset the nervous system, restore clarity, and cultivate the calm awareness needed for long-term decision-making, and mindful action—essential for leading sustainability and meaningful impact—in business and in everyday life.

Ms Elisabetta Jiang
Executive Director, Social Innovation Park
Co-Founder, Unicorns for Good

Elisabetta Jiang is the Co-Founder of Unicorns for Good and Executive Director of Social Innovation Park (SIP). She is a leading expert in mindfulness and mindful leadership, with 15 years of practice and a track record of training and empowering hundreds of leaders worldwide—from Davos to Fortune 500 companies. She drives global impact through empowering leaders, organizations, and communities through transformative practices to be future-ready in the age of AI and disruptions.

A sought-after facilitator, Elisabetta blends mindfulness, neuroscience, and leadership strategies to help leaders and professionals enhance clarity, resilience, and conscious decision-making. She has held key leadership roles, including Chief of

Staff at Monitor Deloitte, Director at a prominent Asian multi-family office, President of the Marshall Society at University of Cambridge, received global recognition as Global Shaper at the World Economic Forum, Asia 21 Fellow of Asia Society, Fellow at Global Women Asia, and honored with HER Courage Award.

Recognized globally, she has created a network of global leaders, policymakers, and industry iconsto support the mindful leadership and tech-for-good movement. Her impact spans national relief efforts, corporate CSR programs, and speaking at global forums, positioning mindfulness as a catalyst for organizational and societal transformation.

Conference Programme Overview

Day 1—Wednesday, 29 October 2025

Time	Agenda	Venue
09:00–10:00	**Registration & Networking**	**Foyer outside** Rooms **301** & **302**
	Morning Plenary	
10:00–10:10	**Welcome Address** **Assoc Prof Allan Chia** Deputy Provost, Singapore University of Social Sciences	Rooms **301** & **302**
10:10–10:30	Special Address **Defiant Optimism: Building an Inclusive & Resilient Asia** **Ms Durreen Shahnaz** Chief Executive Officer, Impact Investment Exchange	Rooms **301** & **302**
10:30–11:00	Keynote I **Understanding the Impacts of a 1.5°C World** **Prof Benjamin Horton** Chair Professor of Earth Science & Dean, School of Energy & the Environment, City University of Hong Kong	Rooms **301** & **302**
11:00–11:20	Plenary Address **Mindful Leadership for Sustainable Growth** **Ms Penny Low** Founder & President, Social Innovation Park Former Member of Parliament, Singapore	Rooms **301** & **302**

Time	Agenda	Venue
	Morning Plenary	
11:20–12:15	Industry Panel I **Towards a More Sustainable Asia: What Are the Unique Challenges Faced by the Region and Its Infrastructure?** **Ms Yvonne Soh** Chief Executive Officer, Singapore Green Building Council **Dr Renard Siew** Head of Corporate Sustainability, Yinson Holdings Berhad **Mr Karthik Ganesan** Fellow & Director, Strategic Partnerships, Council on Energy, Environment and Water **Dr Michael Lochinar Abundo** Chief Executive Officer, OceanPiel Pte Ltd Chief Thinking Officer, BluC53 Pte Ltd Moderator **Dr Michael George Kent** Research Fellow (André Hoffmann Fellowship) School of Business, Singapore University of Social Sciences	Rooms **301** & **302**
12:15–13:15	Networking Lunch	**Foyer outside** Rooms **301** & **302**
	Afternoon Plenary	
13:15–13:45	Keynote II **Sustainability Integration for a Resilient Planet, People & Prosperity: A Real-World Business Case** **Ms Esther An** Chief Sustainability Officer, City Developments Limited	Rooms **301** & **302**

Time	Agenda	Venue
	Afternoon Plenary	
13:45–14:30	Industry Panel II **From Compliance to Core: How Chief Sustainability Officers Are Redefining Corporate Strategy** **Mr David Fogarty** Executive Director United Nations Global Compact Network Singapore **Ms Clara Kwan** Chief Sustainability Officer, Singapore Manufacturing Federation Associate Faculty, School of Business, Singapore University of Social Sciences **Mr Marcus LeMaster** Global Director, Logistics Sustainability Schneider Electric **Mr Helge Muenkel, CFA** Chief Sustainability Officer DBS Bank **Dr Pang Chin Hong** Head of Group Sustainability Mapletree Investments Moderator **Ms Tan Lee Cheng** Assoc Prof (Practice) School of Business, Singapore University of Social Sciences	Rooms **301** & **302**
	Afternoon Parallel Sessions	
14:30–15:30	**Mindfulness for Sustainable Impact Workshop** **Ms Elisabetta Jiang** Executive Director, Social Innovation Park Co-Founder, Unicorns for Good	Rooms **301** & **302**

Time	Agenda	Venue
	Afternoon Parallel Sessions	
14:30–16:00	**Track 1: Accelerating the Renewable Energy Transition in Asia**	Room **309**
	Track 2A: Sustainable Urbanisation & Green Infrastructure for Future Cities	Room **310**
	Hackathon Finals (Part I)	Room **311**
16:00–16:15	Tea Break	**Foyer outside** Rooms **301** & **302**
16:15–17:45	**Track 2B: Sustainable Urbanisation & Green Infrastructure for Future Cities**	Room **310**
	Track 3A: Thriving Together—Advancing Social Sustainability for Organisations & in Communities	Room **309**
	Hackathon Finals (Part II)	Room **311**

Conference Programme

Day 2—Thursday, 30 October 2025

Time	Agenda	Venue
09:00–10:00	**Registration & Networking**	**Foyer outside** Rooms **301** & **302**
	Morning Plenary	
10:00–10:10	**Opening Address** **Dr Winston Ong Wee Meng** Co-Chair, University Sustainability Committee Vice President (Corporate), Singapore University of Social Sciences	Rooms **301** & **302**
10:10–10:40	Keynote III **Determinants of ESG/CSR Performance** **Prof Chang Xin** Professor of Finance & Associate Dean (Research) Nanyang Business School, Nanyang Technological University	Rooms **301** & **302**
10:40–11:00	**Hackathon Winning Presentation**	Rooms **301** & **302**
11:00–11:30	Keynote IV **To Be Announced** **Ms Fang Eu-Lin** Sustainability & Climate Change Leader PwC Singapore	Rooms **301** & **302**

Time	Agenda	Venue
	Morning Plenary	
11:30–12:15	Industry Panel III **Financing the Transition: How the Financial Ecosystem Can Mobilise Capital for Asia's Net-Zero Future** **Ms Fang Eu-Lin** Sustainability & Climate Change Leader PwC Singapore **Ms Kavitha Menon, CFA** Director Singapore Sustainable Finance Association **Ms Melissa Moi** Head of Sustainable Business Corporate Sustainability Office, UOB **Mr Eric Nietsch, CFA** Former Head of Sustainable Investing Manulife Investment Management Moderator **Dr Patrick Tan Teck Keong** Senior Specialist & Lead (Overseas Work), Career Development, Student Success Centre Associate Faculty, School of Business Singapore University of Social Sciences	Rooms **301** & **302**
12:15–13:15	Networking Lunch	**Foyer outside** Rooms **301** & **302**

Time	Agenda	Venue
	Afternoon Parallel Sessions	
13:15–14:45	**Track 4: Financing a Greener Future: Advancing Green Finance & Sustainable Investments in Asia**	Room **309**
	Track 5A: Promoting Sustainability through Behavioural Insights	Room **310**
	Track 6A: Innovating for Resilience & Sustainable Development	Room **311**
	Track 7A: Sustainable Business Practices: Driving Long-Term Resilience in Asian Businesses	Room **308**
14:45–15:00	Tea Break	**Foyer outside** Rooms **301** & **302**
15:00–16:30	**Track 3B: Thriving Together: Advancing Social Sustainability for Organisations & in Communities**	Room **309**
	Track 5B: Promoting Sustainability through Behavioural Insights	Room **310**
	Track 6B: Innovating for Resilience & Sustainable Development	Room **311**
	Track 7B: Sustainable Business Practices: Driving Long-Term Resilience in Asian Businesses	Room **308**

Time	Agenda	Venue
	Afternoon Parallel Sessions	
16:30–17:30	**Hoffmann Fellows Research Showcase** Invited Speaker & Moderator **Ms Veronika Linardi** Co-Founder Eternami Global Invited Talk **Longevity, Leadership & the Art of Sustaining What Matters** Panel Discussion with Hoffmann Fellows **Shinnosuke Komiya**—University of Tokyo **Levi Orero**—Luiss Guido Carli **Anushka Rege**—EcoCaraga **Pepe Puchol-Salort**—Imperial College London **Chitresh Saraswat**—Australian National University **Hatzav Yoffe**—Tel Aviv University	Rooms **301** & **302**
	Poster Presentations	**Foyer outside** Rooms **301** & **302**
	Afternoon Plenary	
17:30–17:40	**Presentation of Awards**	Rooms **301** & **302**
17:40–17:45	**Closing Remarks & Group Photo** **Dr Tan Eng Joo** Conference Chair Co-Chair, University Sustainability Committee Head, Master & Graduate Diploma Programmes in Sustainability Management, School of Business Singapore University of Social Sciences	Rooms **301** & **302**

Conference Programme
Day 1 Parallel Sessions

Afternoon Parallel Sessions (Breakout Rooms)
Track 1——Room 309

14:30–15:15	Opening Speaker	**AIoT-Enabled PV, Energy Storage System & Digital Solutions for a Carbon-Neutral Microgrid** **Dr Sanjib Panda** Associate Professor of Electrical & Computer Engineering College of Design & Engineering, National University of Singapore
	Track Chair	**Dr Xu Jianxiong** Lecturer School of Business, Singapore University of Social Sciences
15:15–15:30		**A Hybrid Subjective-Objective Median-Based Method for Multi-Criteria Renewable Energy Selection** **Ding Ding**, Singapore University of Social Sciences **Yang Li**, Singapore University of Social Sciences **Poh Ling Neo**, Singapore University of Social Sciences **Zhiyuan Wang**, Singapore University of Social Sciences **Chongwu Xia**, Singapore University of Social Sciences
15:30–15:45		**Enhancing ESG Report Preparation with Generative AI: An AI Approach in the Energy Sector** **Junqi Zou**, Singapore Institute of Technology **Kevin Ow Yong**, Singapore Institute of Technology
15:45–16:00		**Harnessing LNG Cold Energy for Sustainable Power: Integration of Advanced Thermodynamic Cycles and Hybrid Renewable Application** **Bhalchandra Shingan**, University of Petroleum & Energy Studies, Dehradun

Afternoon Parallel Sessions (Breakout Rooms)
Track 2A——Room 310

14:30–14:45	Opening Speaker	**Unifying Efforts for a Sustainable Built Environment in Singapore** **Ms Yvonne Soh** Chief Executive Officer Singapore Green Building Council
	Track Chair	**Dr Chao Yao** Research Fellow Nanyang Centre for Public Administration, Nanyang Technological University
14:45–15:00		**Collaborative Governance on Transnational Im(mobility): The Extended Development of Special Econom Zones in Cambodia** **Chao Yao**, Nanyang Technological University
15:00–15:15		**Gardens as Edible Green Infrastructure for Urban Food Security: A Case Study from Singapore's World War II Prison Gardens** **Joshua Goh**, Singapore Management University
15:15–15:30		**Do Real Estate Investment Trusts Outperform Real Estate Firms in ESG?** **Phoebe Fei Gao**, Singapore Institute of Technology **Yuchen Wang**, Anhui University of Finance & Economics **Bingqian Li**, Singapore Institute of Technology
15:30–15:45		**Environmental Due Diligence for Innovative Construction Technologies: From Lab to Market** **Hatzav Yoffe**, Tel Aviv University/ World Economic Forum **Vered Blass**, Tel Aviv University
15:45–16:00		**Optimising Scope 3 Emissions in the Life Cycle of Supercapacitors through Urban Transportation Systems: A Case Study of Electric Buses in the Greater Bay Area** **Eugene Yin Cheung Wong**, The Hang Seng University of Hong Kong **Ran Wei**, The Hang Seng University of Hong Kong **Kev Kwok Tung Ling**, The Hang Seng University of Hong Kong **Jasmine Siu Lee Lam**, Technical University of Denmark

14:30–16:00 **Hackathon Finals (Part 1)——Room 311**

Afternoon Parallel Sessions (Breakout Rooms)
Track 2B——Room 310

16:15–16:45	Opening Speaker	**The Importance of Connectivity in Sustainable Urban Development** **Prof Ron Corstanje** Professor of Environmental Data Science & Head of Centre Cranfield Environment Centre, Cranfield University
	Track Chair	**Zuraimi Sultan** Senior Lecturer School of Science and Technology, Singapore University of Social Sciences
16:45–17:00		**Designing Circular Water Governance: Multi-Level Challenges & Innovations in Taiwan and Global Practice** **Jung Chi Chew**, National Yang Ming Chiao Tung University, & Takming University of Science & Technology **Shang-Ping Yeh**, National Yang Ming Chiao Tung University
17:00–17:15		**A Policy Evaluation Framework for Sustainable Urban Cooling: Applying a Whole-System Approach to Nature-based Solutions Policies in Kyoto** **Brandon Estrada**, Ritsumeikan University, Japan
17:15–17:30		**Governing Clean Moves: Stakeholder Insights on Policy Responsive-ness & Sustainable Urban Mobility in India** **Aruna Polisetty**, VIT business school, VIT university **Sowmya G**, VIT business school, VIT university
17:30–17:45		**Roundtable Discussion**

Afternoon Parallel Sessions (Breakout Rooms)
Track 3A——Room 309

16:15–16:30	Opening Speaker & Track Chair	**Unpacking the 'Social' in Sustainability: Building Futures Where Everyone Thrives** **Dr Tania Nagpaul** Senior Lecturer SR Nathan School of Human Development, Singapore University of Social Sciences
16:30–16:45		**Voices of Change: Impact of Female Leaders in Singapore's Parliament** **Shreya Jajoo**, Ecole des Ponts ParisTech Business School
16:45–17:00		**The Impact of a Diversity Course on Undergraduate Students' Multicultural Awareness & Inclusive Behavioural Intentions: A Mixed-Method Investigation** **Tania Nagpaul**, Singapore University of Social Sciences **Zhi Zheng Tiong**, Singapore University of Social Sciences
17:00–17:15		**"We're In, But Are We Seen?": UDL Perspectives on Disabled Students' Experiences at UGM** **Arsya Nararya Putri**, Universitas Gadjah Mada **Glory Emanuelle**, Universitas Gadjah Mada
17:15–17:30		**Educating for Social Sustainability: Empowering Youth in Technical Education to Drive Organisational & Community Resilience** **Randahl Koh**, Institute of Technical Education, Singapore
17:30–17:45		**Workplace sustainability: The impact of illegitimate tasks on employees' working lives through psychological detachment** **Tzu-Ting Tsai**, Department of Business Administration, National Taipei University, New Taipei City, Taiwan **Chun-Yu Lin**, Department of Business Administration, National Taipei University, New Taipei City, Taiwan

16:15–17:45 **Hackathon Finals (Part 2)——Room 311**

Conference Programme
Day 2 Parallel Sessions

	Afternoon Parallel Sessions (Breakout Rooms) **Track 4——Room 309**	
13:15–13:45	Opening Speaker	**Financing the Green Transition of the Brown Sector: Theory & Empirical Evidence** **Assoc Prof Liang Hao** Associate Professor of Finance, Lee Kong Chian School of Business Academic Director, Singapore Green Finance Centre Singapore Management University
	Track Chair	**Dr Carmen Shih** Senior Lecturer School of Business, Singapore University of Social Sciences
13:45–14:00		**Navigating Growth & Sustainability: The Role of FDI & Green Investment in Environmental Transition in Central Asia** **Sana Saleem**, University of Brunei Darussalam **Gamini Premaratne**, University of Brunei Darussalam **Ahmed M. Khalid**, Lahore University of Management Sciences (LUMS), Pakistan
14:00–14:15		**Board Dynamics & ESG Rating Variations** **Phoebe Fei Gao**, Singapore Institute of Technology **Kevin Ow Yong**, Singapore Institute of Technology
14:15–14:30		**Green Tax Reform & Cost of Equity — Evidence from China's "Fee-to-Tax" Reform** **Zhi Wang**, Southwestern University of Finance and Economics **Xiaofeng Liu**, Southwestern University of Finance and Economics
14:30–14:45		**Transitioning to a Net-Zero Future: Investor Reactions to Stranded Assets & AI-Driven Strategies Abstract** **Pianpian Huang**, Nanyang Technological University

Afternoon Parallel Sessions (Breakout Rooms)
Track 5A——Room 310

13:15–13:30	Opening Speaker	**The Invisible Hand of Nudge: Using Behavioural Insights to Promote Sustainability** **Prof Yohanes Eko Riyanto** Professor of Economics, School of Social Sciences, Nanyang Technological University
	Track Chair	**Dr Tan Tsiat Siong** Deputy Director, Behavioural Insights Centre of Excellence and Senior Lecturer, Singapore University of Social Sciences
13:30–13:45		**Applying behavioural interventions for key employee green behaviours among government employees** **Victor Seah**, Behavioural Insights Centre of Excellence, Singapore University of Social Sciences **Vanessa Liu**, School of Business,Singapore University of Social Sciences **Jingxian Yao**, School of Business, Singapore University of Social Sciences **Suzanne Mason Chen**, Behavioural Insights Centre of Excellence, Singapore University of Social Sciences **Liang Hong Lee**, School of Humanities and Behavioural Sciences, Singapore University of Social Sciences **Wei Ting Ng**, School of Humanities and Behavioural Sciences, Singapore University of Social Sciences
13:45–14:00		**The Road to Cleaner Transit: Shaping Preferences for Electric Buses through Household Education** **Zhihao Han**, National University of Singapore **Alberto Salvo**, National University of Singapore **Timothy Wong**, National University of Singapore **Wai Yan Leong**, National University of Singapore
14:00–14:15		**Empathy Perspectives Influence Preferences for Sustainable Behavior: An Experimental Study** **Swati Sharma**, Nanyang Technological University **Georgios Christopoulos**, Nanyang Technological University

	Afternoon Parallel Sessions (Breakout Rooms) Track 5A——Room 310
14:15–14:30	**Encouraging Sustainable Travel Choices at Fresh Start Moments: A Randomized Control Trial in Singapore** **Shu Hui Lim**, Land Transport Authority **Wai Yan Leong**, Land Transport Authority **Rena Teo**, Land Transport Authority
14:30–14:45	**Landscape Study of Composting Intention in Singapore** **Jia Wen Lee**, RySense Ltd **Tania Nagpaul**, Singapore University of Social Sciences **Loo Seng Neo**, RySense Ltd

Afternoon Parallel Sessions (Breakout Rooms)
Track 6A——Room 311

13:15–13:45	Opening Speaker	**Enabling ESG Scale-Up with Technology** **Mr Benjamin Soh** Founder & Managing Director ESGpedia
	Track Chair	**Assoc Prof Eric Gan Kok Wah** Head, Master and Graduate Diploma Programmes in IP & Innovation Management School of Business, Singapore University of Social Sciences
13:45–14:00		**Network Planning & Incentive Design for Industrial Symbiosis: A Simulation-Optimization Approach** **Lan Zhao**, School of Electrical and Electronic Engineering, Nanyang Technological University **Yajuan Sun**, Singapore Institute of Manufacturing Technology (SIMTech) Agency for Science, Technology and Research (A*STAR) **Gaoxi Xiao**, School of Electrical and Electronic Engineering, Nanyang Technological University
14:00–14:15		**Building Resilient & Circular Food Systems in Asia Through Microbial Protein Innovation** **Ezequiel Santillan**, Singapore Centre for Environmental Life Sciences Engineering **Soheil Neshat**, Singapore Centre for Environmental Life Sciences Engineering **Stefan Wuertz**, Singapore Centre for Environmental Life Sciences Engineering
14:15–14:30		**An Engineering Approach Towards a Credible Plastic Offset Scheme** **Jeryl Yep**, Singapore Institute of Technology
14:30–14:45		**Stability & Failure Mechanism of Skirted Footings on Reinforced Slopes: A Numerical Approach** **Sweta Verma**, University of Petroleum and Energy Studies **Saswati Datta**, University of Petroleum and Energy Studies **Vinay Bhushan Chauhan**, MMMUT

Afternoon Parallel Sessions (Breakout Rooms)
Track 7A——Room 308

13:15–13:30	Opening Speaker & Track Chair	**Business & the ASEAN Community Vision 2045** **Mr Thomas Thomas** Founder and Chairman ASEAN Responsible and Inclusive Business Alliance (ARAIBA) Sdn Bhd
13:30–13:45		**Advancing Social Equity in Two Mountainous Tourism Destinations in South Asia: A Comparative Case Study** **Subas Dhakal**, University of New England, Australia **Manisha Agrawal**, James Cook University
13:45–14:00		**Unlocking Innovative Work Behaviour: Comparing the Leadership Pathways of Transformation and Innovation through People-Centric HR Systems** **Qiang Fu**, ITE College Central **Joo Seng Tan**, Nanyang Technological University, Nanyang Business School
14:00–14:15		**Zero Corporate Loan & Corporate Social Donation** **Jonghyuk Bae**, Singapore University of Social Science **Kunsu Park**, Wenzhou-Kean University **Yichen Li**, Wenzhou-Kean University **Yishan Cao**, Wenzhou-Kean University **Tongshu Cen**, Wenzhou-Kean University
14:15–14:30		**The ESG Performance Penalty in China: Evidence of Negative ROA Impact Concentrated in Manufacturing & Non-State-Owned Enterprises** **Deyang Jing**, University of Technology Malaysia **Nazimah Hussin**, University of Technology Malaysia
14:30–14:45		**Uniting for Change: Transforming Waste Management Communities' Actions into a Powerful Environmental Movement in Yogyakarta** **Enjang Asri**, Universitas Gadjah Mada **Noorqa Zanial Azizah**, Lareplay

Afternoon Parallel Sessions (Breakout Rooms)
Track 3B——Room 309

15:00–15:15	Opening Speaker & Track Chair	**Unpacking the "Social" in Sustainability: Building Futures Where Everyone Thrives** **Dr Tania Nagpaul** Senior Lecturer SR Nathan School of Human Development, Singapore University of Social Sciences
15:15–15:30		**Unlocking CSR-driven Innovation: A Psychological Mechanism of Vietnamese Employees' Creative Effort** **Cheng-Hua Chen**, National Taipei University of Business **Chun-Yu Lin**, National Taipei University of Business **Chung-Kai Huang**, National Taipei University of Business
15:30–15:45		**Gender, Social Movement & Employee Career: Evidence from the #MeToo Movement** **Jarvinia Chinhui Hsieh**, Nanyang Technological University **Angie Low**, Nanyang Technological University **Wenrui Zhang**, Department of Finance and Real Estate, Colorado State University
15:45–16:00		**Virtue Ethics & Social Sustainability** **Sean Liu**, National Institute of Education, Singapore
16:00–16:15		**Sustaining Gender Equity: Evaluating Governance Interventions & Marginalised Women's Inclusion in India's SDG 5 Agenda** **Anshul Gupta**, Centre for Continuing Education, University of Petroleum and Energy Studies **Vaishnavi Vaishnavi**, Vellore Institute of Technology
16:15–16:30		**Roundtable Discussion**

Afternoon Parallel Sessions (Breakout Rooms)
Track 5B——Room 310

	Track Chair — **Dr Tan Tsiat Siong** Deputy Director, Behavioural Insights Centre for Excellence Senior Lecturer, School of Business Singapore University of Social Sciences
15:00–15:15	**Exploring The Drivers of Ecologically Conscious Consumer Behaviour in Brunei Darussalam** **Rafhanah Hasnul**, Universiti Teknologi Brunei **Shaista Wasiuzzaman**, Universiti Teknologi Brunei **Safi Ullah Khan**, Universiti Teknologi Brunei
15:15–15:30	**Halal Futures: Rethinking Consumer Behaviour in the Cultured Meat Era Through a Religio-Ethnic Lens** **Mohammad Zahrin Bin Abdullah**, Singapore University of Social Sciences
15:30–15:45	**Green Consumerism & Economic Incentives: An Empirical Study on Eco-Labelling & Purchase Behaviour in India & Vietnam** **Shilpi Raj**, Lalit Narayan Mishra Institute of Economic Development and Social Change **Preeti Singh**, Lalit Narayan Mishra Institute of Economic Development and Social Change
15:45–16:00	**Are food Delivery Applications an Ally or Enemy for Sustainable Eating Behaviour? Multigenerational Perspectives Using Mixed-Method Evidence** **Sowmya Gangadharan**, Vellore Institute of Technology **Aruna Polisetty**, Business school, Vellore Institute of Technology
16:00–16:15	**"Guilt on the Plate, Pride in the Bag": How Motives, Norms, & Saving Face Drive the Fight Against Food Waste** **Ray Yiu-Keung Kwok**, The Hong Kong Polytechnic University **Mei Mei Lau**, The Hong Kong Polytechnic University **June Ching Yan Fung**, The Hong Kong Polytechnic University
16:15–16:30	**Reducing Discretionary Fuel Uplift in Aviation: Applying the Theory of Planned Behaviour to Influence Pilot Decision-Making at Singapore Airlines** **Wei Chee Thoo**, School of Business, Singapore University of Social Sciences **Jimmy Wong**, School of Business, Singapore University of Social Sciences

Afternoon Parallel Sessions (Breakout Rooms)
Track 6B——Room 311

15:00–15:15	Opening Speaker	**TBC** **Dr Yvonne Wong** Head of Design (APAC), Design Excellence Board Ramboll
	Track Chair	**Assoc Prof Eric Gan Kok Wah** Head, Master and Graduate Diploma Programmes in IP & Innovation Management School of Business, Singapore University of Social Sciences
15:15–15:30		**Social Business & Policy Mix for Sustainability: Mil Mill Beverage Carton Recycling in Hong Kong** **Charles Nc Wong**, St. Francis University, Hong Kong **Steve Kl Chan**, Keimyung University, Daegu, Korea
15:30–15:45		**Tourism as a Social Safety Net: Innovating Livelihood Pathways Through Emerging Technologies for Post-Extractive Niger Delta communities** **Chikezie Osuagwu**, University of Agriculture & Environmental Sciences, Umuagwo, Imo State, Nigeria
15:45–16:00		**Field-Based Evaluation of Outdoor Thermal Stress in Ho Chi Minh City Using UTCI & Thermal Sensation Votes** **Bach Huynh**, University of Architecture Ho Chi Minh City **Vi Le**, University of Architecture Ho Chi Minh City
16:00–16:15		**"Housing with a Human Face": Deep-Plan Row Housing as a Tool for Social Cohesion & belonging in high-density Urban Environments** **Chandrasekaran C**, Vellore Institute of Technology, Vellore **Prabhu M**, Vellore Institute of Technology, Vellore **Cibi C.B**, Vellore Institute of Technology, Vellore **Rohini Kumar R**, Vellore Institute of Technology, Vellore
16:15–16:30		**Water-BOOST: A Systems Toolkit to Accelerate Urban Water Innovation** **Pepe Puchol-Salort**, World Economic Forum **Braulio Eduardo Morera**, World Economic Forum **Ana Mijic**, Civil & Environmental Engineering Department, Imperial College London **Michael Templeto**, Civil & Environmental Engineering Department, Imperial College London

Afternoon Parallel Sessions (Breakout Rooms)
Track 7B——Room 308

15:00–15:30	Opening Speaker	**Unlocking Sustainability Progress in Business Through Circular Economy** **Dr René Van Berkel** International Faculty School of Global Studies, Thammasat University
	Track Chair	**Mr Thomas Thomas** Founder and Chairman, ASEAN Responsible & Inclusive Business Alliance (ARAIBA) Sdn Bhd
15:30–15:45		**An Analysis of Climate Adaptation of the Multi-Sports Events: In the Case of Taipei & New Taipei World Master Games 2025** **Yu Huang**, National Tsing Hua University
15:45–16:00		**Leveraging Aviation Technology for Sustainable Resilience in Asia Pacific** **John Tan**, Singapore Institute of Technology
16:00–16:15		**From Self-Organizing Dynamics to Sustainability Transitions: A Complex Systems Perspective on Resilience in Asia** **Shang Ping Yeh**, Institute of Business & Management, National Yang Ming Chiao Tung University **Jung Chi Chew**, Institute of Business & Management, National Yang Ming Chiao Tung University
16:15–16:30		**Enhancing the Resilience of Risk Management in the Semiconductor Industry through Text Mining & Data Envelopment Analysis** **Hsuan-Jung Hsu**, National United University, Taiwan **Yi-Ching Wang**, National United University, Taiwan **Yen-Ju Chen**, National United University, Taiwan **Hsin-Yu Yu**, National United University, Taiwan **Ming-Fu Hsu**, National United University, Taiwan

16:30–17:30	**Poster Track (Venue: Outside Rooms 303, 309, 310 & 311)**
	Evaluating Indonesian Consumer Perceptions of H&M's Eco-Friendly Campaign: The Mediating Role of Perceived Quality **Immanuel Dwi Asmoro Tunggal**, Universitas Atma Jaya Yogyakarta **Muhammad Thoyib Amali**, Universitas Ahmad Dahlan
	Digital Technological Innovation & Rural Sustainable Livelihoods: A Literature Review **Gao Shuang**, Tokyo University of Agriculture and Technology
	Comparing Inclusive Attitudes Among University Students from Singapore & the UK: Perspectives on Gender, Sexuality, & Race **Muhammad Riduan Bin Samad**, Singapore University of Social Sciences
	Affective & Cognitive Pathways to Energy-Saving: A Quasi-Experimental Study in Singapore Workplaces **Wyatt Tan**, Singapore University of Social Sciences **Victor Seah**, Singapore University of Social Sciences **Vanessa Liu**, Singapore University of Social Sciences
	Voluntary Carbon Offsets in Aviation: Understanding Behavioural Drivers in Singapore Using the Theory of Planned Behaviour **Marcus Tan**, Singapore University of Social Sciences **Jimmy Wong**, Singapore University of Social Sciences
	Water-Wind Facade: Synergising Bio-Based Systems for Low-Carbon, Resilient Urban Health in Tropical Buildings **Natalie Ruyi Phoon**, Singapore University of Technology and Design
	Making Sustainable Living Possible: Insights from a Five-Year Global Study on Sustainable Living **Victoria Gilbert**, GlobeScan **Karl Lee Lee**, GlobeScan **Leeam Goss-Layani**, GlobeScan

16:30–17:30	**Poster Track (Venue: Outside Rooms 303, 309, 310 & 311)**
	Purchase Attitude towards Green Packaging of Products Among Undergraduate Students in India **Shilpi Raj**, Lalit Narayan Mishra Institute of Economic Development and Social Change **Preeti Singh**, Lalit Narayan Mishra Institute of Economic Development and Social Change
	Aliens Make You Green: Home Country Regulations & Greenhouse Gas Emissions of Foreign Multinationals' Acquisitions **Narae Lee**, Korea Advanced Institute of Science & Technology (KAIST), South Korea **Alvaro Cuervo-Cazurra**, Northeastern University, United States
	"Apple Pectin Polysaccharides as a Sustainable Biopolymer for Mucoadhesive Nano Formulations in Gastric Ulcer Therapy" **Akash Dhiman**, University of Petroleum and Energy Studies **Shefali Arora**, University of Petroleum and Energy Studies
	"Nano-Encapsulation of an Essential Oil: A Sustainable Approach to Therapeutic Innovation" **Sukanya Chhetri**, University of Petroleum and Energy Studies **Shefali Arora**, University of Petroleum and Energy Studies
	Assessment of the Impact of Foreign Ownership on Environmental Sustainability of Power Plants **Mustafa Kumdere**, Korea Advanced Institute of Science & Technology (KAIST) **Haechan Lim**, Korea Advanced Institute of Science & Technology (KAIST) **Minjae Kim**, Korea Advanced Institute of Science & Technology (KAIST)
	Digital Transformation & Sustainability Strategies of Microenterprises in Western Visayas, Philippines **Frediezel De Leon**, University of The Philippines Visayas

Sustainability Hackathon

1. Hackathon Introduction

In line with the Singapore Green Plan's drive to grow a green economy, SUSS launched its inaugural Sustainability Hackathon 2025 on the theme of "How can Sustainability be an Engine of Growth for Logistics Businesses?".

From August to October 2025, interdisciplinary student teams guided by faculty advisors have been working with five participating industry partners to co-create solutions for the partners' real-world sustainability challenges in logistics. The hackathon concludes with a final showcase at the 2025 Sustainable Asia Conference (SAC2025).

2. Participating Industry Partner and Team Composition

Company	Team Members
At **Alliance 21**, we have been a trusted partner in specialised logistics services since our establishment in 2002. With over two decades of industry expertise, we are committed to providing tailored solutions for time-critical and project shipments worldwide. Our capabilities span across industries that require precise handling and fast, reliable transport. From aircraft parts to perishable goods, live animals, pharmaceuticals & healthcare products, high-tech electronics, and oil & gas equipment, Alliance 21 ensures that every shipment is handled with the highest standards of care and efficiency.	**Students:** **Team WCC** • Koh Hui Ting Adeline • Low Zi Feng • Darius Ong Jing Jie • Tan Sian Yin **SUSS Faculty & Associate Faculty Mentor** • Dr Sugoutam Ghosh • Dr Koh Niak Wu

Company	Team Members
Commonwealth Kokubu Logistics Pte Ltd (CKL) is a joint venture between Singapore's Commonwealth Capital and Japan's KOKUBU Group Corp, offering best-in-class cold chain logistics. CKL provides end-to-end, temperature-controlled supply chain solutions for food retailers and service providers across Singapore and the ASEAN region. With deep expertise and award-winning infrastructure, CKL ensures reliable, efficient, and fully compliant farm-to-fork distribution.	**Students:** **Team Carbon Flow** • Chin Yu Ning • Tay Gek Kee • Muhammad Hidayah Bin Mohd Sufee • Quek Yao Jie **SUSS Faculty & Associate Faculty Mentor** • Dr Xiao Zengqi • Mr Ryan Lin, Runping
Logwin Air + Ocean Singapore Pte. Ltd. is an international freight forwarding company providing global logistics services, including air and ocean freight and sea-air combined transport, with operations in Asia and a global network of over 190 locations. Our tagline, "Your Logistics" reflects the company's core business of providing comprehensive logistics solutions and emphasizes that customers' needs are the primary focus of our activities. We offer a range of logistics services, from transport to transshipment to consolidation and distribution, with a focus on customer satisfaction and professional, qualified teams.	**Students:** **Team 4DT** • Lim Sher Tynn • Por Guanhong, Kelmen • Shawn Yeo • Jing Wen Ng **SUSS Faculty & Associate Faculty Mentor** • Dr Zhao Qitong • Dr Tony Halim

Company	Team Members
SAAA@Singapore, formerly known as Singapore Air Cargo Agents Association, was formed to advocate for the promotion, protection, and development of the carriage of goods by air transportation in general and the air cargo forwarding business in particular. At present, SAAA@Singapore has 183 members with a wide spectrum of business types, ranging from Multinational corporations (MNCs) to small and medium-sized enterprises (SMEs), and they account for more than 85% of the Airfreight volumes in Singapore. SAAA@Singapore provides industry-related training courses, namely IATA Competency-based Training and Assessment (CBTA), Dangerous Goods, Airfreight Forwarders Basic, and Supply Chain Management courses. In addition, SAAA@Singapore has an experienced team of customs-approved declarants handling permit declaration services to facilitate cargo clearance. For example, import and export permits. @ Singapore	**Students:** **Team GreenRookies** • Tng Ming Kang • Khoo Ze En • Sng Rui Jia Rachel • Koh Shan Yong **SUSS Faculty & Associate Faculty Mentor** • Mr Chee Wai Meng • Dr G. Rao Banna

Company	Team Members
SFS Pharma Logistics, founded in Singapore in 2009, specialises in white-glove temperature-controlled pharmaceutical transport. With 12 offices across Asia-Pacific and a global network of validated courier partners, SFS ensures safe, sustainable, and cost-effective delivery of sensitive medical shipments. Driven by the mission "To Be Effective with Less" and the vision "To Be Technologically Advanced," SFS upholds its values while delivering quality and innovation through digitalisation and continuous staff development. SFS Pharma Logistics Your Pharmaceutical Transport Specialist	**Students:** **Team 5CR** • Isabelle Zhu • Amelia Ow Yong • Yang Yier • Muhammad Azhairee Bin Azlan • Konada Asher Joseph **Students:** **Team EiVi** • Yap Jun Wei Elmer • Tan Valery **SUSS Faculty & Associate Faculty Mentor** • A/P Tay Huay Ling • Dr Goh Shao Hung

3. Judges

- **Peter Sundara Swamickannu**, Head of Global Ocean Freight Product, Visy Global Logistics
- **Edwin Lee**, Schedules & Mileage Manager, Go-Ahead Singapore
- **Chan Mun Wei**, Founder & Principal Consultant, SustainableSG
- **Sovann Giang**, Senior Director of BUsiness Consulting at RSM Singapore

Conference Awards

The 2025 Sustainable Asia Conference recognises excellence in research and review that advances sustainability across academic and industry practice. The following awards honour papers and reviewers whose work demonstrates quality, relevance, and contribution to knowledge and practice.

Paper Awards

- **Best Paper** — presented to the paper that exemplifies excellence across all dimensions of scholarly and practical contribution, setting a benchmark for quality and impact.
- **Outstanding Impact** — recognises research that delivers significant real-world or policy influence in advancing sustainability outcomes.
- **Promising Research** — celebrates work that demonstrates strong potential, originality, and insight.
- **Applied Research Excellence** — honours research that effectively translates ideas into practice and demonstrates tangible outcomes.

Reviewer Award

- **Distinguished Industry Reviewer** — recognises an industry reviewer whose constructive and insightful feedback strengthened the quality and relevance of submitted papers.

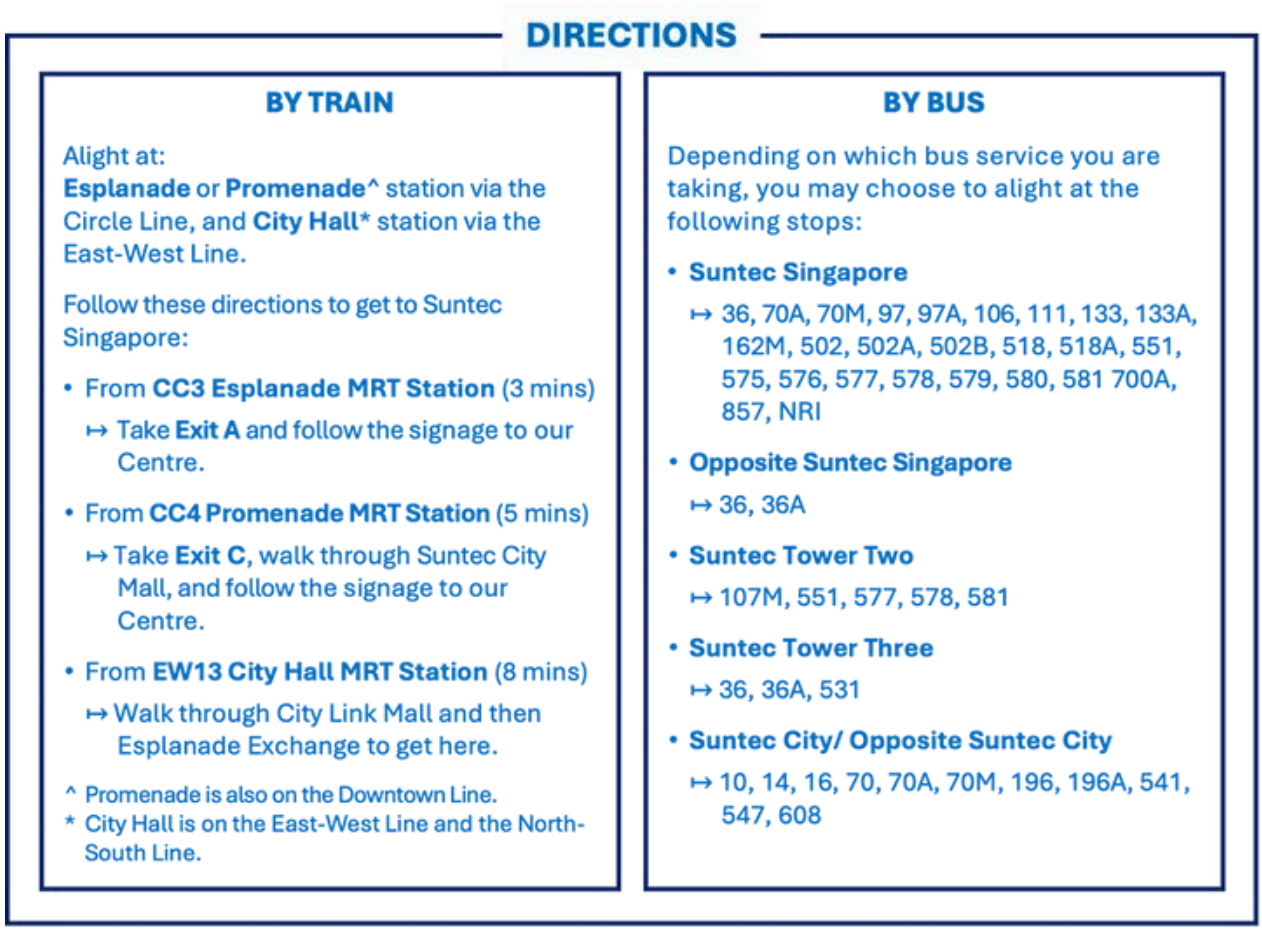
Award recipients for paper categories are selected by an independent judging panel based on the originality, rigour, and impact of their contributions. The reviewer award is determined based on the quality, constructiveness, and usefulness of feedback provided.

SUSS reserves the right to determine the number and eligibility of awards to be conferred. All decisions of the judges are final.

General Information

Directions to Conference Venue

- **Nearest MRT stations**: (1) **Esplanade**, (2) **Promenade**, or (3) **City Hall**.
- Distance from Changi Airport: 18.4 KM
- Average travel time from Changi Airport: 45 minutes by MRT or 20 minutes by car/ taxi.



Venue & Floor Plan

Suntec Singapore Convention & Exhibition Centre
1 Raffles Boulevard, Suntec City
Singapore 039593

Onsite Registration

Suntec Singapore Convention & Exhibition Centre
Level 3, Room 301–302

Presentation Formats

The 2025 Sustainable Asia Conference features a range of presentation formats designed to encourage knowledge exchange and dialogue between academics and practitioners.

- **Keynote Speeches (30 minutes)**: Delivered by high-profile speakers with significant expertise and leadership in their respective fields. These sessions offer strategic insights and set the tone for the conference themes.

- **Panel Discussions (45 minutes)**: Composed of experienced industry professionals and academics with strong industry backgrounds. Panels explore practical perspectives, emerging trends, and policy or implementation challenges through moderated dialogue.

- **Invited Talks (15–45 minutes)**: Opening addresses within selected parallel sessions, presented by academic or industry thought leaders. These talks frame the context for the oral presentations that follow, connecting academic findings with real-world applications.

- **Oral Presentations (15 minutes)**: Oral presentations form the core of the parallel research sessions. Each presenter is allocated a 10-minute slot to share their research, followed by a 5-minute Q&A. These sessions promote direct engagement between authors and the audience.

- **Poster Presentations**: Poster sessions provide an interactive platform for sharing research in a visual format. Presenters discuss their findings with attendees in an informal setting, encouraging networking, collaboration, and constructive feedback.

Dining

Suntec Singapore Convention & Exhibition Centre
Outside Room 301–302

Internet Access

FREE_WiFi@SuntecSingapore

House Rules

To ensure a positive and professional experience for everyone, please observe the following during the conference.

Respect and Collegiality

- **Fostering a respectful environment:** Treat all participants, speakers, and staff with courtesy and professionalism so that everyone feels welcome and valued.
- **Respecting boundaries:** Please honour speaker requests regarding photography or recording, and be mindful of personal boundaries when networking.
- **Engaging professionally during sessions:** Keep mobile devices on silent mode, be punctual, and ensure your questions and participation remain brief, relevant, and respectful.
- **Following session guidance:** Follow the instructions of organisers, moderators, and session chairs to ensure sessions run smoothly.

Venue Conduct and Safety

- **Identification:** Please wear your conference badge visibly at all times for identification and security.
- **Room etiquette:** Food, drinks, and smoking are not permitted inside session rooms unless otherwise indicated.
- **Safety and assistance:** In the event of an emergency, remain calm and follow the directions of venue staff or organisers. Emergency exits are clearly marked; please note the nearest one. For assistance, contact the registration counter or any conference staff member. In serious situations, dial: **995** (**ambulance/ fire**) or **999** (**police**).

Thank you for helping us make the 2025 Sustainable Asia Conference a safe, collegial, and enjoyable event for all.

Data Protection and Photography Policy

The 2025 Sustainable Asia Conference, organised by the Singapore University of Social Sciences (SUSS), complies with Singapore's Personal Data Protection Act 2012 (PDPA).

Photography, video recording, and/ or live streaming may be conducted during this conference by SUSS and its appointed representatives. By attending the event, you consent to the collection, use, and disclosure of your image, likeness, and/or voice for event publicity, marketing, and archival purposes on print and digital media platforms, in accordance with the PDPA.

If you do not wish to be photographed or filmed, please inform the event registration desk or the on-site photographer. The organiser will take reasonable steps to avoid capturing your image where practicable.

All media created during the conference remain the property of SUSS.

Sustainability at the Conference

At the 2025 Sustainable Asia Conference, we are working to make this event more environmentally and socially responsible. Many of these efforts succeed only with your support, and we invite you to join us in reducing our collective footprint.

You can help by:

- **Accessing materials digitally:** All conference information, including the programme and abstracts, is available online. Please refer to the digital version instead of printing.
- **Travelling sustainably:** Suntec Singapore is easily accessible by public transport, with direct connections to multiple MRT lines and bus services. Consider taking public transport, walking, or sharing rides to the venue to help reduce carbon emissions.
- **Using reusables:** We encourage you to bring and use your own reusable water bottle. Refill stations are provided on-site so you can stay hydrated without needing single-use plastic bottles.
- **Networking responsibly:** Opt for digital business cards or QR-code exchanges to support our sustainability goals and reduce paper use.
- **Returning your lanyard:** Our conference badges are designed without plastic to reduce material use. At the end of the conference, please drop off your lanyard in the collection box located at the registration counter. Returned lanyards will be cleaned and reused for future SUSS events where possible, or responsibly recycled.
- **Empowering the next generation:** Scan the QR code printed on the back of your badge to support the SUSS Sustainability Endowment Fund. By participating, you help build a lasting legacy of sustainability scholarships and student awards.
- **Supporting inclusivity:** Engage respectfully with diverse perspectives and help make this conference a welcoming space for all participants.

Thank you for helping to make the 2025 Sustainable Asia Conference a model of responsible participation. Together, let's make sustainability not just our topic, but our practice.

Contact Information

Email: **asiasustain@suss.edu.sg**
LinkedIn: **https://www.linkedin.com/showcase/suss-school-of-business/**

Host

Singapore University of Social Sciences
School of Business
2025 Sustainable Asia Conference

www.suss.edu.sg
463 Clementi Road, Singapore 599494

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2025 SUSTAINABLE ASIA CONFERENCE | 29–30 OCT

Book of Abstracts

Contents

About Sustainable Asia Conference (SAC2025)

Theme

Building a Resilient Asia: Innovating through Infrastructure, People, and Finance

The Sustainable Asia Conference (SAC2025), convened by the Singapore University of Social Sciences (SUSS) and organised jointly by its School of Business and its Sustainability Committee, brings together leaders from business, academia, and policy to address Asia's most pressing sustainability challenges.

Home to over 60% of the world's population, Asia stands at the frontline of climate risk. Rapid urbanisation, rising consumption, and more than half of global carbon emissions converge to test the region's ability to adapt. Building resilience will demand innovation that links infrastructure, people, and finance, ensuring sustainable and inclusive growth.

Purpose

- To facilitate interdisciplinary knowledge exchange between academia and industry.
- To showcase data-driven research that informs sustainability strategies and policymaking.
- To address Asia-specific sustainability challenges through innovative, scalable solutions.
- To engage higher education institutions in catalysing a just transition for Asia.

Highlights

- **Academic-Practitioner Co-Review Process**
  Each paper is reviewed by both an academic expert and an industry practitioner, ensuring intellectual rigour and practical relevance.
- **Plenaries with Keynotes and Expert Panels**
  Hear from distinguished leaders across sectors as they share ideas that shape the next decade of sustainability practice and research.
- **Parallel Track Sessions and Poster Presentations**
  Explore cutting-edge studies and applied innovations across multiple sustainability themes in both oral and interactive formats.
- **Hoffmann Fellows Research Showcase**
  Gain first-hand insights from Hoffmann Fellows with the World Economic Forum, featuring pioneering research at the nexus of sustainability, innovation, and global policy.

- **Hackathon Finals: Solutions for Asia's future**
  Experience the energy of the SUSS Sustainability Hackathon as finalist teams pitch breakthrough ideas to drive sustainable transformation across the region.

Conference Organisation

Organising Committee

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Dr Tan Eng Joo
Co-Chair, University Sustainability Committee
Head, Master and Graduate Diploma Programmes in Sustainability Management
School of Business, SUSS

Conference Deputy Chair
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Research Fellow (André Hoffmann Fellow)
School of Business, SUSS

Programme Chair
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Head, Business Programme
Head, Minor in Social Entrepreneurship & Innovation Programme
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Changemaker in Education and Industry Partners

Changemaker in Education

Industry Partners

The industry partner plays a vital role in bridging academia and practice at SAC2025. By supporting the conference, the partner helps foster dialogue between scholars, practitioners, and policymakers, contributing valuable industry insights to enrich discussions on real-world challenges and innovations. The collaboration also enhances opportunities for knowledge exchange, networking, and applied research that align with industry needs and emerging trends.

Our conference tracks are co-reviewed by the following industry partners:

Track 1:

Accelerating the Renewable Energy Transition in Asia

A Hybrid Subjective-Objective Median-Based Method for Multi-Criteria Renewable Energy Selection

Ding Ding [a], Yang Li [a], Poh Ling Neo [a], Zhiyuan Wang [a] and Chongwu Xia [a]

[a] *Singapore University of Social Sciences*

Accelerating the energy transition in Asia demands informed decision-making that accounts for diverse economic, technical, environmental, and social trade-offs. A core challenge in this multi-criteria decision-making (MCDM) problem is assigning criterion weights, which often relies solely on expert judgment or objective data—both with inherent drawbacks. This study introduces the Subjective-Objective Median-based Importance Technique (SOMIT), a novel hybrid method for criteria weighting. SOMIT combines subjective expert input, structured through pairwise comparisons relative to a median-reference criterion, with objective weights derived from normalised medians of the alternatives-criteria matrix (ACM). The two are then integrated using multiplicative synthesis. A case study on renewable energy selection in India, Asia's most populous country, demonstrates the method's effectiveness, identifying solar energy as the preferred option. SOMIT offers three key advantages: it significantly reduces the number of required subjective comparisons compared to the conventional approach, integrates expert knowledge with data-driven insight, and remains modular for compatibility with various MCDM methods, supporting more robust and scalable energy planning.

Enhancing ESG Report Preparation with Generative AI: An AI Approach in the Energy Sector

Junqi Zou [a] and Kevin Ow Yong [a]

[a] Singapore Institute of Technology

This research investigates the capabilities of ChatGPT—a natural language processing (NLP) tool powered by artificial intelligence (AI)—in supporting and enhancing the preparation of Environmental, Social, and Governance (ESG) information for reporting firms within the energy sector. Specifically, the study evaluates ChatGPT's effectiveness in both ESG analysis and report generation after it has been appropriately trained. To train the model, three years of sustainability reports from energy companies listed in the S&P 500 were used. The current year's data was then introduced to assess whether ChatGPT could generate an ESG report comparable to the actual sustainability report for that year. The generated reports were subsequently compared with the official reports to evaluate the model's accuracy and performance. Results from comprehensive testing indicate that ChatGPT is capable of identifying and classifying recurring ESG themes, topics, and corporate practices observed over the three-year period. Furthermore, the model was able to utilise standard ESG reporting templates from prior years and update them using current-year data to produce a relevant and coherent ESG report. Overall, the results demonstrate ChatGPT's potential to assist in and improve ESG information preparation. These findings have important implications for businesses—particularly in the accounting and finance professions—by offering opportunities to reduce the time and costs associated with ESG reporting, whilst potentially reshaping traditional workflows.

Harnessing LNG Cold Energy for Sustainable Power: Integration of Advanced Thermodynamic Cycles and Hybrid Renewable Application

Bhalchandra Shingan [a]

[a] *University of Petroleum and Energy Studies (UPES)*

Liquefied Natural Gas (LNG) regasification produces significant cold energy, which remains largely untapped in conventional operations. This study explores the utilisation of LNG cold energy as a sustainable source for power generation, addressing global energy transition and climate action goals. The objective is to investigate, compare, and optimise advanced thermodynamic cycles and hybrid integrations that harness this cryogenic potential efficiently. The study employs a systematic literature review and thermodynamic modelling using ASPEN HYSYS 12.1, focusing on Direct Expansion Cycle (DEC), Organic Rankine Cycle (ORC), Kalina Cycle, and Brayton Cycle, along with integrated configurations such as DEC–ORC–RC and hybrid systems with renewable sources. Through simulation of a 1 MMTPA LNG regasification capacity, the integrated DEC–ORC–RC configuration achieved a net power output of 7482.1 kW, demonstrating superior efficiency compared to standalone cycles. The results highlight the effectiveness of R1150 and ammonia as working fluids under cryogenic conditions. Moreover, the study underscores potential applications in CO_2 capture, desalination, and air separation, enhancing the holistic energy efficiency of LNG terminals. The novelty of this research lies in its comprehensive analysis of multi-cycle integration and its simulation-based optimisation approach, contributing new insights into LNG cold energy valorisation. This original contribution bridges the gap between theoretical potential and practical applicability. The findings support Sustainable Development Goals 7 and 13 by promoting cleaner energy and reduced emissions. This work offers a replicable framework for policy-makers, LNG operators, and researchers aiming to design next-generation sustainable power systems.

Track 2:

Sustainable Urbanisation and Green Infrastructure

Collaborative Governance on Transnational Im(mobility): The Extended Development of Special Economic Zones in Cambodia

Chao Yao [a]

[a] *Nanyang Technological University*

Scholarly engagement with governance on cross-border mobility through the lens of infrastructure is gaining traction. In critical debates on state power and spatial governance, attention goes to the borderlands to move beyond a static definition of a fixed line. However, our understanding in relation to the practical reach of infrastructural power remains limited, particularly in contexts where transnational circulation and its process of extra-territorialisation start, extend, suspend or even disrupt. By examining the transnational construction and organisation of infrastructure, with a particular focus on the communicative networks and on-the-ground operations of SEZs, this paper attempts to conceptualise the SEZ as dynamic infrastructural spaces shaped by transnational capital, contested governance, and formal/informal network entanglements. The China-invested special economic zone in Cambodia is the case for further illustration.

Gardens as Edible Green Infrastructure for Urban Food Security: A Case Study from Singapore's World War II Prison Gardens

Joshua Goh [a]

[a] *Singapore Management University*

This paper seeks to reconstruct the urban metabolism of Singapore's World War II prison gardens (1943-1945) as part of an exploratory study on the potential of vernacular gardens as edible green infrastructure in this highly urbanised city-state. Drawing upon empirical data extracted from camp bulletins stored in the National Archives of Singapore, this study describes the material flows of resources (i.e., manure) within these gardens in a systematic and precise manner. Though without any direct present-day parallels, the relative metabolic isolation of these historical gardens makes them an excellent laboratory for unpacking the food security contributions of vernacular gardens as edible green infrastructure. Located outside the main town area, these gardens were cultivated by Allied prisoners of war and civilian internees and were intended to provide individual prison camps with a greater degree of self-sufficiency and independence from the island's food production systems and supply chains. At the same time, the highly intensive nature of the agricultural cultivation carried out in these green spaces allows us to estimate the maximal food productive capacity of vernacular gardens at a district level as well as to characterise the resource circularities needed to sustain them. In doing so, this study hopes to serve as the basis for further empirical research on the comparative metabolic performance across the various types of vernacular gardens found in Singapore, both past and present. Such data would ultimately allow planners to determine the most environmentally sustainable combination and spatial distribution of vernacular gardens best suited to Singapore's unique urban context.

Do Real Estate Investment Trusts Outperform Real Estate Firms in ESG?

Phoebe Fei Gao [a], Yuchen Wang [b] and Bingqiao Li [a]

[a] *Singapore Institute of Technology*
[b] *Anhui University of Finance and Economics*

In the realm of sustainable investing, the Environmental, Social, and Governance (ESG) performance of Real Estate Investment Trusts (REITs) compared to traditional real estate firms has drawn considerable attention. Utilising ESG data from Refinitiv and financial data from Bloomberg, this study conducts a comprehensive analyse spanning from 2012 to 2024, examining the relationship between ESG performance and financial outcomes on a global scale. The findings reveal that REITs consistently outperform traditional real estate firms in ESG metrics in both the short term and over a one- to three-year horizon, suggesting a strategic incorporation of ESG principles. However, this initial advantage tends to decline in subsequent years, highlighting the necessity for continuous ESG engagement. Notably, REITs with higher ESG scores exhibit higher levels of financial leverage, implying that while ESG practices may enhance corporate transparency and attract investor interest, they are not inherently linked to reduced financial risk.

Environmental Due Diligence for Innovative Construction Technologies: From Lab to Market

Hatzav Yoffe [a,b] and Vered Blass [a]

[a] *Tel Aviv University*
[b] *World Economic Forum*

In this talk, we present an environmental due diligence (EnvDD) framework designed to guide early-stage technology developers and investors, demonstrated through three construction-sector case studies. The framework integrates lifecycle assessment (LCA), market analysis, and feasibility evaluation to assess scaled-up environmental potential in applied market contexts. hile LCA is an established method for evaluating environmental impacts of mature technologies, it often lacks utility for early-stage innovation. Prospective LCAs may overstate benefits without aligning with technology readiness levels or market readiness levels (TRLs/MRLs), missing strategic insights. With construction materials contributing roughly 11% of global emissions and facing projected demand that exceed planetary boundaries, this sector requires disruptive low-carbon alternatives. Yet new construction technologies encounter additional hurdles: fragmented supply chains, regulatory rigidity, and region-specific standards. Our EnvDD framework addresses these gaps by supporting comparative greenhouse gas mitigation estimates and market readiness screening for low- to mid-TRL innovations. We apply the framework to three emerging technologies: (1) Negev oil-shale clinker, a potential substitute for Portland cement; (2) Mycelium-biowaste insulation panels, benchmarked against EPS insulation; (3) Cyano-cement, a carbon-sequestering material for 3D-printed interior panels benchmarked against non-structural interior blocks. Each case explores early global warming potential estimates, deployment scale sensitivity, and practical barriers such as permitting, durability standards, climate, cultural or niche positioning. For instance, oil-shale clinker could yield ~15–20% fewer emissions than conventional clinker, but it is geographically constrained. The mycelium composite offers notable carbon savings but limited structural performance. Cyano-cement has potential for carbon-positive applications, though its viability depends on advances in additive manufacturing. This study demonstrates the utility of environmental due diligence in advancing sustainable construction innovation. It emphasises the importance of aligning LCA with market realities and offers a transferable framework for early-stage sustainability assessments across sectors.

Optimising Scope 3 Emissions in the Life Cycle of Supercapacitors through Urban Transportation Systems: A Case Study of Electric Buses in the Greater Bay Area

Eugene Yin Cheung Wong [a], Ran Wei [a], Kev Kwok Tung Ling [a] and Jasmine Siu Lee Lam[b]

[a] *The Hang Seng University of Hong Kong*
[b] *Technical University of Denmark*

Supercapacitors play a critical role in integrating renewable energy into transportation systems. However, achieving full decarbonisation requires rigorous assessment of their environmental impacts across the entire transport sector. This study investigates nonlinear scale effects and process energy thresholds governing carbon emissions from supercapacitors of varying capacitances used in electric buses (e.g., Yutong, widely used in Shenzhen urban transportation), primarily for regenerative braking energy recovery and acceleration support. Typical configurations use 1350F modules (with series-parallel 450F cells), capturing approximately 0.3 kWh per brake event and supporting peak loads up to 300 kWh, while 100F–450F cells serve auxiliary systems. Situated in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), the study conducts a cradle-to-grave life cycle assessment (LCA) on 20F–450F cells. Scope 3 emissions are explicitly analysed to identify supply chain hotspots and mitigation pathways. The functional unit is 1 kWh of energy delivered during vehicle operation. System boundaries encompass raw material extraction, component manufacturing and transport, operational use (based on Guangdong duty cycles), and end-of-life management. Environmental impacts are quantified using Ecoinvent 3.8 data and industry-specific models, applying ReCiPe 2016 (Midpoint) to evaluate global warming potential and fossil resource depletion. Results reveal significant situation in electrode manufacturing and aluminium current collector production. For 100F–450F cells, Scope 3 emissions from aluminium processing account for 28–31% of total emissions, highlighting substantial upstream supply chain impacts. These findings show the need for operational efficiency, responsible sourcing, and supplier engagement to reduce carbon emissions. Furthermore, this study establishes a robust LCA model for supercapacitors comparison, informing eco-design and sustainable product development. It further proposes a Scope 3 emissions management framework driven by supply chain collaboration to support regional industrial upgrading. The study provides the foundation for Environmental Product Declarations (EPDs) and GBA-specific Product Category Rules (PCRs) for supercapacitors.

Designing Circular Water Governance: Multi-Level Challenges and Innovations in Taiwan and Global Practice

Jung Chi Chew [a] and Shang-Ping Yeh [a]

[a] National Yang Ming Chiao Tung University, Institute of Business and Management

As cities transition towards sustainable infrastructure systems, ensuring fairness, transparency, and coordination in public utility governance becomes increasingly important. In Taiwan, adopting the "user pays" principle in sewerage policy has revealed significant disparities across municipalities regarding infrastructure coverage, tariff design, and citizen participation. This study focuses on the governance challenges associated with Tainan City's plan to implement a NT$5-per-cubic-metre sewerage fee in 2025, despite a connection rate of only 27.94% as of end-2023. Beyond the timing and equity controversies, the research explores emerging reuse innovations such as converting human urine into urea-based fertiliser and reusing filtered water for non-potable functions like toilet flushing, which remain largely unrealised. Employing a qualitative comparative case study approach, this study systematically reviews over 150 academic articles, government reports, and planning documents, and incorporates stakeholder interviews and official statistics from Taiwan. It also integrates international best practices, including Singapore's NEWater advanced treatment system, California's Orange County groundwater replenishment programme, and Germany's Braunschweig model for agricultural wastewater reuse.The study proposes a hybrid multi-level governance framework for circular water systems, emphasising institutional interdependencies between wastewater providers and agricultural users. It offers theoretical insights and policy-oriented recommendations to support participatory, adaptive, and sustainable water-agriculture transitions.

A Policy Evaluation Framework for Sustainable Urban Cooling: Applying a Whole-System Approach to Nature-based Solutions Policies in Kyoto

Brandon Estrad [a]

[a] *Ritsumeikan University*

This study aims to evaluate Kyoto's global warming countermeasures through the lens of Nature-based Solutions (NbS), with a focus on green roofs as a strategy to mitigate the Urban Heat Island (UHI) effect. The research seeks to address the lack of a comprehensive policy evaluation framework, the absence of categorised strategies under the Whole-System Approach for Sustainable Urban Cooling (WSA-SUC). And limited monitoring in policy implementation. It examines how Kyoto's urban greening efforts align with sustainable urban cooling strategies, while also contributing to broader urban climate policy discourse. Based in the WSA-SUC framework, the study introduces an analytical tool, a Policy Alignment Matrix (PAM) that operationalises WSA-SUC through newly proposed categories under control, combination, and facilitation strategies. This contributes to the sustainable cities field by providing a replicable method for assessing and improving urban cooling governance. The study uses a mixed-methods approach, combining qualitative and quantitative techniques. Data was collected through the analysis of government policy documents, stakeholder interviews, and geospatial observations. The Policy Alignment Matrix was applied to assess the alignment between Kyoto's green roof policies and strategic cooling approaches and implementation practices. The main findings reveal that Kyoto's facilitation strategies (e.g., incentives) are well developed within the policy framework; however, deficiencies persist in control strategies (e.g., regulations) and combination strategies (e.g., cross-sectoral integration), as well as in their implementation. Despite the policy content, there is a paucity of data, limited institutional governance, and no monitoring systems, which hamper a comprehensive assessment of policy outcomes and limit strategy implementation. This research supports Kyoto's policy advancement by offering recommendations to strengthen strategic alignment, policy coherence, and impact evaluation. More broadly, it contributes to the field of sustainable urban development by advancing an analytical framework that can inform evidence-based policymaking and guide cities in implementing NbS policies for climate-resilient urban cooling.

Governing Clean Moves: Stakeholder Insights on Policy Responsiveness and Sustainable Urban Mobility in India

Aruna Polisetty [a] and Sowmya G [a]

[a] Vellore Institute of Technology

Do institutional efforts resonate with those who breathe the city's air? In heavily polluted Indian cities like Delhi, Kanpur, and Varanasi, urban mobility policies are increasingly framed as sustainability solutions. However, much remains unknown about how the stakeholders perceive these initiatives, which are meant to serve from everyday commuters and civic activists to local planners and community leaders. This study explores stakeholders' perceptions of how inclusive governance and responsive institutions contribute to sustainable urban mobility and shape overall urban liveability. Framed within Stakeholder Theory and Institutional Theory, the research introduces a conceptual model where stakeholder engagement (through eco-governance, civic mobilisation, and resilience dialogues) influences perceived urban liveability, mediated by policy responsiveness perception. Using a mixed-method approach, the study first conducted in-depth interviews with 15 stakeholders across the three cities to extract the real-world understanding of air pollution, transport policies, and quality of life. The insights from the qualitative study helped to develop a structured survey, administered to 220 urban stakeholders, including citizens, environmental NGOs, and urban professionals. Findings highlight that stakeholders perceive policy responsiveness as a critical link between participatory engagement and livability. When institutions are seen as listening, adapting, and acting swiftly, stakeholders report higher satisfaction with urban life even in cities with persistent environmental challenges. The study contributes to sustainable urban policy by capturing how those most affected stakeholders perceive the effectiveness of governance mechanisms. The present research aligns with the conference theme “Sustainable Urbanisation and Green Infrastructure for Future Cities”, offering a bottom-up, stakeholder-centric lens for evaluating sustainable mobility initiatives in Asia’s most polluted cities.

Track 3:

Thriving Together—Advancing Social Sustainability for Organisations and in Communities

Change: Impact of Female Leaders in Singapore's Parliament

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The Asia-Pacific region is witnessing a significant shift in political dynamics with increasing female participation in leadership roles. This study examines the impact of female leaders in Singapore's Parliament, focusing on their contributions to sustainable change within the Ministries of Sustainability, Communications and Information, and Culture, Community, and Youth. The central research question explores how Members of Parliament (MPs) perceive the qualities of female leaders who drive sustainable change. Employing a qualitative embedded case study approach, this research draws on semi-structured interviews with MPs from the targeted ministries. The transformational leadership framework (TLF), conceptualised by Burns (1978) and expanded by Bass (1985), provides the theoretical underpinning for analysing leadership behaviours. Thematic analysis, guided by Braun and Clarke's (2006) methodology, is utilised to identify patterns and themes within the data. Based on the interview findings, the study suggests that female leaders in Singapore's Parliament exhibit transformational leadership qualities that inspire and motivate their followers, fostering a culture of innovation and collaboration. These leaders are perceived to significantly impact policy-making and the implementation of sustainable practices, aligning with Singapore's broader socio-economic goals. The study highlights the critical role of female leaders in advancing gender equality and sustainable development within the Asia-Pacific region.

The Impact of a Diversity Course on Undergraduate Students' Multicultural Awareness and Inclusive Behavioural Intentions: A Mixed-method Investigation

Tania Nagpaul [a] and Zhi Zheng Tiong [a]

[a] Singapore University of Social Sciences

Embracing diversity and inclusion in the workplace is a key competency that future-ready young adults must develop to succeed. Institutes of higher learning bear the responsibility and represent a fertile ground for diversity education among youth, arming them with the requisite skills and competencies for participating in a diverse workplace. This paper describes a study on the impact of a diversity course on student outcomes. The curriculum is divided into six units that occurred over a 12-week semester. Sixty-four undergraduate students at an autonomous university in Singapore participated in this study. Participants were recruited from two sections of the same diversity course offered through the human resource management programme. The 18-item Munroe Multicultural Attitude Scale Questionnaire (MASQUE) was administered as a pre-post-test to assess attitudinal changes. Behavioural intentions were assessed by content analysing students' end-of-semester responses to an open-ended prompt. Using the overall MASQUE score, results demonstrated a statistically significant difference between the pre- and post-test scores, with students caring and acting more inclusively at the end of the semester. Implications for curriculum development and personal growth are discussed.

“We’re In, But Are We Seen?”: UDL Perspectives on Disabled Students’ Experiences at UGM

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This study aims to examine the gap between inclusive admission policies and the lived experiences of students with disabilities at Universitas Gadjah Mada (UGM). While the university admits disabled students, the current curriculum lacks formal mechanisms for fostering awareness, accessibility, and social inclusion. The research addresses the disconnection, which makes a compelling research problem by examining the university’s policy and facilities for disabled students. This study draws on the Universal Design for Learning (UDL) framework, which emphasises designing inclusive learning environments through multiple means of engagement, representation, and expression. UDL contributes to the field of inclusive education by offering proactive, flexible strategies to accommodate diverse learners, particularly students with disabilities, within mainstream higher education settings. Employing a qualitative methodology, the study gathers data through semi-structured interviews with students with disabilities, observation of the university’s student orientation week (PPSMB), and analysis of institutional policy documents. The sample includes UGM students who self-identify as having disabilities. A thematic analysis, guided by UDL principles, will be applied across all data sources to explore patterns of accessibility, representation, and institutional support. While the research is ongoing, this study hypothesises that the lack of disability-inclusive curricula and training contributes to the marginalisation of students with disabilities at UGM. The significance of this research lies in its potential to inform curriculum development aligned with UDL principles, while recommending broader institutional initiatives—such as disability awareness courses, sign language instruction, staff training, and peer mentoring—to foster a more inclusive and supportive academic environment. This study contributes to the sub-theme “Developing higher education curricula for diversity, equity, and inclusion” by showing how inclusive curriculum design supports social sustainability and equitable participation for students with disabilities.

Educating for Social Sustainability: Empowering Youth in Technical Education to Drive Organisational and Community Resilience

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This study examines how the Institute of Technical Education (ITE) integrated sustainability education to empower students in business disciplines to co-develop technology-driven solutions addressing plastic waste, with the aim of influencing recycling behaviours within the institution and small- and medium-sized enterprises (SMEs). The research explores how behaviour change within an educational organisational setting can drive inclusive community resilience, especially in rapidly urbanising contexts across Asia. Adopting a practice-based research approach over five months, this project emphasises co-creating interventions grounded in real-world data. A total of 38.8 kg of plastic waste collected from SMEs, public patrons to ITE's campus, F&B establishments both in and off campus, of which 10.3 kg of high-density polyethylene (HDPE) Type 2 plastics were successfully recycled. Fieldwork involved live waste audits and qualitative, semi-structured interviews with ten SME representatives to explore on-the-ground recycling challenges and behavioural patterns. Data insights were further shaped through collaboration with regional sustainability partners - Plastify, Semula Asia, and Seven Clean Seas. These interdisciplinary findings were developed into two Google-powered tools: +plasDetect, a machine-learning plastic identifier with 91% accuracy on over 250 HDPE and non-HDPE samples; and +plasBin, a gamified app that incentivises recycling through real-time bin mapping and behavioural nudges. By bridging education and sustainability, this initiative affirmed the pivotal role of education in shaping behavioural change and fostering sustainability practices within the organisation and community. This resulted in the production of over 70 innovative household products from HDPE waste, reflecting the positive influence with real-world collaboration. Integrating data insights into ITE's curriculum design, the entire research allows our institution to foster socially responsible and sustainability-minded learners, reinforcing social inclusion through applied learning. Over the longer term, continued collaboration with SMEs and sustainability partners will further empower students and educators to drive meaningful organisational change internally and the broader sustainability ecosystem.

Workplace Sustainability: The Impact of Illegitimate Tasks on Employees' Working Lives through Psychological Detachment

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Illegitimate tasks, perceived as unnecessary or outside one's role, are linked to negative outcomes like turnover intention, work-family conflict, and burnout (Apostel et al., 2018; Semmer et al., 2007). Knowledge workers, especially middle and senior managers, struggle to detach from work after hours, leading to stress and poor work-life balance. This strain affects well-being, family relationships, and contributes to burnout and declining job performance (Mumford & Licuanan, 2004; Wong et al., 2019). Psychological detachment, the ability to disengage from work during non-working hours (Sonnentag & Fritz, 2007), is an effective strategy to mitigate these effects (Safstrom & Hartig, 2013). However, few studies have explored how psychological detachment mediates the relationship between illegitimate tasks and negative outcomes. Research on work volition has gained attention recently. Work volition—defined as one's ability to make career choices despite constraints—buffers against adverse work conditions. Its moderating role in the relationship between illegitimate tasks, psychological detachment, and work-family conflict remains underexplored (Duffy et al., 2013). This study examined the mediating role of psychological detachment and the moderating role of work volition within the Stress-as-Offence-to-Self (SOS) Theory (Semmer et al., 2007). A survey was used to gather data from employees on illegitimate tasks, psychological detachment, and work volition. Statistical analyses were conducted to examine their relationships. The findings suggest that lower levels of psychological detachment exacerbate work-family conflict, consistent with prior research (Greenhaus & Beutell, 1985; Sonnentag & Fritz, 2007). Work volition moderates this effect, such that individuals with higher work volition experience fewer negative spillovers from illegitimate tasks to work-family conflict through psychological detachment. For managerial practice, we recommend reducing illegitimate tasks, promoting psychological detachment, and fostering work volition. Encouraging employees to disconnect after work can improve well-being, reduce turnover, and enhance performance (Duffy et al., 2014).

Unlocking CSR-driven Innovation: A Psychological Mechanism of Vietnamese Employees' Creative Effort

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This study aims to investigate the impact of organisational corporate social responsibility (CSR) climate on employee creative effort while focusing on the sequential multiple mediation of organisational identification and job satisfaction. It also examines how job stress negatively moderates the relationship between organisational CSR climate and organisational identification, and its moderated mediation effect on job satisfaction via organisational identification. Responding to Gond et al. (2017), this study contributes to the micro- foundations of CSR by addressing individual differences and introducing new constructs. Based on emotional appraisal theory (Arnold, 1960), organisational CSR climate is conceptualised as an environmental stimulus; organisational identification and job satisfaction as employees' cognitive and emotional appraisals; employee creative effort as the behavioural response; and job stress as a moderating personal factor. By adopting a seven-point Likert scale design, the data were collected from 225 employees in targeted Vietnamese industries through an anonymous online survey. Analyses were conducted using SPSS 26, AMOS 27, and PROCESS macro 4.2 with confirmatory factor analysis, structural equation modelling, and bootstrapping techniques. The findings suggest that organisational identification and job satisfaction sequentially and significantly mediate the relationship between organisational CSR climate and employee creative effort. Furthermore, job stress significantly and negatively moderates the link between organisational CSR climate and organisational identification, and further influences the indirect path from organisational CSR climate to job satisfaction through organisational identification. Our research findings contribute to how organisational CSR climate influences employee creative effort through psychological mechanisms, as well as highlight the critical role of job stress. Grounded in the theoretical discussions, managerial implications are provided for organisational leaders to think about possible solutions to leverage CSR practices to foster workplace sustainability.

Gender, Social Movement and Employee Career: Evidence from the #MeToo Movement

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Utilising the BoardEx data from 2013 to 2020, we examine the role of gender-inclusive practices in employee promotions. Our test exploits the adoption of the #MeToo movement in 2017, which strengthens work security and cultural inclusiveness towards women in the workplace. We find a significant increase in the ranks and promotions of female employees compared to their male counterparts following #MeToo. The relation is more pronounced for women of younger age and lower ranks and firms with prior worse gender practices. We further show that female employees' workplace and total remuneration have improved after #MeToo, reducing the possibility of tokenism. However, more female employees move from high-diversity to low-diversity firms, while more males leave low-diversity firms post-#MeToo. The labour reshuffling can be a new channel to explain moderate firm performance for firms that have enhanced gender practices.

Virtue Ethics and Social Sustainability

Sean Liu [a]

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This paper addresses the erosion of democratic agency in an era dominated by algorithmic authoritarianism, where tech oligarchies (broligarchies) commodify civic participation into engagement metrics and undermine communal flourishing. Synthesising Aristotelian virtue ethics and Finnisian natural law theory, we propose a framework for rebuilding social sustainability through the dual cultivation of phronesis (practical wisdom) and institutional protection of the Finnisian basic goods (life, knowledge, sociality, play, aesthetic experience, practical reasonableness, and religion). The boroligarchy's rise reflects a metaphysical crisis: algorithmic platforms reduce persons to data points, corrupting the conditions for eudaemonia by subordinating basic goods to profit-driven behavioural manipulation. Social media transforms sociability into partisan echo chambers, gamification perverts play into addiction, and credentialist education systems atrophy phronesis, leaving citizens ill-equipped to resist digital manipulation. These violations of the non-fungible goods erode the communal trust and deliberative capacity necessary for democratic resilience. The false dichotomy of individual agency and structural determinism undermines eudaemonia. Virtue ethics cultivates phronesis through habituation in ethical decision-making, whilst natural law theory institutionalises basic goods as non-arbitrary benchmarks for governance. This recursive practice, where virtuous citizens sustain just institutions, and just institutions nourish virtuous citizens, counters the Rawlsian proceduralism's neglect of character and neoliberal individualism's ethical vacuity. We propose integral democratic education as a corrective: restorative justice models (e.g. dialogic conflict resolution) habituate equity and empathy, whilst decentralised governance structure upholds Finnisian subsidiarity. By recentring education as the cultivation of practical wisdom rather than credentialist techne, this approach rebuilds the moral epistemology necessary to resist algorithmic authoritarianism. The broligarchy's transactional ethos fractures the communal bonds of Aristotelian philia that are required for collective action on sustainability challenges. The restoration of these bonds demands policies that prioritise basic goods over engagement metrics, fostering resilient communities capable of ethical self-governance in the digital age to 'thrive together'.

Sustaining Gender Equity: Evaluating Governance Interventions and Marginalised Women's Inclusion in India's SDG 5 Agenda

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This research proposal critically examines India's journey towards achieving Sustainable Development Goal 5 (SDG5) — gender equality and empowerment of all women and girls — within the broader agenda of social sustainability in governance. Despite notable legal and policy advances, including the landmark Women's Reservation Act (2023), which mandates 33% reservation for women in the Lok Sabha and state legislatures, progress remains moderate: women comprise just 13.8% of Parliament as of 2025, with the new reservation slated for implementation post-census in 2029. Policies like the Mahila Shakti Kendra (MSK) scheme empower rural women through community engagement, convergent support services, digital literacy, and capacity building, acting as a direct interface for women to access entitlements and participate in local governance. The Kasturba Gandhi Balika Vidyalaya (KGBV) initiative, launched in 2004, addresses the education gap by providing residential schooling and holistic support for girls from disadvantaged communities, thereby nurturing future leaders among marginalised groups. Despite these frameworks, India's SDG5 index remains static at 48/100, with entrenched barriers including patriarchal norms, low awareness, uneven resource allocation, and persistent underrepresentation of marginalised women in decision-making. Implementation challenges—such as delayed rollout of legal quotas, inadequate infrastructure, socio-cultural resistance, and fragmented monitoring—impede transformational change. This study proposes a mixed-methods analysis: synthesising national and district-level data, case studies of MSK and KGBV schemes, and stakeholder interviews to map the inclusivity, efficiency, and long-term impacts of these initiatives on governance. It will also identify best practices and gaps, with prospects for advancing equitable policies such as strengthening grassroots leadership, enhancing resource delivery, and institutional intersectional monitoring. The research aspires to generate actionable recommendations for accelerating gender equity, amplifying marginalised voices, and fostering sustainable, gender-responsive governance in India.

Track 4:

Financing a Greener Future—Advancing Green Finance and Sustainable Investments in Asia

Navigating Growth and Sustainability: The Role of FDI and Green Investment in Environmental Transition in Central Asia

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This study investigates the connection between environmental sustainability, economic growth, and foreign direct investment (FDI) in Central Asia, with a focus on aligning financial flows with green development goals. Using dynamic cointegration techniques (DOLS and FMOLS), this study examines the validity of the Pollution Haven Hypothesis (PHH) and Environmental Kuznets Curve (EKC) in six Central Asian nations using a panel dataset spanning 2000 to 2023. The study considers investments in renewable energy, urbanisation, and population expansion as additional sources of CO_2 emissions. The asymmetric impacts of GDP and FDI on emissions are supported by empirical research, which is in line with EKC theory. It shows that economic expansion degrades environmental quality before improving it once it reaches a development threshold. The long-term negative effects of FDI inflows on environmental quality, especially in high-emission industries, lend credence to the PHH. On the other hand, spending on renewable energy has a considerable detrimental effect on emissions, suggesting that it may be able to reduce them. These results demonstrate how urgently Central Asian governments and regional development organisations need to use green finance tools, screen capital inflows for environmental concerns, and offer incentives for clean energy infrastructure to redirect foreign direct investment (FDI) to sustainable industries. The research ends with strategic proposals for integrating green conditions into public-private partnerships, carbon pricing schemes, and foreign investment frameworks to accomplish a just and sustainable economic transformation in Asia.

Board Dynamics and ESG Rating Variations

Phoebe Fei Gao [a] and Kevin Ow Yong [a]

[a] Singapore Institute of Technology

We document the evolution in board characteristics over the course of two decades, where the most recent trends indicate that there is an increased prevalence of financial experts, members with advanced degrees, female members, independent directors, and higher total compensation. On the other hand, we also find that there is a decline in industry experience, average age, national representation, and the number of corporate social responsibility (CSR) committees. Most recently, there has also been a drop in cultural diversity. In terms of ESG efforts, we show that certain firms' board characteristics are important. Specifically, firms that have board members with financial expertise tend to achieve elevated ESG scores across various dimensions. Similarly, we find that a higher proportion of board members who possess advanced educational backgrounds is positively associated with improved CSR Strategy, Human Rights, and Resource Use scores. Our results are robust to several robustness tests after controlling for year, industry, and exchange fixed effects.

Green Tax Reform and Cost of Equity —Evidence from China's "Fee-to-Tax" Reform

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Taking China's environmental "fee-to-tax" reform as a quasi-natural experiment and all listed A-share companies on the Shanghai and Shenzhen Stock Exchanges from 2012 to 2023 as the research sample, this paper investigates the impact of green tax reform on firms' cost of equity capital with the difference-in-differences (DID) method. We find that after the environmental tax reform, the cost of equity capital of heavily polluting firms has significantly decreased. This finding remains valid after a series of robustness tests. Channel analysis reveals that the implementation of green tax policy affects firms' cost of equity mainly through the "Porter effect" and "information effect". Further study shows that the effect of the environmental tax reform on firms' cost of equity is more pronounced among firms in eastern China, firms with higher internal regulatory capacity, and those with better external monitoring environment. Collectively, this paper enriches the literature in corporate finance and green development.

Transitioning to a Net-Zero Future: Investor Reactions to Stranded Assets and AI-Driven Strategies Abstract

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This study explores investor behaviour in informing corporate strategies and disclosure policies in the transition to a net-zero economy. A critical challenge firms face is managing carbon-intensive assets that risk becoming stranded (i.e., assets that are unable to generate their originally expected economic benefits). Firms need to decide whether to write down these assets, a decision that is increasingly scrutinised by investors who are demanding firms disclose the valuation status of their carbon-intensive assets to evaluate firms' stranded asset risk and long-term adaptability. Meanwhile, firms are increasingly leveraging AI in climate-related strategic decisions, and investors are demanding greater transparency on AI use in business operations.

Through an experimental design, this study examines how investors react to firms disclosing stranded asset write-downs (versus no write-downs), and whether investor reactions vary by the asset decision driver (AI or human manager). I predict and find that investors react more positively to stranded asset write-downs (versus no write-downs) when the decision is driven by AI, and this effect is not significant when a human manager drives the decision. Process evidence shows that the interaction effect is explained by investor perceptions of the decision driver's ability to consider emotions and feelings. Additionally, investors perceive that write-downs signal a more ethical decision and greater commitment to the net-zero transition. These findings offer practical insights for managers navigating climate-related strategies, suggesting that disclosing stranded asset write-downs does not necessarily trigger negative market reactions. The study also offers implications for standard setters regarding stranded asset risk disclosure and the market impact of AI disclosure policies.

Track 5:

Promoting Sustainability Through Behavioural Insights

Applying Behavioural Interventions for Key Employee Green Behaviours among Government Employees

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This study aims to understand and promote employee green behaviours (EGBs) amongst the public sector within the Singaporean context. Drawing on an interdisciplinary foundation, the research seeks to address theoretical and methodological gaps in the domain of pro-environmental actions by integrating various methods to examine the antecedents and outcomes of EGBs within an Asian, public-sector setting—a context underrepresented in current scholarship. The COM-B model was used to capture a more comprehensive range of behavioural determinants (i.e., capabilities, opportunities, motivations) and intervention mechanisms relating to EGBs. A two-phase mixed-methods design was implemented for this study. In Phase 1, a critical incident technique interview was conducted to identify key EGBs that were contextually relevant and impactful. This was followed by daily diary surveys based on COM-B factors to investigate the most common EGBs practiced among participants, which were determined by analysing the results using statistical software. Subsequently, an online survey and focus group discussions based on the COM-B model and the Theoretical Domains Framework (TDF) were used to diagnose the barriers and facilitators of the identified EGBs; in Phase 2, targeted interventions were developed using the Behaviour Change Wheel (BCW) and tested through an experimental design within the public sector workspaces. The same daily diary survey that took place in Phase 1 will be repeated in Phase 2, and the differences in results allow for empirical evaluation of intervention effectiveness. Data collection is currently underway, with preliminary findings expected in time for presentation at the conference. Findings from this research are expected to offer practical insights for policymakers and organisational leaders, particularly in light of Singapore's goal to achieve net-zero emissions in the public sector by 2045. By uncovering context-specific drivers and barriers to EGB, the study aims to support the development of targeted strategies that foster sustainable workplace practices.

The Road to Cleaner Transit: Shaping Preferences for Electric Buses through Household Education

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Decarbonising public transport requires electrifying the urban bus fleets that currently run on diesel. We implemented an education campaign with 1,200 households over four months, repeatedly highlighting the co-benefits of investing in cleaner technology whilst tracking use of public transport. Education covered the private benefits of electric buses such as reduced noise and fumes, along with social benefits like improved neighbourhood air quality and climate mitigation. Our intervention significantly enhanced households' awareness of bus engine types and perceived advantages of electric buses. Hypothetical choice experiments indicate that education raises willingness to pay for electric buses by ten pence per trip. The shift in preferences is observed in real behaviour, with transit payments showing a persistent rise in electric bus ridership among treated households, particularly the majority who do not own cars and residents near bus lines served by electric buses. Our findings suggest that repeated exposure to relatively cheap educational campaigns can effectively shape environmental preferences and widen support for environmental protection.

Empathy Perspectives Influence Preferences for Sustainable Behaviour: An Experimental Study

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Amid escalating climate challenges, understanding psychological drivers of sustainable behaviour is crucial. Building on prior work linking empathic concern to pro-environmental actions, we extend this inquiry by examining: (i) whether empathy can be experimentally induced and how—comparing message delivery modes; (ii) whether the target of empathy (human well-being vs. planet vs. nation) influences sustainable preferences; and (iii) whether these effects replicate across cultural contexts.

Methods and Phase 1 Findings: Phase 1 investigated whether perspective-taking—a task prompting participants to imagine the feelings of climate disaster victims—induces empathic concern and increases sustainability preferences. Participants (N = 1011) instructed to imagine victims' feelings reported higher empathic concern, which predicted preferences for sustainable actions (energy conservation, transport, food choices, waste reduction, willingness to pay more, activism). Video messages elicited stronger effects than text, and results held irrespective of baseline trait empathy.

Phase 2 Extension
Phase 2 (N = 1,045) examined empathy targets. Perspective-taking again elevated empathic concern ($F[1,1045] = 11.74$, $p < .001$). Empathic concern was higher for human ($M = 4.37$) and planet ($M = 4.33$) targets than for nation targets ($M = 4.05$; $ps < .01$); human vs. planet did not differ significantly.

Planned Work (Phase 3)
We will replicate this design in Australia to test the cultural moderation of these effects.

Findings highlight that perspective-taking can reliably elicit empathy and that message targets matter, offering practical insights for designing culturally adaptable sustainability campaigns.

Encouraging Sustainable Travel Choices at Fresh Start Moments: A Randomised Control Trial in Singapore

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[a] Land Transport Authority, Singapore

This study investigates the impact of non-infrastructural travel plans on sustainable travel behaviours during “fresh start moments” like residential relocation in Singapore. A randomised controlled trial was conducted in both a brand new and a pre-existing residential development to examine whether individuals experiencing residential relocation to a new residential development respond more strongly to travel plans than existing residents in nearby proximity not experiencing a similar life event. Our results suggest that travel plans timed with pivotal life changes can effectively encourage a shift towards more sustainable travel among new residents. Building on this study, the Land Transport Authority scaled up its engagement strategies, using moments of residential relocation to promote sustainable travel. Through targeted engagements such as “MyNiceHome” roadshows, residents receive detailed information on local transport options and sustainable travel choices, leading to high satisfaction rates and improved awareness of transport connectivity among new residents. Overall, this study serves to demonstrate a successful application of translating behavioural research into practical engagement strategies to foster sustainable urban mobility.

Landscape Study of Composting Intention in Singapore

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Food waste is a growing challenge in Singapore. In 2023, the nation generated approximately 755,000 tonnes of food waste, accounting for about 11% of total waste produced (National Environment Agency, 2025). Food composting is one of the strategies to mitigate this issue. Yet, understanding of composting intention is not widely studied in Singapore. Using Norm Activation Model (Schwartz, 1977) and an adapted Theory of Planned Behaviour (Ajzen, 1991) as a framework, this study investigated the factors that could influence Singaporeans' intention to compost. We conducted an online survey of a nationally representative sample of adults aged 15 and older (n = 1034) on HappyDot's proprietary panel regarding their attitudes towards composting, perceived norms, and perceived control over climate change, as well as their intention to compost. Results revealed that 57% (n=593) were classified as "intend to compost," and 43% (n = 441) were classified as "do not intend to compost." Linear regression revealed that those with higher awareness of climate change significantly reported lower individual responsibility (β = -.09, p = .006). A higher awareness of climate change (β = .19, p < .001) and greater individual responsibility (β = .09, p = .005) are significantly associated with stronger personal norm. Logistic regression analyses revealed that individuals with more positive attitudes toward composting were significantly more likely to have the intention to compost (p < .001). However, personal norm (OR = 1.02, p = 0.823) and perceived control (OR = 1.02, p = .848) were not significantly associated with intention to compost. These findings underscore the influence of attitudes on the intention to compost. Public campaigns and communication efforts to promote composting among Singaporeans could emphasise attitudinal change. Future work could examine other context-specific factors that influence composting intention and identify factors that could translate intentions into actual composting behaviours.

Exploring The Drivers of Ecologically Conscious Consumer Behaviour in Brunei Darussalam

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This study investigates the factors influencing ecologically conscious consumer behaviour (ECCB) in Brunei Darussalam. The research seeks to address a research gap on sustainable consumption in emerging economies by examining the effects of environmental attitude (EA), social norms (SN), eco-guilt (EG), and habits (H), while exploring the mediating role of commitment to the environment (COMM). The research incorporates the Theory of Planned Behaviour (TPB) and the Theory of Interpersonal Behaviour (TIB), contributing to literature by extending these models by including commitment to the environment as a psychological driver of behaviour. A quantitative research design was conducted using structured questionnaires distributed to individuals aged 18-65 in Brunei Darussalam. Data was analysed using Partial Least Squares (PLS-SEM) to assess the relationships among the constructs. The findings reveal that only environmental attitude and habits have significant direct effects on ECCB. By contrast, social norms and eco-guilt do not directly influence ECCB. Nevertheless, commitment to the environment significantly mediates the relationship between the EA, SN, and EG and ECCB, enhancing the indirect effects.

The results highlight the significance of fostering internalised commitment to sustainability beyond social standards and emotions such as guilt alone. This study provides valuable implications for policymakers, businesses, and stakeholders by emphasising the need for interventions that cultivate long-term sustainable habits, strengthen environmental values, and build a sense of commitment. These insights are particularly relevant in Brunei Darussalam's emerging sustainability landscape, where behavioural change is important to achieve national and global environmental goals.

Halal Futures: Rethinking Consumer Behaviour in the Cultured Meat Era Through a Religio-Ethnic Lens

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The global shift towards sustainable food systems increasingly relies on innovations like cultured meat—lab-grown protein developed without slaughter. While technologically promising, such solutions risk falling short without the social legitimacy required for public adoption. Nowhere is this more critical than in Asia, where religious frameworks deeply shape consumer behaviour. This study investigates how Muslim consumers in Southeast Asia—where halal certification governs food ethics—respond to the emergence of halal-certified cultured meat. Drawing on mixed-methods research in Singapore, including a quantitative survey (n=100) and focus group discussions, the paper introduces the Religio-Ethnic Consumer Behaviour Theory (RE-CBT). This original framework articulates five key constructs: Halal Legitimacy, Divine Accountability, Religious Institutional Trust, Social Validation, and Perceived Ethical Alignment. Regression analysis reveals that trust in halal certification bodies and perceived ethical alignment with Islamic principles are significant predictors of acceptance. Qualitative insights further highlight the decisive role of religious guidance (fatwas), community norms, and transparency in production processes. Crucially, this research challenges the dominant assumption that religion is a barrier to innovation. It demonstrates how religio-ethical systems, when engaged respectfully and institutionally, can accelerate sustainable transitions by fostering public trust. The RE-CBT model offers a replicable roadmap for aligning faith-based values with climate-friendly technologies—not only in Muslim societies but in other culturally and ethically attuned markets worldwide. Implications extend to policymakers, producers, and certifiers navigating the complex intersection of technology, ethics, and inclusion. By foregrounding the voices of a faith-conscious consumer base, this paper contributes an urgently needed lens to ensure the global protein transition is seen from a religious lens.

Green Consumerism and Economic Incentives: An Empirical Study on Eco-Labelling and Purchase Behaviour in India and Vietnam

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The research investigates the impact of eco-labelling and economic incentives on consumer buying choices in Indian and Vietnamese markets. The growing interest of urban consumers in sustainability has led marketers to use eco-labels and green certifications as marketing tools to attract consumers. The effectiveness of these marketing strategies in the emerging Indian and Vietnamese markets needs further investigation. The research draws its foundation from behavioural economics and marketing theory through the integration of the Theory of Planned Behaviour (TPB) with economic utility models. A survey of 200 urban consumers (100 from each country) used structured questions to assess the effects of eco-labelling and perceived value and trust in certification and pricing incentives on purchase intention. The research findings show that eco-labelling increases purchase intent, but this effect depends on consumer trust in certification authorities and their perception of product quality. The attractiveness of sustainable choices increases when consumers receive small price incentives such as cashback or discounts for green products, particularly among younger consumers. Eco-labels require both trustworthy certification bodies and value-based incentives to be effective. The research findings provide valuable insights to help marketers create specific green marketing approaches and policymakers develop sustainable policies through educational programmes, trust-building measures, and behavioural encouragement strategies.

Are Food Delivery Applications an Ally or Enemy for Sustainable Eating Behaviour? Multigenerational Perspectives Using Mixed-Method Evidence

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Is technology making people more sustainable eaters or just confused consumers? With the proliferation of both Food Delivery Applications (FDAs) as well as sustainability advocates, sustainable eating is emerging as a new behavioural shift across consumer segments. While previous studies have deliberated various factors affecting sustainable eating behaviour in terms of health choices, environmental and contextual dimensions; the role of technology in enhancing or buffering such behaviour shifts remains unexplored. Anchoring on Behavioural Reasoning Theory (BRT), the researcher attempts to compare and contrast the multigenerational perspectives about the role of technology on sustainable eating choices. Designed as mixed-method research, this study uses descriptive phenomenology to understand the contrasting opinions of younger and older adults regarding the role of FDAs in sustainable eating behaviour. The insights of qualitative study guide as meta-inference for conceptual model building as well as hypothesis testing using Covariance based Structural Equation Modelling (CB-SEM). Descriptive phenomenology employs 12 participants of diverse age groups actively using multiple FDAs on a regular basis. Multiple iterations of semi-structured interviews followed by inductive coding methods were used to explore the overarching constructs. For the survey, the researcher used structured questionnaire and collected data from 835 users of FDAs across diverse demographics. The findings of this study reveal intriguing implications for both theory and practice. For theory, it enriches the understanding of sustainable eating behaviour through the lens of technology adoption and consumer dynamics offering a varied perspective from the current narratives on sustainable behaviour. In addition, the findings of the study inform the developers of FDAs on design, interface and utilitarian features boosting sustainable eating options across generations.

“Guilt on the Plate, Pride in the Bag”: How Motives, Norms, and Saving Face Drive the Fight Against Food Waste

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"Guilt on the Plate, Pride in the Bag” captures the emotional and cultural tug-of-war diners face when deciding whether to take leftovers home or leave them behind. This study dives into that tension by examining how five behavioural constructs—leftover-saving motives, attitude towards food waste, personal norms, subjective norms, and face-saving behaviour—interact to shape diners’ intention to reduce food waste. By integrating the Theory of Planned Behaviour (TPB) and the Value–Belief–Norm (VBN) framework, the research reveals a dynamic interplay between practical reasoning, moral obligation, social pressure, and cultural inhibition in sustainable dining behaviour. Survey data were collected from 524 respondents in the Greater Bay Area and analysed using PLS-SEM. Results reveal that subjective norms significantly shape diners’ personal obligatory norms of food waste reduction, which in turn influence their intention to reduce food waste. Attitude towards food waste emerges as a strong predictor of intention to reduce food waste, while leftover-saving motives positively influence attitude formation. Face-saving behaviour exerts a negative effect on intention and significantly moderates the relationship between both attitude and personal norms with intention to reduce food waste. These findings suggest that social image concerns can suppress or reshape sustainable actions, even among individuals with strong environmental values. This study offers practical implications such as reframing leftover reuse as a socially acceptable and pride-enhancing act, promoting portion-transparent menus, and offering eco-friendly takeaway packaging. By unpacking the inhibitors and enablers of sustainable dining, the findings offer actionable strategies for hospitality managers and policymakers to foster long-term pro-environmental behaviour.

Reducing Discretionary Fuel Uplift in Aviation: Applying the Theory of Planned Behaviour to Influence Pilot Decision-Making at Singapore Airlines

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Despite stringent operational guidelines and advanced fuel planning tools, many commercial airline pilots continue to uplift discretionary fuel (DFU) beyond regulatory requirements, impacting both cost and sustainability goals. This research investigates the psychological and behavioural factors influencing DFU practices among pilots at Singapore Airlines. Using the Theory of Planned Behaviour (TPB), the study aims to understand how pilot attitudes, subjective norms, and perceived behavioural control contribute to discretionary fuel decisions, and how these insights can inform behavioural interventions to promote fuel-efficient practices aligned with environmental and operational goals. This study employed a qualitative approach using semi-structured in-depth interviews with twelve commercial pilots of varying ranks, experience, and fleet types. The interviews were coded and analysed through thematic analysis, guided by TPB constructs. Key themes were extracted to explore behavioural motivations, social influences, and perceived barriers or enablers to reduce DFU, while also assessing pilots' trust in emerging technologies such as AI-based fuel planning tools. The findings revealed that entrenched safety attitudes and conservative operational culture drive excessive DFU. Senior mentorship and a lack of sustainability-aligned feedback reinforce subjective norms favouring conservative uplift. High perceived behavioural control fosters autonomous decisions that may disregard standard planning tools, particularly when pilots distrust automated systems or prefer risk-averse practices. The study concludes that pilot intentions and behaviours are shaped by an interplay of psychological beliefs and organisational culture. Practical interventions include: (i) leveraging leadership to model fuel-efficient behaviours, (ii) embedding sustainability into training and SOPs, and (iii) enhancing transparency and trust in decision-support technologies. These findings contribute actionable insights for reducing DFU and achieving fuel efficiency in aviation.

Track 6:

Innovating for Resilience and Sustainable Development

Network Planning and Incentive Design for Industrial Symbiosis: A Simulation-OptimiSation Approach

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Industrial Symbiosis is a sub-field of Industrial Ecology that aims to increase resource efficiency and circularity within industries through exchanges of waste materials and sharing of facilities. IS network planning refers to the configuration of physical collaboration links among companies, which typically involves an optimisation to achieve the highest economic, environmental, and social benefits within the network. While IS could be developed in systematic-planning (top-down) and self-organising (bottom-up) approaches, existing studies predominantly focus on top-down approaches that prioritise global network optimisation. However, such centralised planning often overlooks the incentives and constraints faced by individual firms. This misalignment between global network goals and local company interests can lead to conflicts, undermining the practical implementation of the proposed symbiotic configurations. To address the problem, this work proposes an integrated framework for IS network planning with incentive design, which bridges top-down and bottom-up perspectives to incorporate the dynamic IS formation process in planning, hence increasing the practical viability and stability of the identified network. Specifically, the framework involves a multi-objective optimisation problem which aims to identify the optimal incentive design such that the network could reach its highest economic and environmental benefits. The mapping between the incentive and the resulting network is achieved via simulation: an Agent-Based Model (ABM) is developed to model the attributes of companies and simulate their bottom-up interactions given a specific incentive. With appropriate incentives, the behaviours of individual companies could be calibrated to align with the systematic-planning goals, i.e., the optimised network. Consequently, solving the optimisation problem ensures the optimality of the designed incentive, while the use of ABM guarantees the feasibility of the IS network. By tackling the IS network planning problem from both systematic-planning and self-organising perspectives, the proposed framework effectively helps enable the implementation of IS networks with a novel incentive design mechanism.

Building Resilient and Circular Food systems in Asia through Microbial Protein Innovation

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Achieving resilience in food systems requires innovative solutions that simultaneously address food security, climate change, and resource inefficiencies. In Asia, where food demand is rising and waste streams from food manufacturing are growing, novel biotechnologies offer untapped opportunities for sustainable development. We present a circular biomanufacturing innovation that transforms nutrient-rich food-processing wastewater into microbial protein, providing an alternative protein source for food and feed applications. Developed over a 4.5-year Singapore NRF CRP-funded project in collaboration with research institutions and industry partners, our approach uses mixed microbial communities cultivated in bioreactors to produce single-cell protein (SCP), leveraging naturally occurring diversity and metabolic flexibility. We detail successful pilot trials using soybean-processing wastewater, recovering carbon, nitrogen, and phosphorus while producing biomass with over 55 per cent protein content. The resulting microbial protein was tested in aquaculture feed trials for shrimp and seabass at high inclusion levels, demonstrating promising growth and feed conversion metrics. Life cycle assessment (LCA) results indicate substantial reductions in greenhouse gas emissions compared to fishmeal production, with potential for carbon credit generation. Economic modelling supports the feasibility of regionally deployed systems with a low-cost base, scalability, and added savings in water use and wastewater discharge costs. These features make the solution particularly relevant to industrial parks and food manufacturing hubs in Asia. The innovation addresses multiple Sustainable Development Goals (SDGs), including responsible production, clean water, zero hunger, and climate action. By valorising underused waste streams, it builds resilience into both food production and waste management systems, contributing to circular economy strategies. With Asia's expanding aquaculture and livestock sectors and growing interest in alternative proteins, this approach offers strong commercial potential. This work exemplifies innovation for resilience and sustainable development by offering a scalable, investment-ready model to integrate microbial biotechnology into regional sustainability agendas, driven by interdisciplinary research and strong industry collaboration.

An Engineering Approach Towards a Credible Plastic Offset Scheme

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In recent times, the use of plastic offset schemes has outpaced the development of rigorous monitoring and verification protocols, resulting in inconsistencies and legitimacy concerns, such as potential greenwashing activities. This study proposes a systematic framework that uses ISO-compliant methods, as well as real-time IoT data collection and blockchain ledgers, to enhance transparency and trust in plastic credit systems and streamline verification processes. By narrowing the impact scope of plastic offset activities to recycling and virgin plastic avoidance, the framework standardises measurement and reporting outcomes. ISO 14040/14044 (Life Cycle Assessment), ISO 50001 (Energy), and ISO 14046 (Water) are utilised to develop the measurement, verification, and evaluation protocol for the framework. IoT sensors enable real-time data collection of recycling activities, whilst blockchain ensures immutable, auditable records. This allows the framework to link plastic offsets directly to Scope 3 carbon emissions, enabling their integration into recognised carbon markets, increasing their economic viability and hopefully incentivising more recycling and avoidance activities locally. This results in a model that is credible, data-driven, and replicable for offsets that can support the transition towards a circular economy, ultimately allowing Singapore to fund its own plastic/carbon reduction offsets while at the same time supporting the scaling up of local industries.

Stability and Failure Mechanism of Skirted Footings on Reinforced Slopes: A Numerical Approach

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Infrastructural development on sloping ground poses significant geotechnical challenges due to reduced bearing capacity and complex failure mechanisms. While soil reinforcement and skirted footings have individually proven effective in enhancing slope and foundation performance, their combined behaviour remains underexplored. This study investigates the bearing performance and failure mechanism of strip footings with skirts placed on geosynthetically reinforced slopes through Finite Element Limit Analysis (FELA) using OptumG2. The analysis systematically varies key parameters: slope inclination (β), normalised skirt depth (ds⁄B), setback distance (b⁄B), and reinforcement depth (D⁄B). Results indicate that whilst reinforcement alone improves slope stability, the inclusion of skirts significantly amplifies bearing capacity, particularly on steep slopes, by altering the failure surface from a shallow rotational to a deep punching failure surface. The reinforcement acts synergistically with the skirts, providing confinement to the failure of the wedge and delaying shear localisation. The study offers valuable insights into the optimal configuration of foundation and slope stabilisation systems, contributing to cost-effective and safer design of footings on challenging terrains.

Social Business and Policy Mix for Sustainability: Mil Mill Beverage Carton Recycling in Hong Kong

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The fast pace of life in mature economies and advanced cities often leads to excessive waste in the context of urban solid waste management, environmental NGOs and governments have focused more on plastic bottles, which generally pose a serious environmental threat. Beverage cartons, on the other hand, are often perceived as combustible, thus less harmful to the environment. Consequently, less effort is devoted to recycling paper products compared to plastics. Mil Mill is one of the very few social enterprises in Hong Kong dedicated to the recycling of beverage cartons. Beyond recycling, Mil Mill also engages in environmental education and community outreach. It collaborates with environmental NGOs to promote: Reduce, Reuse, and Recycle. Various workshops are organised for secondary school students to raise awareness about the environmental impacts of carton waste and the recycling process. However, the unbalanced policy orientation between Mil Mill and the government reduces the efficacy of innovation and ensures sustainable and inclusive growth. This research paper intends to indicate that the inconsistent orientation between the NGOs and the government is a crucial factor in decreasing the resilience of waste management. The inconsistency is argued as the lack of structural communication between the two parties. This research employs qualitative methods through a case study of Mil Mill, incorporating observation, in-depth interviews, and open-ended discussions with operators, workshop participants, and NGO workers. Drawing on the Instrument Mix Theory from the perspective of environmental policy, the study finds that a well-designed policy mix enhances synergy in promoting solid waste reduction and recycling. However, the absence of a formal communication channel between the two parties in Hong Kong, specifically speaking, the political representatives in the Legislative Council, has significantly undermined Mil Mill's efforts and impact, leading to confusion and reduced effectiveness in the city's recycling sector.

Tourism as a Social Safety Net: Innovating Livelihood Pathways through Emerging Technologies for Post-extractive Niger Delta Communities

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As Nigeria's Niger Delta grapples with social and economic fallouts of oil-dependent politics, the search for more sustainable, inclusive, and diversified livelihoods has become relevant. Tourism is increasingly considered an alternative, but its transformative capacity depends on the extent to which it is able to incorporate new technologies to enable communities to increase local adaptations and sustainability. This study examines how easy-to-use digital technologies like mobile apps and social media can drive inclusive tourism development and serve as social safety nets for marginalised groups, women, youth, and former combatants. Using fieldwork in three states, the study explores creative use of digital tools by grassroots community tourism actors. It illustrates how eco-lodges, guide services, culinary tourism activities, and cultural festivals can be promoted using mobile-friendly platforms and how virtual storytelling tools can be used to help safeguard and promote threatened heritage as tourism assets. While relatively small-scale, these strategies are raising visibility, enhancing tourist participation, and augmenting earnings at the local level so that they become a source of mixed livelihoods and social strength. By incorporating an African case into an Asian conversation about sustainability, the paper makes an important contribution to this 2025 conference theme. It unsettles ideas about infrastructure as it posits digital connectivity and ease of access to technology as structural elements of socio-economic resilience in post-extractive societies. Given that many Asian rural communities are also undergoing post-industrial changes, environmental degradation, and rural depopulation, the experience of the Niger Delta offers salutary lessons on how technology, when designed around human needs, can help to unleash inclusive dividends via tourism. The study therefore suggests capacity-building interventions that demystify digital tools for rural communities as a low-cost bridging factor for empowerment, cultural preservation, and bottom-up tourism intervention in the global.

Field-Based Evaluation of Outdoor Thermal Stress in Ho Chi Minh City Using UTCI and Thermal Sensation Votes

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In tropical urban environments, residential neighbourhoods increasingly face thermal discomfort due to rising temperatures, dense built forms, and limited green infrastructure. Understanding outdoor thermal comfort in such contexts is essential for enhancing microclimatic resilience and public health. This study investigates outdoor thermal comfort in a residential area of Ho Chi Minh City, Vietnam, using the Universal Thermal Climate Index, supported by ground-level climatic measurements—including air temperature and relative humidity—and structured thermal comfort questionnaires. Outdoor thermal comfort was evaluated by correlating index values with residents' reported thermal satisfaction. The results inform that the occupants find it acceptable on the balcony. However, this perceived comfort varied significantly by time of day. These findings show the vital role of the balcony as an intermediate environment between outdoor and indoor spaces and highlight its contribution to improving microclimate in a dense urban context. The study also confirms the Universal Thermal Climate Index as a practical and suitable tool for assessing outdoor thermal conditions in Ho Chi Minh City. Furthermore, it emphasises the importance of combining environmental data with user feedback to support climate-responsive and human-centric architecture.

“Housing with a Human Face”: Deep-Plan Row Housing as a Tool for Social Cohesion and belonging in high-density Urban Environments

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In the Global South, rapid urbanisation has resulted in an extraordinary demand for housing, the local government supports high-density developments. However, this often translates to the construction of high-rise buildings that, despite being space-efficient, can undermine social cohesion and a sense of belonging. In contrast, deep-plan row housing provides a human-scale, ground-level design that facilitates community interactions while accommodating multiple families. This study re-examines deep-plan row housing as a low-rise, high-density option that challenges the notion that vertical structures are synonymous with urban efficiency. By analysing case studies of historic urban areas with deep-plan neighbourhoods, this research investigates how they create human-scaled environments that promote social interaction, community involvement, and mental health. The study utilised a combination of methods, including spatial analysis, comparative case studies, and semi-structured interviews with residents and planners. Urban form diagrams and survey data were employed to evaluate the physical and social effectiveness of the areas. The results indicate that deep-plan row housing, with its integrated thresholds, semi-private communal areas, and horizontal spatial organisation, better facilitates community building and social interactions than vertical housing models. These settings enhance residents' sense of place and well-being, highlighting the potential of inclusive urban design strategies. Drawing from case studies and urban design theory, this research examines how this model can accommodate diverse households, enable informal surveillance, and establish neighbourhood identity. It also explores the design and policy considerations necessary to incorporate deep-plan row housing into urban planning frameworks, especially in contexts that balance affordability, liability, and inclusivity. By framing housing as a means of community building rather than merely providing shelter, this study advocates for a nuanced approach to density that emphasises human relationships and spatial dignity in urban design. This research contributes to "Innovating for Resilience and Sustainable Development" by challenging prevailing high-rise paradigms and promoting socially conscious high-density models.

Water-BOOST: A Systems Toolkit to Accelerate Urban Water Innovation

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Urban water systems are under growing stress from climate change, urbanisation, and ageing infrastructure. While new technologies and business models continue to emerge, many remain fragmented, underfunded, or fail to scale. The central challenge lies not in a lack of innovation, but in the absence of enabling environments that allow solutions to embed and grow. This research addresses that gap by investigating the conditions that enable urban water innovation to thrive. Drawing on systems thinking, the study examined six diverse cities — San Francisco, Valencia, Singapore, Accra, Barcelona, and Bangalore — to explore how governance structures, financing mechanisms, institutional alignments, and stakeholder relationships shape innovation outcomes. Through more than 130 interviews across 70 organisations, common patterns and systemic barriers were identified. Findings highlight three core insights. First, innovation cannot be scaled without system structure: every city studied had at least one missing or underdeveloped stakeholder group or mechanism. Second, progress depends not only on who is involved, but on how they interact: relational enablers such as procurement reform, regulatory flexibility, and shared testbeds proved critical for scaling. Third, cities can and should learn from one another: strategic comparison enables the adaptation of effective mechanisms across different governance contexts. From these insights emerged Water-BOOST — the Bridging Opportunities and Optimising Support Toolkit. Water-BOOST is a systems-based framework designed to diagnose enabling environments, map gaps, and identify pathways for adaptation and scaling. Its structured methodology translates qualitative insights into visual mappings, comparative analysis, and strategic guidance, supporting decision-makers, funders, and innovators alike. Strengthening enabling environments is essential to move from scattered pilots toward coherent, scalable water innovation systems. By making complex ecosystems more tractable and actionable, Water-BOOST provides a practical framework for decision-makers, funders, and innovators to align governance, finance, and technology, accelerating pathways to long-term resilience.

Track 7:

Sustainable Business Practices—Driving Long-Term Resilience in Asian Businesses

Advancing Social Equity in Two Mountainous Tourism Destinations in South Asia: A Comparative Case Study

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There is a growing recognition of social equity as a key element in achieving sustainable tourism outcomes. On the one hand, UNWTO (2005, p. 12) characterises “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" as sustainable tourism. On the other hand, the notion of social equity encompasses fairness, rights, and justice-related processes as well as outcomes (Nalbandian, 1989). It is in this context, this study utilises a community capitals framework (Dhakal, 2016) and addresses the question: To what extent has progress towards social equity been made in two significant hotspots in South Asia? A qualitative comparative case study method (Bartlett & Vavrus, 2016) to examine the state of sustainable tourism of two destinations: i) Khumbu Pasanglhamu Rural Municipality (KPRM) in Nepal – the gateway to Mt Everest, and ii) the Ladakh Autonomous Hill Development Council (LAHDC) in India. Both destinations feature high-altitude mountains and serve as a significant habitat for the endangered Snow Leopard. Findings indicate that while both destinations benefited from the high political capital of local leaders in promoting tourism, they also suffered from an ambiguous strategic alignment between policy intention and actual implementation, which has undermined the social equity processes and outcomes. In addition, a social capital deficit in harnessing socio-economic opportunities to overcome social inequities, while coping with threats related to the degradation of natural capital, was evident in both destinations. These findings have two important implications. First, the utility of the community capitals framework in gathering evidence to recalibrate social equity priorities and policy outcomes within sustainable tourism cannot be overlooked. Second, there is an opportunity for both destinations to become tourism destinations, ensuring that social equity aspects are not overlooked while promoting sustainable tourism.

Unlocking Innovative Work Behaviour: Comparing the Leadership Pathways of Transformation and Innovation through People-Centric HR Systems

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This study examines how transformational leadership (TL) and innovation-oriented leadership (IOL) foster innovative work behaviour (IWB), emphasising the mediating role of innovation-oriented people management (IOPM). Drawing on social exchange theory and dynamic capabilities theory, we propose and empirically validate a dual-pathway leadership framework using data from 158 executives in innovation-intensive organisations in Singapore. Structural equation modelling and mediation analysis confirm that both TL and IOL significantly enhance IWB. However, TL exerts a stronger direct influence, while IOL's impact is more indirect and contingent upon HR systems. Notably, IOPM mediates 26.42% of TL's effect and 51.94% of IOL's effect on IWB, highlighting its strategic importance in translating leadership vision into innovative outcomes. Theoretically, the study contributes to transformational leadership and dynamic capability theories by positioning IOPM as a key microfoundation of leadership effectiveness. It also advances strategic HRM research by reframing IOPM as a mediating mechanism rather than a contextual moderator. Practically, the findings suggest that TL is a versatile leadership style suitable for a range of organisational settings, whereas IOL requires supportive HR architecture to be effective. Organisations are advised to align leadership development with people-centric HR practices tailored to their innovation contexts. This integrative model not only clarifies how different leadership approaches interact with HR systems but also offers actionable insights for fostering sustainable innovation through strategically configured leadership–HRM synergies.

Zero Corporate Loan and Corporate Social Donation

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Corporate social donations, as a key part of corporate social responsibility activities (Li et al., 2015), refer to voluntary activities that convey a firm's social value and contribute to strengthening relationships with stakeholders such as customers (Lev et al., 2010). Despite their importance, there has been a lack of previous studies regarding the impact of a firm's capital structure on corporate social donations. In this regard, we examine whether zero corporate loans are associated with corporate social donations. Using the pooled ordinary least squares (OLS) regression model based on the China Stock Market and Accounting Research (CSMAR) database, we find that firms with zero corporate loans engage in more social donation activities. Next, we find that the positive relation between zero corporate loans and corporate social donation is weaker in firms with higher firm risk. Our empirical evidence can also help stakeholders better understand a firm's social donation behaviours in light of zero outstanding loans, including both short- and long-term loans, in its capital structure. Our study extends the previous literature by demonstrating that corporate capital structure is an essential determinant of firms' social donation activities, which contributes to sustainable business practises in the context of China, the largest emerging country.

The ESG Performance Penalty in China: Evidence of Negative ROA Impact Concentrated in Manufacturing and Non-State-Owned Enterprises

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This study investigates the relationship between Environmental, Social, and Governance (ESG) disclosure and corporate financial performance (measured by Return on Assets - ROA) within the unique context of China's rapidly evolving ESG landscape. Utilising a longitudinal dataset of Chinese A-share listed non-financial and non-real estate firms continuously disclosing ESG scores from 2014 to 2023, we employ panel fixed-effects regression models to control for unobserved firm heterogeneity and time-invariant factors. Controlling for firm size (Size), inventory ratio (INV), fixed asset ratio (FIXED), CEO duality (Dual), Equity Balance Degree (Balance1), and ownership concentration (Top1). Our core finding reveals a statistically significant negative association between higher ESG disclosure levels and ROA. This challenges the prevailing narrative that ESG universally enhances financial outcomes in the short term. Crucially, our heterogeneity analysis uncovers significant variation in this relationship: the negative impact is pronounced and statistically significant within the manufacturing sector, while it remains insignificant for non-manufacturing firms. Furthermore, the detrimental effect on ROA is significant for non-state-owned enterprises (non-SOEs), but statistically insignificant for state-owned enterprises (SOEs). These findings highlight the contextual contingency of ESG's financial implications, suggesting that the costs associated with ESG compliance (e.g., upfront investments, operational adjustments, compliance burdens) may currently outweigh the benefits, particularly for manufacturing firms facing intense cost competition and non-SOEs with potentially tighter resource constraints and different stakeholder pressures compared to SOEs. This research contributes to the ESG-performance literature by providing nuanced evidence from China's emerging market, emphasising the critical roles of industry characteristics and ownership structure in shaping the financial consequences of ESG disclosure.

Uniting for Change: Transforming Waste Management Communities Actions into a Powerful Environmental Movement in Yogyakarta

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This study objective to analyse the potential coalition of waste management activism communities from various groups to unified social movements capable of influencing policy in Yogyakarta, Indonesia. The research seeks to address the gap between community organizing capacity and movement effectiveness by mapping the priority communities' programs, community areas, community collaboration with other stakeholders, and collective action strategies made within related government agencies. The Advocacy Coalition Framework (ACF) will be used as the theoretical foundation, to analyse the role of actors' coalition that has similar belief and its collaboration to be capable in influencing waste management policy. A participatory qualitative methodology was implemented by conducting literature review, semi-structured interviews with 15 activist groups, and key informant interviews with government stakeholders. Data was collected using participatory sampling and analysed through collaborative analysis sessions and interpretive phenomenological analysis to understand movement building dynamics and policy influence pathways. The main results indicate that most communities possess strong social mobilisation capabilities and shared similar environmental concerns, however they lack strategic coordination mechanisms and the unified policy visions. Current collaborations remain tactical rather than strategic, limiting their capacity to sustain pressure for policy change despite significant grassroots energy and commitment. Moreover, based on the study result, the participation of these community groups in the policy making process was limited and only invited for only special events holding by Government. The study contributes theoretically by refining the application of ACF to grassroots contexts and offering practical outlook for policy makers (e.g., local government) and NGOs aiming to escalate community-based environmental governance. It also highlights the importance of coalition-building as a tool for policy advocacy and environmental transformation, offering an alternative framework that can be replicated for other areas which have similar cases.

An Analysis of Climate Adaptation of the Multi-sports Events: In the case of Taipei & New Taipei World Master Games 2025

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Due to the effects of global warming, event organisers and venue operators must adopt climate adaptation strategies to reduce their environmental impact. Previous research has examined the climate adaptation efforts of various sports organisations, including carbon audits of sporting events, plastic waste management, water resource use in stadiums, eco-friendly practices by sports organisations, and sustainable entrepreneurship in sports. To further analyse the climate adaptation strategies of international sporting events, this case study focuses on the 8th World Master Games (WMG), a major multi-sport event scheduled for 17 to 30 May 2025. Using a qualitative case study approach, this research combines in-depth interviews with the senior officer responsible for sustainability, systematic analysis of archival materials, and ethnographic field observations. This triangulated method allows for a detailed examination of how identity components are created, maintained, and adapted over time. Several key findings are summarised below. First, institutional forces (i.e., external encouragement and internal motivations) played a significant role in fostering environmental sustainability and shaping climate adaptation strategies. Four major eco-friendly practices were identified, including effective internal communication on environmental policies, waste management, low-carbon transportation, sustainable procurement, water resource management, and sustainability education. However, this study also identified similarities and differences between the local event organiser and the international governing body in climate adaptation. The measurement of carbon footprint, renewable energy, and biodiversity was not conducted for the World Master Games 2025. The findings show that the event host faced challenges such as internal cross-departmental cooperation, financial resource limitations, and inadequate performance assessment. Additionally, it underscores that coherence among stakeholders is vital for successful climate adaptation.

Leveraging Aviation Technology for Sustainable Resilience in Asia Pacific

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The aviation industry in the Asia Pacific faces the critical challenge of pursuing rapid decarbonisation while sustaining operational resilience amidst dynamic economic and environmental pressures. This paper critically analyses how emerging aviation technologies, namely artificial intelligence, mobile-enabled maintenance solutions, and real-time operational analytics, are fundamentally reshaping sustainable business practices in the region. Grounded in theoretical frameworks of organisational resilience and technology adoption, this study examines how strategic digital transformation initiatives contribute directly to emissions reduction, operational predictability, and adaptive business strategies. Utilising recent empirical developments from aviation hubs in Singapore, Japan, and Australia, the paper highlights the integral role of data-centric technologies in facilitating intelligent operational scheduling, transparent carbon tracking, and efficient resource management. The findings illustrate that these technological innovations not only optimise operational outcomes but also redefine resilience as a proactive, strategically embedded organisational attribute, moving beyond mere regulatory compliance. This paper introduces a contextualised framework for technology diffusion, sensitive to the diverse regulatory, infrastructural, and cultural landscapes across the Asia Pacific. It emphasises implications for policymakers, industry stakeholders, and regional alliances, advocating robust national innovation ecosystems and enhanced regional collaboration as essential drivers of sustainable aviation practices. Ultimately, this research enriches the ongoing discussion by illustrating that technology-led initiatives in aviation can indeed foster enduring resilience, strategic renewal, and competitive advantage.

From Self-Organising Dynamics to Sustainability Transitions: A Complex Systems Perspective on Resilience in Asia

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Asia stands at the frontline of global climate risk, where the urgency for systemic resilience and sustainable transformation is unparalleled. We introduce a transdisciplinary systems framework that synthesises Synergetics (Haken, 1978) and Catastrophe Theory (Thom, 1976), drawing from complex systems science to elucidate the dynamic mechanisms through which resilience and sustainability transitions unfold. We posit that resilience emerges not solely through external interventions but as an intrinsic property of systems governed by internal coherence. Central to our framework is the interaction between slow-changing macro-variables, referred to as order parameters, and rapidly fluctuating micro-states, wherein the former progressively constrain and orchestrate the latter. This 'slaving principle' culminates in self-organisation and structural coherence across temporal and spatial scales. Employing illustrative models from physics (phase transitions in laser dynamics), behavioural systems (metronome synchronisation), and organisational transformation, we further integrate bifurcation theory via cusp catastrophe models to capture abrupt, nonlinear regime shifts that characterise complex adaptive systems. Such critical thresholds, once surpassed, precipitate irreversible systemic transformations, reflecting a fundamental natural law: Collective coherence governs individual fluctuations. The proposed framework is subsequently applied to sustainability domains such as urban infrastructure governance, societal consensus formation, and financial innovation under climate constraints. We argue that systems capable of sustaining long-term resilience must integrate flexibility to accommodate volatility with structural continuity to preserve functional integrity. By bridging the epistemologies of physics, systems theory, and business sustainability, this work advances a conceptual scaffold for scholars and policymakers seeking to catalyse Asia’s transition towards resilient and inclusive development in the face of escalating complexity.

Enhancing the Resilience of Risk Management in the Semiconductor Industry through Text Mining and Data Envelopment Analysis

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In recent years, as global climate change has intensified, the frequency of extreme climatic events, such as droughts, floods, and elevated temperatures, has increased. A joint report by the International Chamber of Commerce (ICC) and Oxera (2024) indicates that economic losses due to extreme weather events worldwide reached approximately US$2 trillion between 2014 and 2023. Moreover, a collaborative report from the World Economic Forum (2025) warns that if firms fail to adjust their climate strategies effectively, they may incur annual revenue losses of between 6 and 7 percent by 2035, with fixed asset losses ranging from US$56 billion to US$610 billion and potentially escalating to US$1.1 trillion in the 2050s. These figures underscore the substantial financial pressures associated with climate risk.

Recent advances in high-performance computing and artificial intelligence have prompted many companies to accelerate the adoption of smart manufacturing and automation technologies, whose core component is the semiconductor. This industry not only drives industrial transformation and economic growth but is exceptionally resource-intensive and therefore more vulnerable to climate risks than other sectors. Assessing climate risk impacts on the semiconductor industry has attracted considerable scholarly attention. Previous research has predominantly relied on questionnaires and interviews, which are time-consuming and subjective. To address these limitations, this study will employ text mining to quantify firms' climate risks and examine their effects on corporate value. Moreover, conventional financial ratio analysis oversimplifies firm performance and fails to capture its complexity. To overcome this, the present study will adopt Data Envelopment Analysis (DEA). By leveraging DEA's data-driven framework and multiple variables, this approach will provide managers with comprehensive evaluation results, enhancing resource allocation efficiency and risk management flexibility in pursuit of sustainable development goals.

Poster Track

Evaluating Indonesian Consumer Perceptions of H&M's Eco-Friendly Campaign: The Mediating Role of Perceived Quality

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Since 2010, green industrial policies have been popularised to address environmental issues. H&M, a notable player in the fast fashion industry, launched their eco-friendly campaign in 2013. Despite this initiative, H&M was recorded as an industry with large fashion waste in 2022, which contradicts the concept of an eco-friendly campaign promoting the green industry. This study evaluates consumers' perception of H&M as an eco-friendly industry by examining green perceived value and brand prestige on brand attitude with the mediating role of perceived quality. This research was conducted on 200 H&M customers in Indonesia. The analysis technique used in this research is path analysis using SmartPLS with the Sobel test to measure mediation variables. The results show that green perceived value and brand prestige affect perceived quality. On the other hand, perceived quality also affects brand attitude. Meanwhile, as a mediating variable, perceived quality serves as partial mediation when controlling the relationship between green perceived value and brand attitude, as well as the relationship between brand prestige and brand attitude. These results indicate that H&M is a prestigious eco-friendly brand with good product quality, leading consumers to assess H&M as an excellent fast fashion brand.

Digital Technological Innovation and Rural Sustainable Livelihoods: A Literature Review

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This paper summarises the impact of digital technologies on sustainable rural livelihoods through a literature review. The application of digital technologies in rural areas primarily takes the form of digital finance, digitalised supply chains, digital agriculture, digital tourism, and e-commerce, all of which contribute to the promotion of sustainable rural development. Drawing on the case of Douyin (TikTok China), this study proposes the development of a dedicated mobile internet application tailored to farmers. The proposed app would include five functional modules: agricultural science video hub, rural policy interpretation, agricultural technology tutorials, market demand analysis, and simplified e-commerce interface for agricultural products. This platform aims to overcome information barriers and geographic constraints, enhance digital literacy among farmers, and stimulate the endogenous momentum of rural development.

Comparing Inclusive Attitudes Among University Students from Singapore and the UK: Perspectives on Gender, Sexuality, and Race

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University education often takes place in the formative, crucial years of a person's life, uniquely positioned to influence attitudes and perceptions towards fairness, equity, and inclusion. This study explores cross-cultural differences in inclusive attitudes among university students in the United Kingdom and Singapore, focusing specifically on perceptions towards women, gay individuals, and racial minorities. Using validated attitudinal scales, we surveyed students across multiple universities in both countries. Results show that students in the UK exhibited statistically significantly higher levels of inclusive attitudes across all three domains compared to their Singaporean peers. These findings suggest that national and cultural contexts play a pivotal role in shaping inclusive mindsets, possibly even before enrolment into university. We discuss the implications for advancing social sustainability in higher education, particularly in how institutions can play a bigger role in fostering inclusive values in their students. The study contributes to ongoing discussions on how learning environments can be designed to cultivate behaviours and mindsets in students that support and uphold global principles of fairness and human dignity.

Affective and Cognitive Pathways to Energy-Saving: A Quasi-Experimental Study in Singapore Workplaces

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The commercial sector in Singapore contributes substantially to national electricity consumption. Behavioural interventions, particularly nudging strategies, have been implemented to reduce electricity use in workplace settings. Among these, nudges targeting energy-saving attitudes are promising because attitudes are known to predict energy-saving intentions at workplaces. However, the intention–action gap persists as a poorly understood phenomenon in workplace settings, as intentions do not always lead to actual actions. More crucially, the psychological mechanisms that nudges use to produce their effects remain poorly understood, and researchers rarely study these mechanisms. To address these gaps, this study will measure both energy-saving intentions and actual electricity usage and investigate the underlying psychological mechanisms of attitude-based nudges. Specifically, it will examine whether affective- and cognitive-based attitude interventions influence energy-saving intentions, self-reported behaviours, and actual electricity consumption. Grounded in the Theory of Planned Behaviour (TPB), the study will assess the differential roles of affective and cognitive attitudes in shaping behavioural outcomes. The research will use a quasi-experimental design to study four offices located in Singapore. The research will use four conditions for each site: (1) an affective intervention (emotionally framed prompts), (2) a cognitive intervention (information-based prompts), (3) a combined intervention (affective and cognitive), or (4) a control condition (no intervention). The intervention period will extend for three months. Outcome measures include: (a) TPB constructs (attitude, subjective norm, perceived behavioural control, and intention) and self-reported energy-saving behaviour assessed via pre- and post-intervention surveys; and (b) actual electricity usage based on historical and post-intervention data, with each office acting as its own control. The research will enhance theoretical knowledge about behaviour change in sustainability contexts while providing practical understanding to create evidence-based interventions that decrease workplace energy consumption through the identification of psychological mechanisms that affect different attitude-based nudges.

Voluntary Carbon Offsets in Aviation: Understanding Behavioural Drivers in Singapore Using the Theory of Planned Behaviour

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Voluntary carbon offsets (VCOs) are widely promoted as a means for air travellers to mitigate the environmental impact of flying, yet consumer uptake remains low, particularly in Asia. This research seeks to understand the psychological and structural factors influencing Singapore-based travellers' willingness to pay (WTP) for VCOs. Using the Theory of Planned Behaviour (TPB), the study aims to unpack how attitudes, subjective norms, and perceived behavioural control shape VCO engagement in a collectivist, high-tech Asian context. This qualitative study employed semi-structured interviews with ten participants: six frequent air travellers and four aviation professionals. Data was analysed using thematic analysis, guided by the TPB framework. The study focused on capturing behavioural motivations, perceptions of offset efficacy, social influences, and structural barriers within the aviation booking and service ecosystem. The findings reveal that while many participants express concern for climate impact, scepticism around offset credibility and low trust in providers limit positive attitudes. Subjective norms were weak due to the private nature of offset decisions and lack of peer visibility. Perceived behavioural control was hindered by unclear processes, cost sensitivity, and poor integration in booking systems. The intention–behaviour gap emerged as a key barrier. Practical recommendations include embedding offsetting options into loyalty schemes, using digital nudges, simplifying user interfaces, and reinforcing pro-environmental norms through visible cues. These strategies are aligned with Asia’s broader push for sustainable, inclusive development and provide actionable insights for aviation stakeholders.

Water-Wind Facade: Synergising Bio-Based Systems for Low-Carbon, Resilient Urban Health in Tropical Buildings

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This design-based exploratory study reimagines the building façade as a regenerative interface that integrates climate resilience, low-carbon performance, and occupant well-being in tropical urban environments. With naturally ventilated C-wards of Changi General Hospital as a case study, the research addresses the limitations of conventional green walls and explores the potential of a water-wind façade system to meet environmental and human health imperatives in high-rise buildings. Inspired by bio-based strategies—biomimicry, biophilic design, and circular resource flows—the study proposes a façade that passively cools indoor spaces while restoring occupants and capturing carbon. Design methodology includes precedent studies of evaporative cooling systems and natural ventilation devices, combined with spatial analysis, iterative prototyping, and environmental simulations using Grasshopper Ladybug and Ansys Fluent. Key findings include: (1) Water-wind façades, incorporating a vertical water flow and solar chimneys, reduce indoor temperatures and relative humidity through evaporative cooling and stack ventilation. (2) Biophilic exposure to water improves patient well-being through sensory engagement while ensuring hygiene via antibacterial compounds (magnesium oxide) and a closed-loop water treatment system. (3) Recycled textured glass panels further evoke nature while maximising surface area for cooling and reducing embodied carbon. (4) Magnesium oxide in the water also sequesters atmospheric carbon dioxide, potentially offsetting a portion of the façade's operational carbon footprint. This research demonstrates how tropical façades can evolve into holistic systems that synergise passive design, alternative cooling technologies, and nature-based solutions for improved Indoor Environmental Quality (IEQ). The next key step is to quantify the cooling potential of the water-wind façade under hot and humid climatic conditions. Additionally, the façade's performance can be further optimised by investigating its response to diurnal variations.

Making Sustainable Living Possible: Insights from a Five-Year Global Study on Sustainable Living

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This study aims to investigate the persistent gap between consumers' sustainability intentions and their ability to act, a phenomenon we term the consumer agency gap. Drawing from GlobeScan's ongoing Healthy & Sustainable Living Research Programme (2019–present), this new study builds on over 140,000 surveys across 31 global markets, including key Asian economies, to explore how values, behaviours, and systemic barriers shape sustainable living. The research seeks to address the challenge of enabling sustainable lifestyles by examining how capability, opportunity, and motivation (COM-B model) influence consumer behaviour. It also explores the emotional dimensions of sustainability, including the joy and well-being associated with living in alignment with one's values. The study employs a quantitative methodology using nationally representative online surveys (n ≈ 1,000 per market; n = 500 in smaller markets such as Singapore). Data are weighted to reflect national census profiles. The latest wave introduces refined segmentation and behavioural archetyping, supported by multivariate and cluster analysis techniques. This research aims to generate actionable insights for policymakers, businesses, and civil society. It will inform strategies to close the intention-action gap by identifying key enablers, emotional drivers, and communication approaches that resonate with diverse consumer segments in Asian contexts. The study contributes to advancing behavioural sustainability by offering a longitudinal, cross-cultural perspective on the evolving dynamics of sustainable living.

Purchase Attitude towards Green Packaging of Products among Undergraduate Students in India

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The environmental concern among consumers has set a new trend of green consumerism. Undergraduate students are the younger segment of consumers who are concerned about environmental sustainability. Their exposure to different informational sources such as the Internet and social media has a great impact on environmental awareness among them. This study is an attempt to understand the purchase preferences of Indian undergraduate students for green packaged products, with implications for marketers and providers to understand how to improve their green products, what type of green packaging they need, and how to attract these young consumers to buy their products. The study is grounded in consumer behaviour and marketing theories, integrating the Theory of Planned Behaviour (TPB) with consumer behaviour models. A structured survey of 300 undergraduate students was conducted to measure the impact of green packaging on purchase attitude. Using correlation analysis, regression analysis, and structural equation modelling (SEM), findings reveal that while green packaging significantly boosts purchase attitude, its influence is mediated by consumer trust in perceived product quality. Furthermore, small price incentives (e.g., cashbacks or discounts on green products) enhance the attractiveness of sustainable choices, especially among younger consumers. The study concludes that green packaging, when backed by credible certification bodies and value-driven incentives, has a significant impact on the purchase attitude of young consumers. These insights can help marketers develop more targeted green marketing strategies and assist policymakers in formulating effective sustainability policies that combine education, trust-building, and behavioural nudges.

Aliens Make You Green: Home Country Regulations and Greenhouse Gas Emissions of Foreign Multinationals' Acquisitions

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We examine how the stringency of a multinational's home-country environmental regulations shapes the environmental performance of its foreign acquisitions. The conventional pollution haven hypothesis suggests that firms from highly regulated countries expand into less regulated ones to lower compliance costs. In contrast, we argue and show that stricter home-country regulations can reduce greenhouse gas (GHG) emissions at newly acquired plants abroad. Because GHGs are global pollutants, home-country stakeholders and international evaluators monitor firms' total emissions, creating strong incentives for multinationals to internalise and transfer their home-country standards to foreign operations. Yet we contend that this effect is conditional on local context. Multinationals achieve smaller reductions in regions lacking supportive infrastructure—such as reliable access to cleaner natural gas or renewable electricity—underscoring that firm efforts alone are insufficient without complementary local systems. Analysing 1,918 U.S. facilities from 2010 to 2018, we find evidence consistent with these arguments. Our findings highlight the importance of the interaction between home-country national and host-country subnational conditions in shaping the environmental performance of multinational operations.

Apple Pectin Polysaccharides as a Sustainable Biopolymer for Mucoadhesive Nano formulations in Gastric Ulcer Therapy

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Gastric ulcers remain a major global health concern, affecting nearly 10% of the world's population and arising from inflammation in the gastric or duodenal mucosa, often triggered by excessive gastric acid secretion and compromised mucosal defences. The primary aetiological factors include *Helicobacter pylori* infection and prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs), both of which significantly impair mucosal integrity. Conventional ulcer therapies are often limited by systemic side effects, poor site-specific targeting, and rapid drug degradation in the harsh gastric environment. Apple pectin (AP), a natural polysaccharide predominantly sourced from apple pomace, has gained increasing attention as a sustainable, biocompatible, and functional biopolymer for advanced drug delivery systems. Its molecular structure rich in galacturonic acid units with hydroxyl and carboxyl functional groups offers excellent mucoadhesive and gel-forming properties. These characteristics make it an ideal candidate for formulating nanocarriers capable of adhering to the gastric mucosa and providing localisation-controlled release of anti-ulcer therapeutics. In this dual role, AP serves as a synergistic agent that actively protects the stomach lining in addition to being a delivery component. This study highlights the structural, chemical, and extraction aspects of AP, emphasising green extraction methods that align with sustainability principles. Furthermore, it explores the potential of AP-based nanoparticles as next-generation gastroprotective drug delivery systems. These nanocarriers not only enhance drug bioavailability and retention time but also contribute to mucosal protection through the intrinsic bioactivity of pectin, by integrating natural product-based therapeutics with nanotechnology. Apple pectin presents a dual-function approach acting both as a protective agent and a delivery vehicle. This inclusionary strategy offers a promising direction for future clinical translation in the treatment of gastric ulcers with improved efficacy, safety, and sustainability.

Nano-encapsulation of an Essential oil: A Sustainable Approach to Therapeutic Innovation

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Essential oils are natural compounds containing complex mixtures of a wide range of volatile molecules, including phenol-derived aliphatic and aromatic compounds and terpenoids. Essential oils possess a remarkable array of biological activities, making them valuable for their antioxidant, antimicrobial, anti-inflammatory, and insecticidal activities. These inherent activities highlight their importance in the pharmaceutical, cosmetic, agricultural, and food industries. However, their hydrophobicity, chemical instability, and volatility pose a challenge for many of their applications. Thus, nano-encapsulation has been promoted as a solution to overcome these sets of drawbacks since it can increase the stability, solubility, and efficacy of essential oil-based formulations. Nano-structures containing essential oils have been developed to overcome the high volatility and instability of essential oils with respect to temperature, pH, UV light, etc. The nanometric-sized colloidal solutions for delivery systems are called nano-carriers, which include polymeric-based, lipid-based nanoparticles such as nano-emulsions, liposomes, solid-lipid nanoparticles, and cyclodextrin-based molecular inclusions. The applications of nanomaterials as a carrier agent of essential oil have garnered significant industrial interest, aiming to enhance the shelf life and preservative efficacy of essential oils, even when used at low doses. This study emphasises the nanometric-sized delivery system, which significantly enhances the absorption of essential oil into cells, ultimately improving the effectiveness of various biological activities. Thus, nanoencapsulation is considered a promising and attractive novel technique for the protection of essential oils and enhancement of their bioavailability and biocompatibility, as well as their biological properties. Future research in the nanoencapsulation of an essential oil presents significant opportunities to address its inherent limitations and enhance its utility in pharmaceutical and food industries.

Assessment of the Impact of Foreign Ownership on Environmental Sustainability of Power Plants

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This research seeks to investigate the impact of power plant ownership on the environmental sustainability of power plants. The study aims to clarify the ambiguous evidence regarding the most significant ownership factors influencing environmental performance by analysing three primary variables: the ownership status of plants (foreign or domestic), the nature of the owning entity (private companies, government agencies, or cooperatives), and the US state of operation. We use corporate governance theory and institutional theory to elucidate the divergent behaviours of various owners. We examine the impact of rules in an owner's home nation on their facilities, the varying objectives of various organisational forms, and the effect of local state policies on operations. We aggregated data from many extensive databases for our analysis, such as power plant level data from government sources and commercial databases with ownership information. We accumulated data on thousands of plants over 15 years. Subsequently, we conducted regressions to ascertain the factors influencing environmental performance. We discovered that private firms excel, obtaining over 63% of their energy from renewable sources, whilst cooperatives achieve just about 21%. We observed that foreign-owned facilities perform better with renewable energy sources (about 73% compared to 61% for US-owned facilities); nevertheless, the intriguing aspect is that this phenomenon is not only attributable to foreign ownership. The majority of these international enterprises are privately owned and often establish operations in blue states that possess stringent environmental regulations. For Asian nations examining our data, the takeaway is not to "attract foreign investors," but instead to foster the entry of private enterprises into the energy sector and to implement robust environmental rules. The origin of the funds, whether domestic or international, is irrelevant. What is crucial is the establishment of appropriate ownership structures and the implementation of suitable regulations.

Digital Transformation and Sustainability Strategies of Microenterprises in Western Visayas, Philippines

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Microenterprises in the Philippines face a dynamic landscape where the integration of digitalisation and sustainability practices is becoming increasingly crucial for their long-term viability. This study examines how microenterprises in the Western Visayas region utilise digital transformation and the sustainability strategies they adopt. The research used a descriptive-qualitative approach with a three-phase data collection process, including preliminary data gathering, a survey questionnaire with key informant interviews, and data analysis. The survey was administered to 100 microenterprise respondents from Western Visayas. This study aims to present the key digital transformation strategies and analyse sustainability pathways. The findings reveal that microenterprises in the region widely adopt digital technologies, with social media being the most prevalent. Technologies like social media, financial technology (fintech), e-commerce, and databases are also commonly used. Facebook is the most popular social media platform for business, used by 88% of respondents; Instagram (60%), and YouTube (40%). The study also found a highly positive sentiment toward the usefulness of fintech services. A combined 94% of participants either "Strongly Agree" (60%) or "Agree" (34%) that fintech is useful for managing financial transactions. The perceived usefulness of fintech is attributed to three primary themes: economic and operational efficiency, customer engagement and market insight, and organisational and human capital development. Participants noted that fintech services simplify tasks, save time and money, provide valuable insights, and contribute to personal financial literacy. Despite these advancements, microenterprises face challenges, particularly with internet issues such as high costs and unreliable speeds. It is recommended that policymakers and internet service providers address the issues of high internet costs and unreliable speeds to ensure equitable access and support continued digital growth. The findings reveal that when local businesses integrate technology and digital transformation practices, they can gain a competitive advantage while also contributing to broader national development.

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