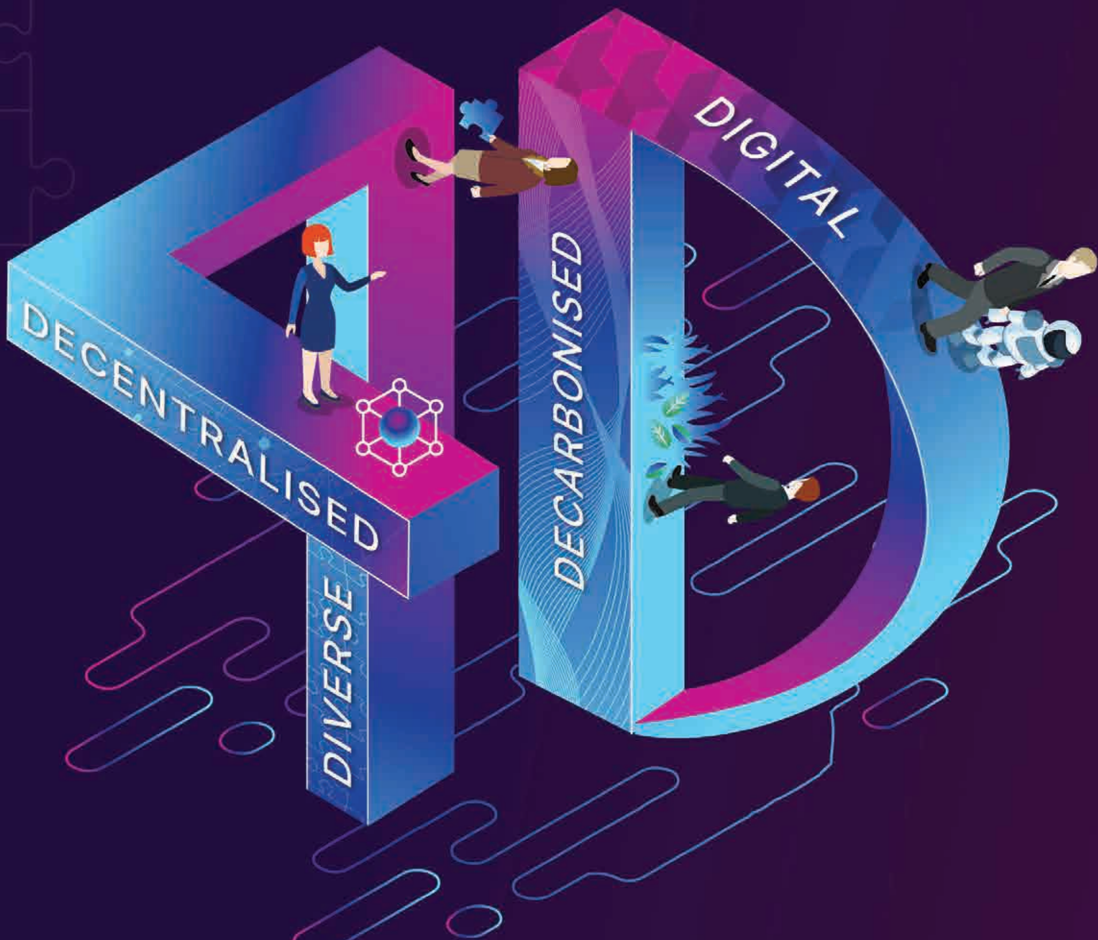
SID

SINGAPORE INSTITUTE OF DIRECTORS



DIRECTORS IN A 4D WORLD

Digital, Decentralised, Decarbonised, Diverse

15 September 2022

SID

SINGAPORE INSTITUTE OF DIRECTORS

MISSION

To foster good governance and ethics in corporate leadership.

VISION

To be the national association advancing the highest level of ethical values, governance, and professional development of directors.

The Singapore Institute of Directors (SID) is the national association for company directors. Formed in 1998, it promotes the professional development of directors and corporate leaders. Its membership comprises directors and other professionals who have an interest in corporate governance. SID provides a comprehensive training curriculum that covers the spectrum of professional developmental needs of directors including thought leadership on corporate governance and directorship issues. It connects the director community via initiatives such as mentoring and networking, curates a one-stop information service on governance-related matters, and provides a range of services for boards. For more information, please visit the website and LinkedIn page.

www.sid.org.sg

www.linkedin.com/company/singapore-institute-of-directors

ABOUT THE CONFERENCE

As borders reopen and economies get back on their feet, organisations on the path of success have to contend with challenges in a disrupted world. Directors steering their organisations toward new opportunities need to make sense of a landscape that was once familiar, but has now been shaped by the lingering global pandemic, evolving geopolitics, shifting social norms and expectations. The pressure is mounting from internal and external stakeholders for organisations to demonstrate their commitment to the environment, society and governance.

CONFERENCE PROGRAMME

8.45am
Registration

9.30am
Opening Remarks

Host:
Mr Justin Ang, MSID
Chair, SID Directors Conference 2022 | Governing Council, Singapore Institute of Directors | Assistant Chief Executive, IMDA

Mr Philip Forrest, AM, FSID
Governing Council, Singapore Institute of Directors | Chairman, Readymix Holdings International

Welcome Address
Ms Wong Su-Yen, FSID
Chair, Singapore Institute of Directors | Chair, Nera Telecommunications

9.50am
Guest-of-Honour's Address
Mr S Iswaran
Minister for Transport and Minister-in-Charge of Trade Relations

10.00am
Keynote Dialogue
Mr Loh Chin Hua, MSID
CEO and Executive Director, Keppel Corporation

Moderator:
Prof Annie Koh, MSID
Professor Emeritus of Finance (Practice), Singapore Management University | Chair, US Prime REIT

10.30am

Plenary Panel 1

Mr Chng Kai Fong
2nd Permanent Secretary, Smart Nation and Digital Government Office | 2nd Permanent Secretary, Ministry of Communications and Information, and Cybersecurity

Dr Marleen Dieleman, MSID
Associate Professor, NUS Business School (Strategy & Family Business)

Moderator:
Ms Cheah Sui Ling
Executive Board Chair, ecoSPIRITS | Independent Board Director & Chair of Audit & Risk Committee, Pathology Asia Holdings

11.00am

Plenary Panel 2

Mr Colin Low, FSID
Global Independent Director & Chairman Audit Risk Management Committee, AET Tankers

Dr Yvonne Gao
Principal Investigator, Centre for Quantum Technologies | Presidential Young Professor, Department of Physics, National University of Singapore

Dr Darian McBain
Chief Sustainability Officer, Monetary Authority of Singapore

Ms Ng Wee Wei
Country Managing Director, Accenture

Moderator:
Mr Till Vestring, FSID
Advisory Partner, Bain & Company | Lead Independent Director, Keppel Corporation

12pm

Lunch

2.00pm

Breakout Track A: Digital & Decentralised | Rooms 334-336

Presented by Singapore Pools

Host:
Ms Poh Mui Hoon FSID
Governing Council, Singapore Institute of Directors

Mr Yeo Teck Guan, MSID
Chief Business Technology Officer, Singapore Pools | Board Member, SPD

Mr David Hardoon, MSID
Managing Director, Aboitiz Data Innovation

Ms Grace Ho, MSID
President, SWAT Mobility | Board Director, SQL View

Ms Tan Bin Ru
CEO (Southeast Asia), OneConnect Financial Technology | Co-Chairwoman, Blockchain Association Singapore

Moderator:
Ms Sonal Patel
Managing Director, Asia Quantcast

Breakout Track B: Decarbonised | Rooms 328-329

Presented by DBS

Host:
Ms Jessica Cheam, MSID
ESG Committee, Singapore Institute of Directors

Mr Helge Muenkel
Chief Sustainability Officer, DBS

Mr Mikkel Larsen
Chief Executive Officer, Climate Impact X

Mr Dennis Lee
Partner, Business, RSM

Mr Praveen Tekchandani
Partner, Climate Change and Sustainability Services, EY | Member, Strategy Advisory Group on ESG, ISO

Ms Yiong Yim Ming
Chief Financial Officer, City Developments Limited

Moderator:
Mr Helge Muenkel
Chief Sustainability Officer, DBS

Breakout Track C: Diverse | Rooms 324-325

Presented by Nasdaq

Host:
Ms Karen Loon, MSID
Governing Council, Singapore Institute of Directors | Independent Director, Bank Pictet & Cie (Asia)

Mr Nicholas Chilton
Head of Board Advisory, South Pacific, Nasdaq

Ms Tina Shah Paikeday
Global Head, Diversity, Equity, and Inclusion Practice, Russell Reynolds

Mr Martjin Schouten
Workforce Transformation Leader, PwC Singapore

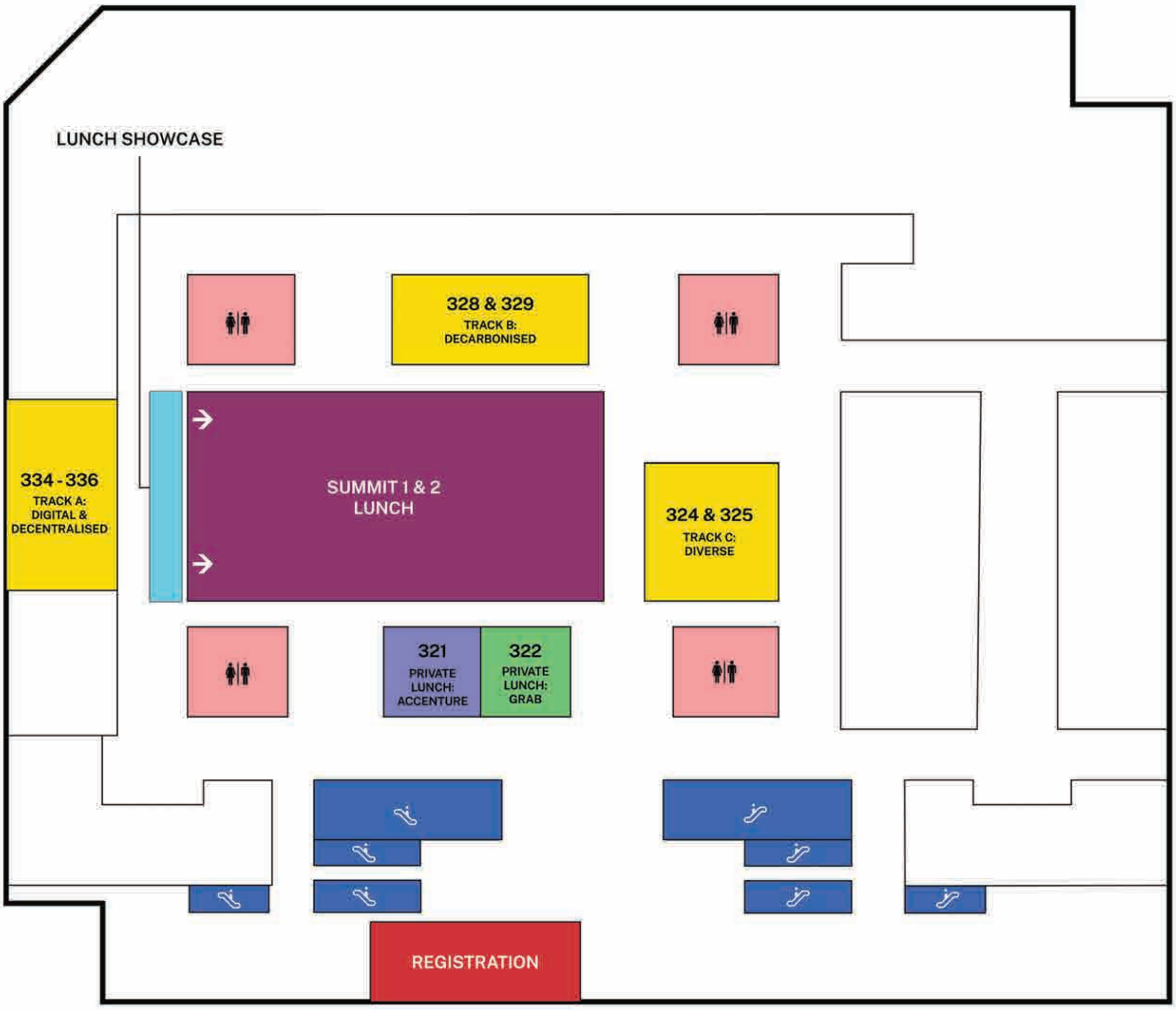
Mr Dean Tong
Head of Group Human Resources, UOB

Moderator:
Ms Junie Foo, FSID
Governing Council, Singapore Institute of Directors | President, Singapore Council of Women's Organisations

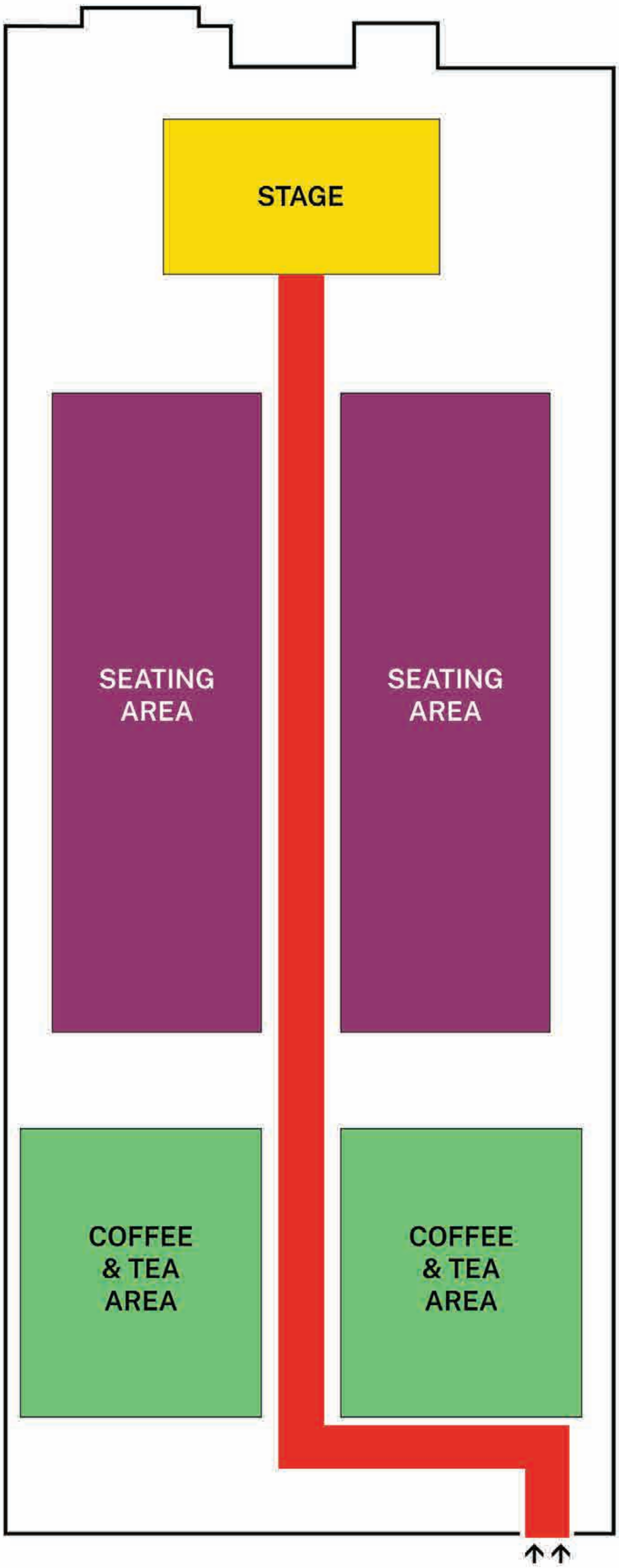
3.30pm
End of Programme

FLOOR PLANS

LEVEL 3 FLOOR PLAN



LEVEL 4 FLOOR PLAN



SPEAKERS' BIOGRAPHIES

GUEST-OF-HONOUR

Mr S Iswaran

Minister-in-charge of Trade Relations

Mr S Iswaran is the Minister for Transport, with responsibilities spanning land, air, and sea transport. Key focus areas include rebuilding the Singapore air hub and the safe reopening of air travel amid the Covid-19 pandemic; strengthening Singapore's maritime hub; and building a reliable, sustainable, and inclusive land transport system. Mr Iswaran is concurrently Minister-in-charge of Trade Relations at the Ministry of Trade and Industry where he oversees various bilateral and multilateral trade negotiations. Mr Iswaran has also held Ministerial positions in the Ministry of Communications and Information, the Ministry of Home Affairs, and the Ministry of Education. Mr Iswaran has been elected as a Member of Parliament in six General Elections since 2 January 1997. Prior to his appointment to Cabinet in 2006, he served on several Government Parliamentary Committees, and as the Deputy Speaker of Parliament from September 2004 to June 2006.

SPEAKERS

Justin Ang, MSID

Chair, SID Directors Conference 2022 | Governing Council, Singapore Institute of Directors | Assistant Chief Executive, IMDA

Justin Ang is Assistant Chief Executive at Infocomm Media Development Authority (IMDA) responsible for Media, Innovation, Communications & Marketing. In this role, he establishes strategic partnerships with key technology and media players as well as government agencies to grow Singapore's infocomm and media ecosystem and capabilities. He is also responsible for developing and implementing strategies to drive innovation and strengthen IMDA's strategic communications positioning. He was previously Deputy Group Chief Commercial Officer at True Corporation in Thailand, and also spent a number of years as Head and Vice President of Product at StarHub as well as Apple's Head of Carrier Strategy and Business Development for SEA & South Asia.

Cheah Sui Ling

Executive Board Chair, ecoSPIRITS | Independent Board Director & Chair of Audit & Risk Committee, Pathology Asia Holdings

Sui Ling is an Operating Partner with Wavemaker Partners, a venture capital firm based in Singapore and Los Angeles that focuses on early stage tech startup investments. She also serves as Executive Board Chair of privately held ESG startup ecoSPIRITS. In addition, she holds board directorships at ParkwayLife REIT, CDL Hospitality REIT, Telechoice International and Pathology Asia Holdings. She is Chair of Audit Committee at ParkwayLife REIT and Pathology Asia Holdings. She has over 20 years of international investment banking and corporate experience focusing on capital raising transactions and cross border M&A for corporate clients. Previously, she was Co-Head of Corporate Finance SEA at BNP Paribas and a senior coverage banker at JP Morgan Investment Banking.

Nicholas Chilton

Head of Board Advisory, South Pacific, Nasdaq

Nicholas Chilton is the Governance Director APAC at Nasdaq, where he delivers board assessments and boardroom training for Nasdaq Governance Solutions. Prior to joining Nasdaq, he served in various adviser roles at both the Commonwealth and NSW State Government levels, most recently as Senior Adviser to the NSW Deputy Premier, delivering high-level political and policy advice to current and former Ministers. Mr Chilton has worked in the communications, infrastructure, regional development, social services and police portfolios, including leading the delivery of many of NSW's largest transport infrastructure projects. He has led policy reforms across various issues, including social housing, road safety and regional telecommunications, and has a keen awareness and interest in public policy issues that are shaping corporate responsibility and social expectations in commerce.

Chng Kai Fong

2nd Permanent Secretary, Smart Nation and Digital Government Office | 2nd Permanent Secretary, Ministry of Communications and Information, and Cybersecurity

Chng Kai Fong was appointed Second Permanent Secretary, Ministry of Communication and Information and Second Permanent Secretary (Cybersecurity), Prime Minister Office on 1 April 2022. He also holds the position of Second Permanent Secretary, Smart Nation and Digital Government Group in the Prime Minister's Office. He was previously the Managing Director of the Singapore Economic Development Board (2017-2021), and served various roles in the Singapore Public Service, including as Principal Private Secretary to the Prime Minister (2014-2017). He currently serves on the boards of DBS Group Holdings and DBS Bank, and the Singapore Symphonia Company Limited. He is also a member of Shell's New Energies Advisory Board, and serves as a member of the Board of Trustees for Singapore University of Technology and Design.

Marleen Dieleman, MSID

Associate Professor at NUS Business School (Strategy & Family Business)

JMarleen Dieleman is associate professor at NUS Business School in Singapore. She holds a Ph.D. from Leiden University in The Netherlands. Marleen teaches and researches on the strategy and governance of family business groups. She published widely on these topics, including books, articles in academic journals, book chapters, cases and reports. Her work is featured regularly in international media and she is a frequent invited speaker. Marleen has worked with various family business groups as a consultant, family meeting facilitator or board member.

Junie Foo, FSID

Governing Council, Singapore Institute of Directors | President, Singapore Council of Women's Organisations

Junie Foo is Chief Executive Officer at MWS (Methodist Welfare Services). A champion of women advancing into senior leadership roles, she views a focus on gender diversity within organisations to be both a recipe for business success and a socially responsible measure. A Co-Founder and Immediate past Chair of BoardAgender, Ms Foo is a former President of Financial Women's Association and has held senior management positions in international banks. She is President of SCWO and Chair of the Singapore Kindness Movement. She also sits on the board of the Singapore Art Museum and is a founding board member of SHE (SG Her Empowerment).

Philip Forrest, AM, FSID
Governing Council, Singapore Institute of Directors | Chairman, Readymix Holdings International

Philip Forrest has lived in the ASEAN region since 1982, and in Singapore since 1991. He is a non-executive director of several (mostly Australia-linked) companies in the region, and sits on the advisory boards of James Cook University Singapore Campus and Australian Alumni Singapore. He has also served on the council of the Singapore Business Federation, the boards of the Australian Chamber of Commerce (former president) and the British Chamber of Commerce, and the council of the Association of Banks in Singapore. He was previously Asia Head for ANZ Bank, with responsibility for the bank's activities in 11 countries from Japan to Indonesia. He also spent 15 years with Citibank in five countries. In June 2022 he was appointed a Member (AM) of the Order of Australia within Australia's honours system.

Yvonne Gao
Principal Investigator, Centre for Quantum Technologies | Presidential Young Professor, Department of Physics, National University of Singapore

Yvonne Gao is a Principal Investigator in the Centre for Quantum Technologies and a Presidential Young Professor in the Department of Physics, National University of Singapore. Her team works on building robust quantum hardware using superconducting microwave circuits. Their devices provide useful avenues to develop novel techniques for quantum information processing as well as explore interesting effects in quantum physics. Dr Gao is a recipient of the Singapore Young Scientist Award, Singapore National Research Foundation Fellowship, and MIT Tech Review's Innovator's Under 35 (Asia-Pacific) Award.

David Hardoon, MSID
Managing Director, Aboitiz Data Innovation

Dr David R Hardoon is the Managing Director of Aboitiz Data Innovation. He wears several other hats within the Aboitiz Group serving as the Group Chief Data and Innovation Officer, Chief Data and AI Officer of Union Bank of the Philippines, and Chief Data Officer of UnionDigital Bank. Concurrently, Dr Hardoon is an external adviser to Singapore's Corrupt Investigation Practices Bureau in the capacity of Senior Adviser for Artificial Intelligence and to Singapore's Central Provident Fund Board in the capacity of Senior Adviser for Data Science. Prior to his current roles, Dr Hardoon was first appointed Chief Data Officer and Head of Data Analytics Group at Monetary Authority of Singapore (MAS), reporting to the agency Deputy Managing Director for Financial Supervision and subsequently Special Adviser for Artificial Intelligence reporting to Deputy Managing Director for Markets and Development. In these roles, he led the development of the AI strategy both for MAS and Singapore's financial sector as well as driving efforts in promoting open cross-border data flows.

Grace Ho, MSID
President, SWAT Mobility | Board Director, SQL View

Grace Ho is listed in the Singapore 100 Women in Tech 2021, in recognition for her leadership, contributions and advocacy in the technology industry. As President of SWAT Mobility, she is responsible for driving revenue growth, market expansion and developing talent and capabilities in the Singapore-based startup. She leads alongside the co-founders to execute on the firm's mission to inspire communities to move more with less and contribute to a sustainable tomorrow. She has more than 20 years of international experience in the technology sector, having helmed leadership roles in Microsoft, Motorola Solutions, SAP and IBM. Ms Ho serves as independent board member and in advisory roles at SQL View, NTUC Link, NTUC Income, National Library Board of Singapore, and 8VI Holdings Limited (a Singapore-based FinEduTech startup). She is a member of the Young Presidents Organization, and an elected executive committee member of the Singapore Computer Society.

Annie Koh, MSID
Professor Emeritus of Finance (Practice), Singapore Management University | Chair, US Prime REIT

Annie Koh is Professor Emeritus of Finance (Practice) at Singapore Management University's Lee Kong Chian School of Business. She is appointed Chairman of Prime US REIT, and is a member of the World Economic Forum Global Future Council on New Agenda for Work, Wages and Job Creation. Prof Koh chairs the supervisory committee of the Monetary Authority of Singapore's Asian Bond Fund 2, and serves on the Customs Advisory Council and HR Transformation Advisory Panel, and the boards of AMTD International, PBA Group, Prudential Singapore and Yoma Strategic. She was awarded the Singapore Public Administration Bronze and Silver medals in 2010 and 2016 respectively and Adult Education Prism Award in 2017.

Mikkel Larsen
Chief Executive Officer, Climate Impact X

Mikkel Larsen is the Chief Executive Officer of Climate Impact X (CIX), a global marketplace and exchange for quality carbon credits based in Singapore. He is responsible for developing and executing CIX's vision to scale the carbon markets through transparency, integrity and quality; and bring to market the next wave of impactful carbon sequestration solutions. Mikkel was one of the early pioneers of the international Taskforce on Nature-related Financial Disclosures (TNFD) and of Singapore's Emerging Stronger Taskforce, a public-private partnership to develop a more carbon-conscious society. Prior to his current role, he was the Group Chief Sustainability Officer and chair of the Sustainability Council at DBS Bank. He has also held leadership positions at UBS, Citigroup and KPMG in Europe. Mikkel is involved in numerous international and Singaporean sustainability-related councils and committees. These include the Integrity Council for the Voluntary Carbon Market; World Business Council for Sustainable Development (WBCSD) and Natural Climate Solutions Alliance (NCS Alliance); and World Wildlife Fund Advisory Council (Singapore), amongst others.

Dennis Lee

Partner, Business Consulting Industry Lead - Real Estate & Construction, RSM

Dennis Lee is a Partner in RSM's business consulting division. He has extensive experience in process improvement, value creation and regulatory advisory projects. Serving clients across a broad range of industries such as real estate, financial services, industry manufacturing, consumer products as well as social enterprises, he has assisted numerous listed corporations transform by adopting leading sustainability management strategies relating to ESG including climate-related risks and opportunities. Mr Lee is also the Industry Lead of the real estate and construction practice at RSM. He has led various projects to evaluate risk and provide strategic advisory for real estate and construction businesses, helping them achieve growth and implement expansion plans successfully.

Loh Chin Hua, MSID

CEO and Executive Director, Keppel Corporation

Loh Chin Hua is the Chief Executive Officer and Executive Director of Keppel Corporation. He was appointed as Chief Executive Officer in January 2014, after having served two years as Chief Financial Officer of the Company. He is also Chairman of several companies within the Keppel Group. Mr Loh joined the Keppel Group in 2002 and founded Alpha Investment Partners, the Group's private fund management arm, where he served as Managing Director for 10 years. Before this, he was the Managing Director at Prudential Investment Inc, leading its Asian real estate fund management business.

Colin Low, FSID

Global Independent Director & Chairman Audit Risk Management Committee, AET Tankers

Colin Low is a global independent director and Chairman of the Audit and Risk Management Committee, AET Tankers, a maritime petroleum tanker leasing and energy logistics group. He is also a board director of private equity firm BLG Capital Advisors Asia. Mr Low joined SGX-listed Jason Marine Group in 2021, as an independent non-executive director and Chairman of the Remuneration Committee. In January 2022, he was appointed Senior Advisory Board Member of the Diligent Institute, a global corporate governance and think tank of the Diligent Corporation. He is a certified Climate Change Leader at the Diligent Institute.

Darian McBain
Chief Sustainability Officer, Monetary Authority of Singapore

Darian McBain has more than 20 years of deep experience in sustainability roles spanning across various sectors. Prior to this, she was Global Director of Corporate Affairs and Sustainability in Thai Union Group, a leading global seafood supplier. She was named as a United Nations Sustainable Development Goals Pioneer for a Sustainable Ocean Economy in 2021, and one of *Fast Company*'s Most Creative People in Business 2020. Her previous work includes serving as the Sustainable Procurement Lead for the UK's National Health Service, advising the United Nations, working with WWF on palm oil and supply risk analysis, and heading her own strategy and sustainability consultancy.

Helge Muenkel
Chief Sustainability Officer, DBS

Helge Muenkel is the Chief Sustainability Officer at DBS. He is responsible for developing DBS' overarching sustainability framework and driving ESG initiatives across the bank. He also chairs the DBS Sustainability Council, which comprises senior leaders across business and support units. Prior to joining DBS, Helge was Head of Asia Pacific, Sustainable Finance and Global Capital Markets at ING, where he worked for 10 years. Before that, he spent more than 12 years in various roles at Deutsche Bank AG and UniCredit Group, based in different cities across Europe, the US and Asia Pacific. He also represents DBS in several global and regional working groups such as the World Business Council for Sustainable Development, the Industry Advisory Panel of the ASEAN Joint Sustainable Finance Working Group and the MAS-convened Green Finance Industry Taskforce.

Ng Wee Wei
Country Managing Director, Accenture

Ng Wee Wei joined Accenture in 1995 and became a Managing Director in 2007. For over 25 years, she has been responsible for delivering large-scale IT initiatives across many government functions and ministries – supporting their drive to innovate and improve public service delivery through digitalisation. Ms Ng's current role involves advising government leaders on critical steps that need to be taken to govern in the New Economy. Her areas of expertise include Government-as-a-Platform initiatives, digital citizen services and future of work, with a focus on the shifting role of government and human-machine interaction.

Tina Shah Paikeday

Global Head, Diversity, Equity, and Inclusion Practice, Russell Reynolds

Tina Shah Paikeday is the Global Head of the Diversity, Equity & Inclusion (DEI) capability at Russell Reynolds Associates. Her recent work has included DEI search and consulting including recruiting diverse board directors and advising on DEI governance. Ms Paikeday has 25 years of industry experience. She started her career at McKinsey & Company and joined Russell Reynolds Associates from the Talent Advisory Board, a boutique research and management consulting firm she founded. She received a BS in commerce, with honours, from the University of Virginia and an MBA from the Stanford Graduate School of Business. She is currently researching the path to CEO succession for the under-represented.

Sonal Patel

Managing Director, Asia Quantcast

Sonal Patel has over 20 years of digital disruption experience, specifically in advertising technology in Europe, Middle East and Africa as well as Asia Pacific markets. With her years of experience in the advertising and media industry, Ms Patel was previously president of programmatic services and product at Dentsu Aegis Network Asia Pacific. Prior to that, she was managing director and vice president at AppNexus, board director and treasurer at IAB Southeast Asia and India, and adviser at Carousell. She has held senior positions at Google, Twitter, Salesforce, and Yahoo and currently is Managing Director for Asia at Quantcast. Ms Patel is also a co-founder of VBuzzAd, an advertising strategy company in Vietnam. She was nominated for the ExchangeWires ad-tech personality of the year in 2019 and 2021.

Martjin Schouten

Workforce Transformation Leader, PwC Singapore

Martijn Schouten is a Partner within PwC's Management Consulting practice and is based in Singapore since 2012. He leads the People & Organisation Consulting business across Southeast Asia and brings over 20 years of consulting experience with subject matter expertise in workforce transformation, future of work, transformational change, organisation and job (re)design, leadership development and HR consulting. He gained his experience from being involved in large-scale and complex business transformation programs, working with clients in financial services, public sector and consumer products industry. Having worked in Asia, the Middle East, Africa and Europe, Mr Schouten has had international exposure from working in a wide variety of cultures. He is DISC and Barrett CVA accredited and a certified IECL executive coach. He leads the Culture, Change & Leadership capability across PwC's global footprint.

Tan Bin Ru

CEO (Southeast Asia), OneConnect Financial Technology | Co-Chairwoman, Blockchain Association Singapore

Tan Bin Ru is the CEO (Southeast Asia) of OneConnect Financial Technology, a technology platform for financial institutions listed in New York. OneConnect is an associate company of Ping An Group. Ms Tan is responsible for expanding OneConnect's fintech solutions outside of China. She is also a Co-Chair of Blockchain Association Singapore, and has over 20 years of experience in driving successful sales strategies and operational improvements at MNCs and startups. At Microsoft, she was the Regional Sales Director for One Commercial Partner and small, mid-market corporate customers for Southeast Asia. She also worked at Hewlett Packard for 10 years in the areas of sales strategy, alliance management, business planning, worldwide operations and strategic management. In 2019, she was recognised as one of the Top 5 Women in FinTech. She was also cited in the Singapore 100 Women in Tech List, 2020.

Praveen Tekchandani

Partner, Climate Change and Sustainability Services, EY | Member, Strategy Advisory Group on ESG, ISO

Praveen Tekchandani is a Climate Change and Sustainability Services Partner at Ernst & Young LLP providing sustainability advisory and assurance services. He has worked with corporates, government agencies and multilateral development banks on areas such as climate change and net zero strategy, carbon tax assessments, sustainability advisory, green finance and the Task Force on Climate-Related Financial Disclosures framework. In 2018, Mr Tekchandani received the Enterprise Singapore Merit Award for his significant contributions to the Singapore Standardisation Programme in the field of climate change. He is also a member of the national GHG and Product Life Cycle work group at Enterprise Singapore and sits on the carbon pricing expert panel for appeals at Singapore's Ministry of Sustainability and the Environment.

Dean Tong

Head of Group Human Resources, UOB

Dean Tong joined UOB in August 2018 and is the Head of Group Human Resources. He is responsible for leading the people and organisation transformation strategy across the group. He has more than 24 years of consultancy experience, specialising in talent and leadership management across Asia, Europe and North America. Prior to joining UOB, he headed Boston Consulting Group (BCG)'s People and Organisation practice in Southeast Asia. He was also an executive member of BCG's global People and Organisation practice. Mr Tong has vast experience consulting across multiple industries including financial services, industrial goods, consumer goods and telecommunications. He played an instrumental role in the creation of an award-winning low-cost banking model in Malaysia, and a number of multi-finance businesses in Indonesia.

Till Vestring, FSID

Advisory Partner, Bain & Company | Lead Independent Director, Keppel Corporation

Till Vestring is a senior adviser and non-executive director with extensive Asia experience. He is Lead Independent Director at Keppel Corporation and an Advisory Partner with Bain & Company in Singapore as well as a director at Advanced Micro Foundry and Delaware International. He is also lead investor in a sustainable tourism business in Cambodia, an active angel investor and on the board of venture philanthropy Leap201. He has spent the last 25 years with Bain in Asia serving as Bain Southeast Asia's managing partner from 2007 to 2013 and head of Bain's Asia Pacific industrial practice from 2003 to 2007.

Wong Su-Yen, FSID

Chair, Singapore Institute of Directors | Chair, Nera Telecommunications

Wong Su-Yen is an experienced Independent Director who has served on the boards of several public, private, and not-for-profit organisations in Australia, Asia and the US. She is Chairperson, Nera Telecommunications, Lead Independent Director at Yoma Strategic Holdings, and a director at First Resources and Kemin Industries. Ms Wong chairs or is a member of various Nominating, Remuneration and Audit Committees and she brings experience in business strategy, human capital development and organisation transformation. She is an Adjunct Professor of Leadership at the National University of Singapore and an active member of the Young Presidents' Organization and WomenCorporateDirectors. She is the only Asia-based individual named to the Financial Times' Agenda Directory of Top 100 Board Candidates with Pay-Setting Skills.

Yeo Teck Guan, MSID

Chief Business Technology Officer, Singapore Pools | Board Member, SPD

Yeo Teck Guan is the Chief Business Technology Officer of Singapore Pools. He spearheads all of the organisation's information technology initiatives and drives its digital acumen by collaborating with industry leaders to test out disruptive technologies. With over 20 years of senior leadership experience in the IT industry, he lends his expertise and knowledge in the business and professional community. He serves on the SPD Board as an independent director and is a Technology Adviser to the Digital Innovation Committee of NVPC. Prior to joining Singapore Pools, Mr Yeo was the Regional CIO of Goodyear Orient Company and was named by CIO Asia Magazine in the CIO50 honoree list in 2020, as one of the top 50 senior technology executives driving innovation and influencing rapid change in Asia Pacific. He was also recognised as a transformative technology leader by the Global CIO Forum Committee and was cited in the World CIO 200 Awards in the South East Asia Edition 2021.

Yiong Yim Ming

Chief Financial Officer, City Developments Limited

Yiong Yim Ming was appointed Chief Financial Officer at City Developments Limited (CDL) in 2016 and redesignated to Group Chief Financial Officer two years later. An executive of the company since 2007, she has extensive knowledge on CDL Group's financial and operation matters, both domestically and overseas, covering property development, investment properties and hotels. She has strong technical competencies, specialising in the real estate sector, harnessed through 12 years of audit experience. Prior to joining CDL, she served for 10 years with KPMG Singapore and two years with Ernst & Young Singapore. Ms Yiong is Vice President of the Institute of Singapore Chartered Accountants and a Member of the Board of Trustees for the Singapore University of Social Sciences. She is also a member of the United Nations Global Compact's CFO Taskforce for the UN Sustainable Development Goals.

THOUGHT LEADERSHIP

SID Directors Conference 2022

DIRECTORS IN A 4D WORLD

Digital, Decentralised, Decarbonised & Diverse

Navigating Greenwashing in ESG

By Elsa Chen, Sophie Lim and Daryl Xu, Allen & Gledhill LLP

Greenwashing refers to the process of creating a false or misleading impression of the degree to which a company's products, or the company, are environmentally sustainable. As companies globally leverage on their environmental, social and governance (ESG) credentials to attract consumers, partners and investors, there is growing concern over the accuracy of such ESG claims.

Greenwashing has come under the attention of the Competition and Consumer Commission of Singapore (CCCS). In 2022, the CCCS awarded a grant to a team of researchers to investigate greenwashing in Singapore, focusing on e-commerce websites. The research aims to "inform policies regarding advertisement and consumer protection so that companies can avoid greenwashing and consumers will less likely fall prey to greenwashing", according to the CCCS.

Greenwashing is of particular concern for companies required to make ESG-related disclosures. The Singapore Exchange (SGX) is incrementally requiring publicly-listed companies to provide climate reporting on a "comply or explain" basis in their sustainability reports for the financial year commencing between 1 January 2022 and 31 December 2022, with some sectors required to make mandatory disclosures thereafter. The Accounting and Corporate Regulatory Authority and Singapore Exchange Regulation have established the Sustainability Reporting Advisory Committee to help develop a roadmap for wider implementation of sustainability reporting for Singapore-incorporated companies, beyond SGX-listed companies.

Greenwashing can inflict severe legal and reputational consequences on companies.

The legal risks embedded in greenwashing

Greenwashing can occur, for example, when a company engages in any of the following:

- **Making claims that are factually inaccurate**
- **Omitting negative environmental information**
- **Making claims that are in fact standard features of a product**
- **Making environmental claims where net impact is in fact negative**
- **Using broad terms without further substantiation**
- **Using icons, symbols and logos that are associated with sustainability, without substantiation**

In Singapore, greenwashing can infringe existing laws, a summary of which is set out below.

Potential liabilities associated with the legal risks of greenwashing

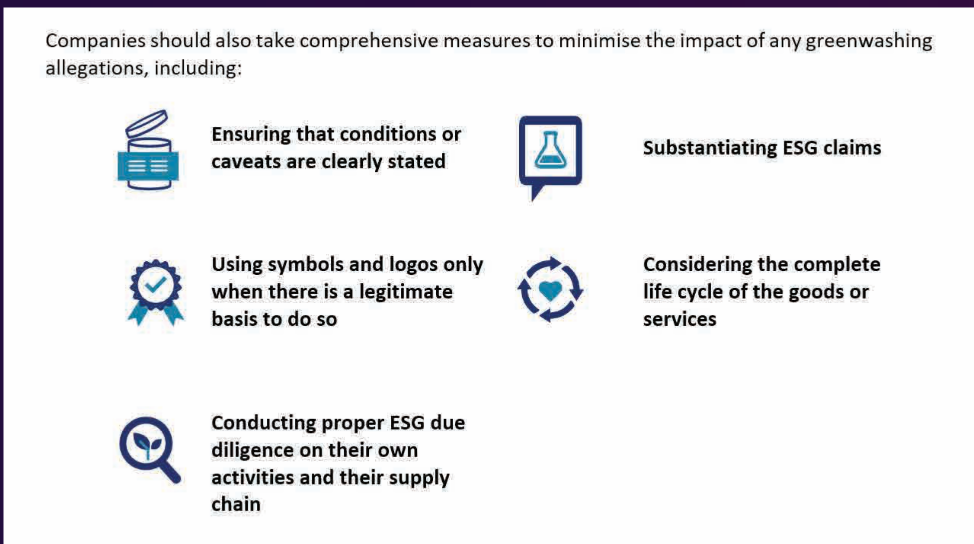
Relevant laws	Legal implications of greenwashing	Penalties / liabilities
Consumer Protection (Fair Trading) Act 2003 (CPFTA)	Greenwashing in respect of consumer transactions may risk contravening Section 4 of the CPFTA as an "unfair practice". The CPFTA was expanded in 2009 to cover "financial products" and "financial services" regulated by the Monetary Authority of Singapore (MAS), and under the Commodity Trading Act 1992. CPFTA therefore applies to consumer products and services, ESG-themed investment vehicles such as equity funds and bonds to consumers regulated by the Securities and Futures Act 2001 (SFA), and green-branded insurance products regulated under the Insurance Act 1966.	CCCS has powers to launch an investigation and require documents from the supplier. Consumers may also commence action in court against the supplier for the unfair practice. The court may, on the application of CCCS, declare that the supplier is engaging in an unfair practice and grant an injunction restraining the supplier from such unfair practice. This does not apply to any unfair practice relating to MAS-regulated financial products or services.
SFA	Amongst other provisions under the SFA, Section 199 of the SFA provides that persons must not make statements that are false or misleading in a material particular and that are likely to induce other persons to subscribe for, induce the sale or purchase of, or have the effect of raising, lowering, maintaining or stabilising the market price of securities, securities-based derivatives contracts or units in a collective investment scheme, without care as to the truth of the statement, or with actual or constructive knowledge that the statements are false or misleading. This can apply to ESG funds, ESG fund managers, and also publicly-listed companies in Singapore.	Contravening persons may incur criminal liability punishable by fines not exceeding S$250,000 or imprisonment for a term not exceeding 7 years or both, be subject to civil penalties, and may also be subject to civil liability to pay compensation to any person who has suffered loss.
Directors' Duties	Greenwashing by companies could expose individual directors to risks of infringement of directors' duties under common law or the Companies Act 1967. Under Section 157 of the Companies Act 1967, directors are under a duty to act honestly and use reasonable diligence in the discharge of their duties, which may be breached if the company is found to have engaged in greenwashing and in breach of relevant laws.	Directors may be liable to the company for loss and damage suffered by the company as a result of breach. Aggrieved shareholders can also seek to commence derivative claims on behalf of the company against the directors and officers of the company for breaches of their duties. A director who has committed a breach may also be subject to criminal liability, and can be fined up to S$5,000 or imprisoned for up to 12 months.

Misrepresentation	Claims in misrepresentation may arise where a person innocently, negligently or fraudulently makes a false statement of fact (which can in certain circumstances include omissions to disclose information), which induces another party to enter into a contract.	The contract may be set aside. Damages may be awarded under Section 2(1) of the Misrepresentation Act 1967 for negligent misrepresentation, or for the tort of deceit for fraudulent misrepresentation.

Further, where a company is listed on the SGX, the directors must additionally consider the relevant disclosure requirements to be complied with under the SGX-ST Listing Manual, in the event legal proceedings are instituted against the company by a regulatory authority or a third-party claimant for alleged greenwashing. One such consideration would be whether the information constitutes material information that requires immediate disclosure by the listed company.

Safeguards against greenwashing allegations

To avoid making ambiguous or false statements, companies seeking to publicise ESG efforts should keep abreast of, and align themselves with, the relevant regulations and standards. By way of example, companies could consider taking reference from the two standards proposed by the International Sustainability Standards Board in March 2022, on general sustainability-related and climate-related disclosure requirements; and be guided at a future date, by the prospective green taxonomy proposed by the Green Finance Industry Taskforce that would establish clear criteria for determining whether activities are environmentally sustainable.



Managing the legal and reputational impact of greenwashing crises

It would also be prudent for companies to conduct periodic stress testing with their legal advisers of their internal procedures, decision-making processes and record keeping with respect to ESG-related claims to future proof against greenwashing allegations. If allegations of greenwashing do arise, companies should consider the legal implications of the allegations with their legal advisers, including thoroughly investigating whether such allegations are valid and considering how to ringfence any adverse reputational impact, such as publicising the appropriate substantiation of their ESG credentials.

The ability to act fast to rectify any perception of ESG-related gaps will be critical in preserving the credibility of a company.

Elsa Chen and Sophie Lim are Co-Heads of the Allen & Gledhill ESG & Public Policy Practice, and Daryl Xu is a Partner in the Allen & Gledhill Litigation & Dispute Resolution Department.

Linking Decarbonisation and Job Sustainability for SMEs

By Roger Loo, Josephine Tham and Dewi Fitriasari, BDO

Investors and regulators are increasingly putting pressure on businesses to demonstrate progress in climate change mitigation. In Singapore, the need to disclose climate change mitigation efforts is now mandatory for Singapore listed companies, starting with the financial industry, agriculture, food, and forest products industry, energy industry, materials and buildings industry, and transportation industry. Mandatory climate-related disclosures are likely to be followed up by regulations on decarbonisation.

Decarbonisation entails financial and non-financial investments, from changing business processes, to acquiring new equipment and infrastructure, and ensuring appropriate skills training and manpower allocation. Beyond regulations, the business case justification for these investments can be daunting, even overwhelming, for small and medium enterprises (SMEs) who often have restrictions in funding and resources.

There are growing concerns on how SMEs will embrace decarbonisation efforts, especially when the immediate expansion of market share is not in the horizon. Decarbonisation is more than just adopting green initiatives. Additional investments for changes are needed, most importantly, focusing on manpower allocation and reskilling/upskilling efforts. In the long term, decarbonisation can lead to cost reductions even after accounting for losses in entering greener business practices.

Climate risks

Decarbonisation is about reducing carbon dioxide emissions arising from human activity, with the eventual goal of reducing or eliminating emissions. In practice, getting to net zero emissions requires shifting from fossil fuels to alternative low-carbon energy sources. The 2015 Paris Agreement set an ambition to limit global warming to 1.5°C, in part by pursuing net carbon neutrality by 2050. The substantial reduction of global greenhouse gas emissions (including carbon dioxide) will limit the increase of global temperatures.

How can SMEs start on their decarbonisation journey?

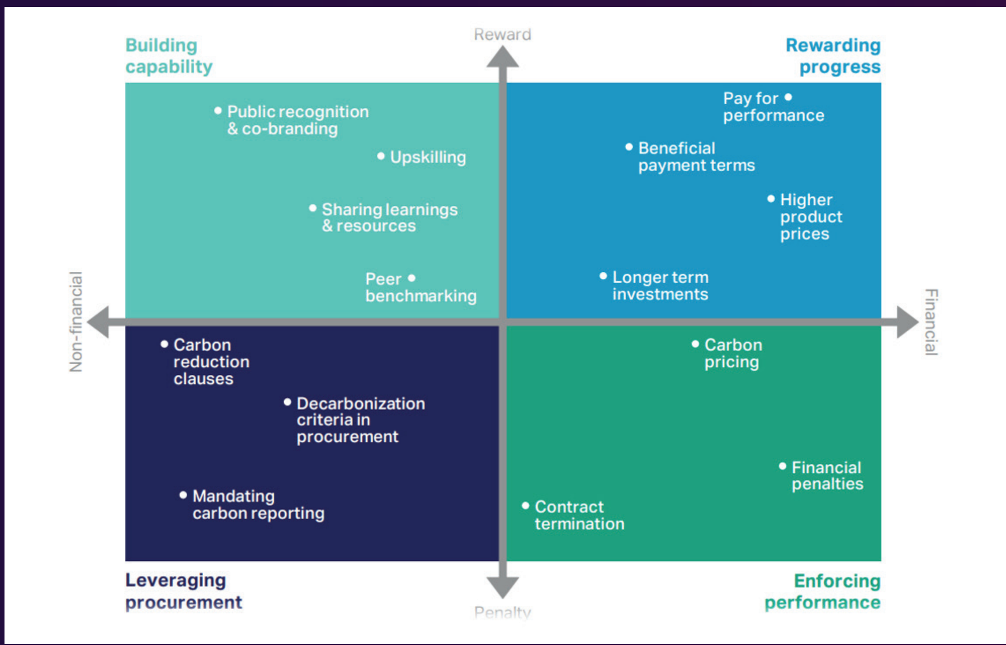
When it comes to decarbonisation along the supply chain, major challenges loom. There are suppliers within the supply chain that have yet to make preparations to achieve decarbonisation. Reasons range from the lack of expertise to shortage of resources and budget constraints. Potential solutions include seeking support from training courses offered by regulators and/or third parties, or engaging external consultants. Local SMEs have a wide range of resources to tap on but unless the management and board of directors are driving the agenda, it will be an uphill task.

Decarbonisation efforts can incur costs that SMEs may not be able to afford or incur as a business routine and regular process. So, should the road to net zero be seen as one that eats into profits? The answer is no. The view of decarbonisation as a cost-incurring project for SMEs should change. Integrating decarbonisation can go beyond rising cost, and lead to supporting human capital development in the form of retaining and upskilling employees.

Beyond cost

When a larger company with SMEs as suppliers/vendors embraces sustainability in supply chain, there will be pressures for the related SMEs to start integrating sustainability. When the larger company is seeking into decarbonising its supply chain, SMEs should start on their decarbonisation journey. See box, "Different Prescriptive Paths of Decarbonising Supply Chain".]

Different Prescriptive Paths of Decarbonising Supply Chain

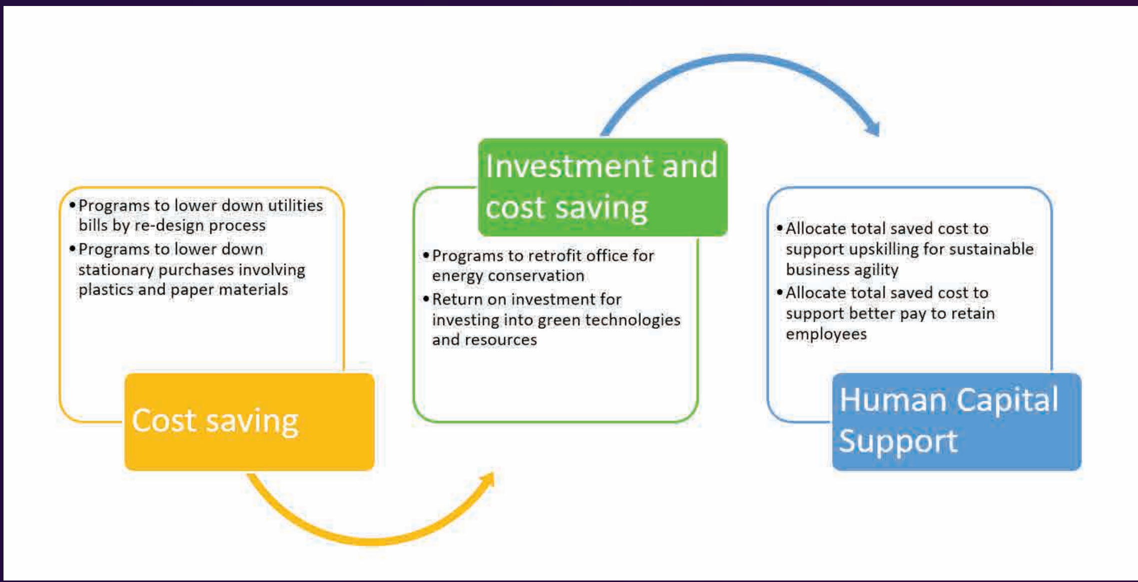


Source: World Business Council for Sustainable Development

As illustrated by the World Business Council for Sustainable Development, there are four paths to think prescriptively about how to influence SMEs to activate their decarbonisation within their roles in supply chain. Leveraging procurement entails the use of carbon clauses, decarbonisation criteria and mandatory carbon reporting.

Enforcing performance covers "punishment" ways as it includes termination of contracts, and penalties. More "rewarding" ways are to provide incentives from building capability by upskilling, public recognition, to real financial related rewards such as longer-term investments and beneficial payment terms. Depending on how far a SME tied their business to a larger company, the path that SME will feel pressurise will be different too. What if the prescriptive pressure is absent although SMEs are suppliers of, for example, multinational companies with pressures to integrate decarbonisation? In many cases, SMEs will be left to scramble into the reasons for them to integrate decarbonisation as the country where they are in is committed to it. As stated before, in the context of financial performance, adding costs to perform decarbonisation even in initial level is not an idea that a SME will entertain easily. Thinking beyond cost addition could be the way to discover the business case for decarbonisation. This is not impossible.

Take energy conservation as an example. Conserving electricity by changing our ways in operating such as setting timer in our stand-alone air-conditioning in each room is a possible undertaking for SME in any level. Even when an investment is needed, cost saving remains a possibility. For example, by upgrading into a 5-ticks air-conditioning for comparable to household type, the National Environment Agency of Singapore estimates about S$263 saving of utility bill. The cost saved can cover other areas important for SMEs to remain agile in their business, and in developing their human capital and retaining talents. The following picture depicts the potential relation between cost saving, investment and human capital support.



Decarbonisation is not always about adding costs. It could start as cost saving by pure cost saving efforts or by our investment that can lead to cost saving. Beyond cost, it can assist to cover the costs to support efforts for upskilling and retaining employees.

Roger Loo is Executive Director, Josephine Tham is Director and Dewi Fitriasari is Senior Manager, BDO Management Consultant

DIRECTORS IN A 4D WORLD

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To DAO or Not to DAO

By Chia Hock Lai, Co-Chairman, Blockchain Association Singapore

In 2021, one of the 13 copies of the Official Edition of the United States Constitution was on auction at Sotheby's auction house. A group called the ConstitutionDAO was quickly formed as a decentralised autonomous organisation (DAO) with the sole objective of purchasing the Constitution. ConstitutionDAO's crowdfunding campaign took in more than US$40 million (S$56 million) in less than two weeks.

What is a DAO and how was it able to raise so much money in such a short time?

DAO 101

A DAO is a community-led entity with no central authority. It is fully autonomous and transparent by relying on smart contracts to lay the foundational rules, execute the agreed upon decisions, and at any point, proposals, voting, and even the very code itself can be publicly audited. In short, a DAO is governed entirely by its individual members who collectively make critical decisions.

DAO usually involves fundraising through the issuance of tokens to fill the DAO treasury. In return for their fiat, token holders are given certain voting rights. At this point, the DAO's code is deployed into production and can only be changed through member voting.

The beauty of DAO is the alignment of incentives. That is, it is in the individual's best interest to be forthright in their voting and only to approve proposals that serve the best interest of the DAO's objective itself.

Types of DAO

There are several types of DAO.

- **Special Purpose DAOs** are formed for a specific purpose such as the purchase of the US Constitution by the ConstitutionDAO. UkraineDAO is another example and was formed shortly after Russia started the war in Ukraine, as a form of NFT-based crypto contribution to Ukraine's war efforts. A total of US$8 million was raised for UkraineDAO.

- **Collector DAOs** pool together money to purchase and co-own valuable assets. For example, PleasrDAO is a digital art acquisition collective, purchasing everything from Edward Snowden's first NFT to the only extant copy of the Wu-Tang Clan's album "Once Upon A Time in Shaolin". Meanwhile, Flamingo DAO is an NFT-focused DAO that aims to explore emerging investment opportunities for ownable, blockchain-based assets.

- **Investment DAOs**, also called Venture DAOs, allow capital pooling to democratise investing. Members can jointly make decisions on how the investments will be spent. Profits generated by the investments can be distributed by the DAO in accordance with the rules adopted by the members of the DAO. BitDAO is an example of an Investment DAO and is one of the world's largest DAOs supported by Peter Thiel, Founders Fund, Pantera, Bybit, and more. BitDAO invests in a broad range of projects including DeFi, DAOs, NFTs and gaming.

- **Protocol DAOs** are one of the most common DAO types, focused on governance of decentralised protocols. For example, MakerDAO is one of the original DAOs, which garnered huge popularity in the DeFi market, by using smart contracts to help users borrow and lend cryptocurrencies. MakerDAO utilises the MKR governance tokens for holders to express their vote on different modifications in the Maker Protocol such as which cryptocurrencies to include as collaterals and their collateralisation ratios.

- **Social DAOs** are DAOs with a strong focus on building a decentralised social network on any common interests such as religion or sports. For example, Friends with Benefits, or FWB, is a community of "creators, rebels, artists, thinkers and doers" that aims to shape the future of content creation in the Web3 space. FWB provides a platform to enable networking with other creative professionals who work in similar roles or industries, helping members to advance their careers. To join FWB, you need to fill out an application and questionnaire involving questions about your professional and life experiences and what you can contribute to the community. The FWB community then votes you into the DAO, if they like what they see.

Advantages of DAO

There are several advantages of a DAOs.

- **Less bureaucracy.**
  One of the biggest advantages of DAOs is their flat structure, in contrast to traditional organisations with a top-down hierarchical structure. This allows decisions to be made and executed speedily, without having to go through layers of bureaucracy.

- **Decentralised democracy.**
  Another advantage of DAOs is decentralised democracy or being autonomous where every member is independent and free from centralised intervention. Any member can submit ideas and proposals for improvements or changes.

- **Transparency.**
  Transparency is another advantage of DAOs, which could lead to enhanced accountability, whereby everyone can see any new proposals and ideas. Everyone can participate in the decision making through voting based on the governance tokens they have. Every activity of DAOs is documented on the blockchain with immutability, thereby allowing traceability of transactions to their origins

- **Automation.**
  Finally, automation is another advantage of DAOs. Using smart contracts, whereby a set of predefined rules and policies are written into code, DAOs take care of implementing decisions made without any or little intervention, and devoid of human emotions.

Challenges

Despite the advantages, DAOs suffer from a few challenges.

- **Code vulnerability.**
  DAOs are highly dependent on smart contract codes. But the security of a DAO is only as strong as its code. Smart Contracts deployed on blockchains have been shown to include multiple vulnerabilities, which can be maliciously exploited by users. For example, In June 2016, users exploited a smart contract code vulnerability in The DAO, one of the largest investment DAOs on the Ethereum network, to enable them to siphon off one-third of The DAO's funds.

- **Regulatory and legal implications.**
  The legal framework around DAOs is still in a developing stage, making it difficult to ascertain the rights and liabilities of DAOs. Potentially DAOs could be classified as "General Partnership" i.e. all members are considered partners and are each indefinitely liable for the partnership's liabilities including its debt. In addition, DAOs are not legal entities, posing operational challenges such as hiring and paying taxes. Having said that, the state of Wyoming has become the first US state to legally recognise DAOs and grant them the same rights as limited liability companies since 1 July 2021. Recently, the Republic of the Marshall Islands passed legislation enabling DAOs to register as legal entities.

- **Accountability.**
  In general, DAOs are openly accessible, allowing pseudonymous participation; anyone can start or participate in DAOs. However, this simple accessibility is a double-edged sword as it is challenging to enforce accountability to parties with pseudonymous identities. For example, the token price of Frog Nation, a collective of multi-chain DeFi projects, crashed on the revelation that its chief financial officer was a co-founder of the now defunct Canadian crypto exchange QuadrigaCX, which collapsed in 2019 causing at least US$190 million in investor losses.

- **Speed.**
  While a community-based voting is a boon of DAOs, it could also be a bane especially in the case of contingency scenarios such as resolving a code vulnerability. Any changes to a DAO can only be implemented through getting consensus of all members of the DAO, which takes time.

- **Governance attack.**
  While DAOs democratise decision-making, malicious users can also accumulate major shares of DAO tokens and gain higher voting power. This would then allow them to propose and vote for unreasonable proposals. For example, Beanstalk, a stablecoin protocol, suffered from a governance attack when an attacker took out a flash loan to acquire enough of Beanstalk's governance token to instantly pass a malicious proposal. The proposal allowed them to seize US$182 million of Beanstalk's reserves.

The future of DAO

As Sotheby's does not allow DAOs to bid directly and only accept fiat currencies, ConstitutionDAO had to team up with a crypto exchange to convert its ether to dollars, as well as a non-profit that made bids on the DAO's behalf. A corporation was also formed to help facilitate the transfer. ConstitutionDAO eventually lost the bid to billionaire Ken Griffin, whose winning bid came at US$43.2 million.

It is still early days for DAOs to reach mainstream adoption, as witnessed by the significant logistical gymnastics that ConstitutionDAO had to perform just to put in a bid for the US Constitution.

Having said that, DAOs are one of the significant developments of Web3 and can offer a powerful tool for achieving truly decentralised governance once the challenges are mitigated. The varying use cases of DAOs, starting from raising investments for purchasing valuable NFTs to supporting social causes, will continue to mature and expand in the future.

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Board Leadership in Enhancing Sustainable Business Value

By Esther An, Chief Sustainability Officer, CDL

The world is facing climate, social, health and economic challenges that present new growth opportunities. Over the last couple of years, political and business leaders have learnt that the health of the planet, people and economy are interdependent. This has led to greater convergence of global, national and business commitments that support the transition to a net zero future.

Boards are in a position to drive risk adaptation, tackling sustainability challenges whilst capitalising on emerging opportunities. A 2021 report by Swiss Re on "The Economics of Climate Change: Impacts for Asia" estimates that if climate action is not taken, the global economy could lose up to 18 per cent of its current gross domestic product by 2048.

In February 2022, Singapore stepped up its climate ambitions, pledging to achieve net zero emissions by or around 2050. The Singapore Green Plan 2030 lays out an aggressive roadmap to increase carbon tax from 2023 and sets ambitious goals to green key industries including the built environment. The Singapore Exchange (SGX) has raised its requirements for climate reporting aligned with the Task Force on Climate-Related Financial Disclosures (TCFD)'s recommendations and mandated sustainability training for all board directors, amongst other changes.

With ESG becoming mainstream, a board that can effectively work with its management to embrace sustainable strategies and best practices will be well-placed to lead the company towards a more resilient and sustainable future.

City Developments Limited (CDL)'s ESG strategy and commitment to "Conserving as We Construct", established in 1995, has positioned the company well in the transition towards sustainable business operations. With the support of CDL's board and stakeholders, the company remains effective in achieving three deliverables:

- Decarbonisation
- Digitalisation and Innovation
- Disclosure and Communication

Integrating Sustainability into a Company's Strategy and Operations

CDL started dedicated board supervision of CSR and Sustainability since 2012. To transform into a future-fit business model successfully, sustainability must be integrated into a company's strategy and corporate culture, starting vertically from the top to all levels of operations, and horizontally across its business units and value chain. Leaders who recognise that performance and purpose are interconnected will be able to weather disruptions and create long-term value for all stakeholders.

In 2012, CDL established a board committee on Corporate Social Responsibility (CSR) and Corporate Governance to provide leadership in accelerating ESG integration into its business. In 2016, it was renamed Board Sustainability Committee comprising three independent directors and chaired by the then Deputy Chairman. It provides advisory and strategic direction to CDL's CSR and sustainability activities. In 2014, the Corporate Communication cum CSR portfolios were restructured into two departments. A dedicated sustainability portfolio led by the Chief Sustainability Officer was created, which reports directly to the Board Sustainability Committee.

It is critical for senior leadership to be equipped with good understanding of fast-evolving global goals and ESG trends. The Hong Leong and CDL Group Annual Sustainability Forum has served this purpose since 2014, keeping the Group's directors and senior management abreast of the latest developments in the global sustainability landscape. This is aligned with SGX's recent mandate for all board directors in listed companies to undergo dedicated sustainability training.

The board's guidance is key in driving its management to improve sustainability performance, such as linking executive remuneration with ESG performance. This increases accountability and encourages greater ownership of the company's sustainability goals.

At CDL, heads of departments and their line managers are held accountable for their department's ESG performance. Since 2015, CDL has established stronger linkages between employee and executive remuneration and its ESG performance. Performance indicators that are aligned with global standards such as ISO 14001, 14064, Global Reporting Initiative (GRI) Standards and UN Sustainable Development Goals (SDGs), amongst others, have been incorporated into the individual goal-setting of all employees, including CDL's senior management.

Innovation: Harnessing green technologies for a low-carbon future

Building a green and low-carbon future is not possible without smart and innovative solutions. Boards must recognise the key role that adaptation plays through innovation and collaborative action in building a resilient future for all.

Research shows that companies that have invested in innovations during economic or global crises recover better and stronger. In 2020, CDL set up a Green Building & Technology Application team to support the company's sustainability commitment. With strong board and top leadership commitment, the team leverages cutting-edge technologies and solutions to reduce CDL's carbon footprint in the way it designs, builds, and manages its assets.

Investment: Strong ESG and innovation accelerate access to sustainable financing

Climate and social risks are business and investment risks. As demand for green financing grows, a company with strong ESG performance will gain better access to fast-growing ESG investment funds and sustainable finance. A growing number of ESG investors are proactively seeking companies with robust climate strategies and voting out directors who are not aligned with their investment mandate.

In fact, technologies and innovations are available to enable businesses to mitigate their environment and social impact through adaptation. Technology application requires significant investment; businesses must move from a traditional compliance mindset towards a more proactive and strategic approach to manage ESG challenges.

Since issuing its first green bond in 2017, CDL has amassed more than S$3 billion of sustainable finance, including various green loans, a green revolving credit facility, and a sustainability-linked loan. For its successful innovative pilot of DigiHUB, a digital enterprise platform by its facilities management subsidiary, CBM Pte Ltd, to raise building management efficiency, CDL was the first Singapore entity to achieve a discount on its SDG Innovation Loan secured in 2019.

Impact: Setting targets, tracking, and disclosing ESG performance

What gets measured gets managed. A company that tracks and reports its sustainability performance promptly and effectively against its set targets is better equipped to identify gaps for improvement and mitigate risks and impact.

CDL's Future Value 2030 Sustainability Blueprint, implemented in 2017, sets key goals and targets for CDL's integrated sustainability strategy towards 2030 – a milestone year for the UN SDGs and net-zero climate agenda. The Blueprint serves as clear direction for continued improvement of CDL's ESG best practices and performance that are aligned with global standards.

Futureproofing for long-term sustainable value

Looking ahead, the global race to zero will continue to exert pressure on countries and companies to accelerate climate action. With ESG emerging as a priority for corporates, businesses that do not embrace sustainability will risk losing talent, investors, and growth opportunities. The integration of ESG into a company's corporate strategy is thus critical for sustained value creation.

As stewards of long-term value creation, board members have responsibility to support management in building brand value and business resilience, whilst maintaining a strong and balanced triple bottom line. The cost of inaction will outweigh that of action as purpose and profit are interconnected and interdependent for sustained growth of companies.

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Time to put decarbonisation pledges to action

By Helge Muenkel, Chief Sustainability Officer, DBS

We face many sustainability challenges. Climate is one of the most pressing ones, as it increasingly impacts people, and it is also intrinsically linked to other environmental and social concerns.

On the positive side, we see an acceleration of efforts to tackle climate change. As at end 2021, 92 countries covering 78 per cent of global greenhouse gas (GHG) emissions had net zero pledges in place. Over 3,000 companies globally have also announced net zero pledges accompanied with science-based targets.

Climate commitments are also fast gaining ground in Asia, with more countries coming forth to make more aggressive climate pledges. For example, China has announced plans to peak its carbon emissions by 2030 and become carbon-neutral by 2060, while South Korea and Japan have pledged to achieve net zero by 2050. Singapore has been a frontrunner not only in terms of its net zero commitment, but also in its guide to get there as highlighted in its ambitious Green Plan 2030 targets.

According to a recent report by the Intergovernmental Panel on Climate Change (IPCC), the average annual GHG emissions between 2010 and 2019 were higher than in any previous decade. Furthermore, Climate Action Tracker, which assesses all global pledges and decarbonisation targets, reported that despite these efforts, we are still not close to limiting global warming to 1.5°C as compared to preindustrial levels.

Time is of the essence. All the net zero pledges must be translated into action, at pace and at scale.

The following are six core decarbonisation strategies across sectors:

1. Green energy supply

a. The International Energy Agency's NetZero by 2050 roadmap shows that renewables and nuclear power will displace most fossil fuel use by 2050. Most global emissions reductions until 2030 in the net zero pathway will come from technologies readily available today. In 2050, almost half the reductions will come from technologies that are currently only at the exploratory phase.

2. Electrify our economies

a. Shifting to electric vehicles from internal combustion engine vehicles or to electric heat pumps that are three times more efficient than gas condensing boilers, are some ways to reduce emissions especially in building and transportation sectors.

3. Improve energy efficiency

a. Minimising the energy demand growth through improvement measures in industry, buildings, appliances and transport will play the largest role in curbing energy demand and emissions till 2030.

4. Develop and commercialise new technologies

a. New technologies like Carbon Capture Usage and Storage and Green Hydrogen improve emissions from some of the most challenging sectors like steel, cement, iron and maritime transport where other technology options are limited. They provide cost-effective pathways to scale up low-carbon hydrogen production rapidly, further allowing for carbon dioxide (CO2) removal from the atmosphere.

5. Apply circular economy solutions

a. Designing waste out of materials and products can be applied across many sectors such as: fashion and textile, other consumer goods, metals and mining, and information and communication, to drive circular economy business models.

6. Change consumer behaviour

a. Consumers can make more climate-friendly daily choices at home and office, from transport options to electricity consumption and reducing food waste.

According to a recent IPCC report, capital spending on physical assets for energy and land-use systems will need to rise by US$3.5 trillion (S$4.9 trillion) per year and hence substantial investments and guarantees would be needed to secure this evolving economic transformation and new jobs creation.

Carbon pricing is one of the most important levers to reduce carbon emissions

One of the strategies from regulation and taxation perspective to lower emissions is by placing a price tag on emissions. Carbon pricing can take different forms:

I. **Carbon tax** is implemented through legislative or regulatory action that puts an explicit price on carbon. To enable the transition to a low-carbon future, Singapore will raise carbon tax levels progressively from 2024. To achieve our climate ambition, the carbon tax will be raised to SGD 25/tCO2e in 2024 and 2025, and SGD 45/tCO2e in 2026 and 2027, with a view to reaching SGD 50 to 80/tCO2e by 2030.

II. **Compliance and Voluntary Carbon Markets:**
Apart from carbon taxes, carbon markets can play a significant, and importantly, a complementary role in decarbonisation. There are two types of Carbon Markets.

- Compliance Markets are driven by mandatory schemes like EU cap and trade scheme that limit the amount of emissions by a company and allowances can be traded between companies,
- Voluntary Markets are not mandated by law. Carbon credits could be an efficient way of unlocking capital for solutions that are needed to support the journey to net zero. They are an essential tool in enabling an efficient carbon pricing mechanism. While offsets can indeed play a role in a company's net zero pathway, preventing unnecessary emissions (Prevent) and employing higher efficiency technologies (Reduce) should take place before making investments for offsetting (Offset) hard-to-abate or unavoidable residual emissions.

  An example of voluntary markets is shown in the box, "Climate Impact Exchange (CIX) - A Case Study".

In Singapore, from 2024, there will be acceptance of international carbon offsets of up to 5 per cent of taxable emissions, in lieu of paying the carbon tax which further will create a demand for the high-quality carbon credits. While offsets can indeed play a role in a company's net zero pathway, assessing and maximising the energy efficiency of a company's own operations should take place before any investments are done in carbon offsets.

Climate Impact Exchange (CIX) – A Case Study

Problem:
From oil majors to tech giants and airlines, many companies are making net zero pledges, but face challenges in meeting their targets.

Given the demand from carbon credits, it is apparent that the world needs a voluntary carbon market that is large, transparent, verifiable, and environmentally robust.

The Solution:
Born out of Singapore's Emerging Stronger Taskforce's Alliance for Action on Sustainability, CIX was jointly set in 2021 by the Singapore Exchange, DBS Bank, Standard Chartered and Temasek. It aims to be a global exchange and marketplace for high-quality carbon credits.

CIX will provide a solution for corporates to address unavoidable carbon emissions in the near term and propel the development of new carbon credit projects worldwide. With an initial focus on Natural Climate Solutions, the carbon credits will also create impetus to address another grave risk of biodiversity loss and help serve local communities. CIX will build on collective action by global governments, corporates and individuals to achieve a net zero economy.

Collective efforts from corporates and boards will drive greater impact

As the climate agenda intensifies, board members need to think systemically and be open to new data, refreshed analysis and innovative ideas that highlight inter-connectivity between risks (especially reputational and legal risks) and identify opportunities for future investments.

Directors also have the fiduciary duty to oversee ESG-related risks from both a business and operations perspective. In December 2021, SGX announced the requirement for all listed companies to provide climate-related reporting based on Task Force on Climate-Related Financial Disclosures (TCFD) and disclosures on board diversity from FY 2024. In 2022, SGX also mandated for all directors to undergo one-time training on sustainability.

DBS Decarbonisation Roadmap

We view climate action as a societal responsibility, risk management imperative as well as a business opportunity and DBS has been proactively adopting measures to tackle climate change for several years. We are the first bank in Singapore to sign up to the Net-Zero Banking Alliance, and the first in Southeast Asia to publish a set of decarbonisation targets for seven sectors which include power, oil & gas, automotive, aviation, shipping, steel and real estate, as well as data coverage targets for two sectors food & agribusiness and chemicals. With the range of sectors covered, our commitment is among the most comprehensive among global banks. Our approach to target-setting is also rigorous and science-based, being benchmarked against internationally recognised and industry-accepted glidepaths such as The International Energy Agency's Net Zero Emissions by 2050 Scenario.

DBS is committed to achieving net zero operational carbon emissions across the bank by end-2022, with Singapore's operations to rely solely on renewable energy by 2030. As an early adopter of the TCFD, DBS has been reporting under the recommendations since 2018 and remains committed to being transparent about its efforts and progress.

How Companies can Link ESG to Long-Term Value

By Vikram Chakravarty, Andre Toh, Konstantinos Dimitriou and Gilles Pascual, EY

The climate crisis and pandemic have heightened interest in environmental, social and governance (ESG) issues. Yet, many companies have been struggling to understand the link between their level of commitment to ESG factors and long-term value.

ESG encompasses a broad range of issues. Environmental factors include biodiversity, climate change, pollution and resources and water security. Social factors can cover customer responsibility, health and safety, human rights and community and labour standards. Governance includes anti-corruption initiatives, corporate governance, risk management and tax transparency.

Since the 1980s, boards have been heavily influenced by American economist Milton Friedman's view that businesses serve society best when they maximise shareholder value. ESG matters were traditionally considered outside the scope of fiduciary duty, with the board and management often, at best, considering it an ancillary topic under the ambit of corporate social responsibility, or at worst, taking an out-of-sight, out-of-mind approach.

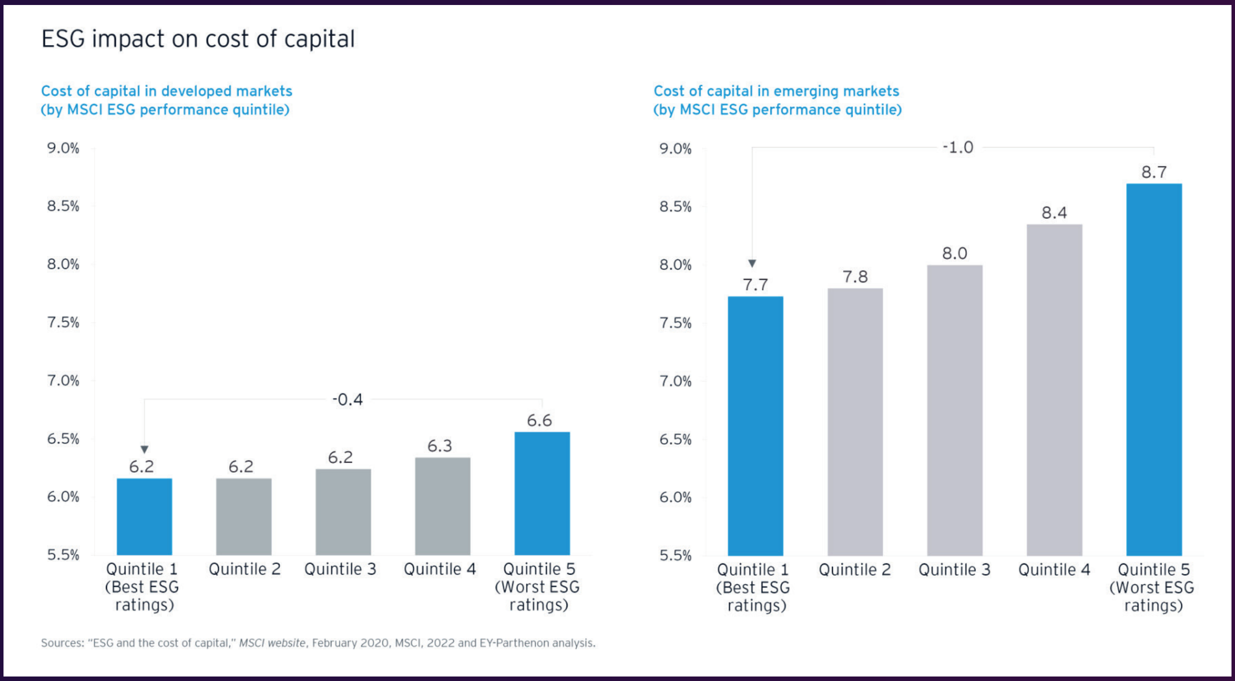
However, with increased consumer, regulatory and capital markets scrutiny, this approach has exposed companies to reputational and brand equity risks. It also increasingly exposes them to shareholder pressures, resulting in an erosion of shareholder value in very real ways.

As ESG becomes a key boardroom topic with a direct link to value, it is now more important than ever for companies to assess the role of ESG in their corporate strategy — and view it as the seed that can help crystallise transformation.

Importantly, companies need to truly embrace ESG principles, rather than just greenwash their current strategies with token actions. How they embrace ESG and bring that into their corporate practices can make a difference to their valuations.

Impact on cost of capital

ESG factors have been found to be positively correlated with financial performance and attractiveness to investors. There is a mismatch between the growing amount of investment dollars looking for genuine ESG leaders and the limited supply of these companies. This can result in a lower cost of capital for companies that embrace ESG and demonstrate tangible success. (See box, "ESG Impact on Cost of Capital").



At the same time, companies may see shifts in their performance as they adopt ESG principles in their strategy. Strategies that may appear lucrative without considering the impact of ESG on the cost of capital can be destructive to value. Based on an EY-Parthenon analysis of various studies, many value-creation-linked metrics such as operating margins or return on invested capital may move favourably along the journey to ESG leadership. On average, net margins could see a drop. However, the aggregate result of all the movements in metrics – including the cost of capital – is often an increase in the valuation.

Given the link between ESG strategy and the cost of capital, investors are increasingly focusing on understanding a company's ability to manage long-term risks through ESG disclosures. The credibility of ESG disclosures has therefore become critical in the process of attracting the right investors, across the capital structure.

Impact on operations

A coherent ESG strategy does not just impact the cost of capital. According to EY-Parthenon analysis, which measured the profitability of the top sustainable corporations globally based on Corporate Knights' *2020 Global 100* ranking, sustainable companies outperformed their industry peers on gross profit, earnings before interest, taxes, depreciation and amortisation (EBITDA), earnings before interest and taxes (EBIT) and net profit metrics.

Other studies agree with this finding. The Oxford University metastudy, *From the Stockholder to the Stakeholder*, highlighted that for 88 per cent of companies studied, solid ESG practices resulted in better operational performance. In addition, four out of five saw stock price performance positively influenced by good sustainability practices.

There are many reasons that can explain this performance. For instance, the increasing influence of ESG factors on consumers' purchasing decisions has allowed sustainable companies to charge higher price premiums on their products and services. The *EY Future Consumer Index* found that consumers are displaying increased loyalty and affiliation to brands that demonstrate a clear commitment to their purpose and ESG principles. A majority of the consumers covered in the study stated that they consider ESG factors when making a purchasing decision.

A focus on sustainability has often pushed firms to pursue operational and process efficiencies, therefore supporting profitability. These include eliminating waste, simplifying supply chains and cultivating an innovative culture that proactively advocates reinventing existing processes to achieve true circularity.

"Go big" on the ESG focus to help maximise benefits

Despite the overwhelming evidence in favour of incorporating ESG into corporate strategy, the push to prioritise sustainability has proven challenging for corporate strategists as ESG considerations are wide-ranging and require trade-offs that may be hard to quantify. The topic can often be complex, contradictory and even confusing.

Multiple studies show that investors look for focus. Companies that direct their efforts in a concerted manner on the most material ESG aspects for their sector have historically demonstrated a higher alpha than peers that do not.

Companies also need to be very clear to all stakeholders on their level of ESG commitment. While managing ESG trade-offs is not easy, "going big" on the ESG focus can be worth it, depending on a company's individual parameters. Achieving these results is not just a matter of investment but also of thoughtful communication of the company's ESG commitment to all stakeholders, including capital markets.

By leveraging the long-term value creation metrics identified by the World Economic Forum's International Business Council, businesses can better demonstrate their contributions toward sustainable, long-term value creation across the full ESG strategy development process from vision definition to implementation.

Long-term value requires companies to have a strategic lens for defining how a business creates, delivers and measures value across the planet, people, governance and prosperity. Having a good understanding of the drivers of future long-term value will prove invaluable in a corporate ESG journey.

This article is written by Vikram Chakravarty, EY Asean Strategy and Transactions Leader; Andre Toh, EY Asean Valuation, Modeling & Economics Leader; Gilles Pascual, EY Asean Power & Utilities Leader; and Konstantinos Dimitriou; EY-Parthenon Associate Partner, Private Equity, EY Corporate Advisors Pte Ltd.

DIRECTORS IN A 4D WORLD

Digital, Decentralised, Decarbonised & Diverse

Intentionally Diverse: The Highly Effective Board of the Future

By Kaley Childs Karaffa, Head of Board Advisory at Nasdaq

For most of the last century, diversity in boardrooms was not raised, except for those premised on the credentials of men eligible for the seats. As highlighted by corporate governance researchers at Stanford University in their paper *Pioneering Women on Boards*, diversity in boardrooms during this period arose when a rare female gained a directorship due to familial connections, such as Clara Abbott – one of the first women to serve on the board of a major corporation, Abbott Pharmaceuticals in 1900.

It was not until 1985 that the average Fortune 500 company added their first independent female director. Since then, the discussions on board diversity in countries around the world have evolved in ways that were previously unimaginable.

Women were the first “diversity group” in the movement for improving representation on boards. However, the considerations of diversity are now expanding to race, ethnicity, LGBTQ+ identification, age and geographical background, among other factors. The US has seen an acceleration in considerations on racial representation on boards, precipitated by social movements for racial equity that gained significant public support in 2020. This raises the notion that a prompt for one type of change can create the space for others. Greater open-mindedness invites more evolved thinking.

Women in the boardroom

According to a Deloitte study of 10,493 companies in 51 countries published in February 2022, women hold 19.7 per cent of these board seats. This progress is inconsistent across jurisdictions – North America and Europe lead over Asia Pacific, the Middle East, Africa and South America – and often reflects a combination of mechanisms prompting change alongside societal priorities and cultural aspects.

In countries with legal requirements related to board gender diversity, France (43.2 per cent), Norway (42.4 per cent) and Italy (36.6 per cent) have the highest percentage of female directors, while six other countries with quotas have not yet reached 20 per cent female representation. Of these, India leads at 17.1 per cent and South Korea has only 4.3 per cent female directors

Broader and more accelerated progress occurs when there are multiple impetuses for change. Meaningful advancement requires measures for progress and mechanisms for accountability. All pathways to creating diverse boards should be utilised to address the challenges that exist within each jurisdiction.

Legislatively required quotas are one of the preeminent drivers of improving board diversity. The most notable example is the recent European Union agreement to require a 40 per cent female gender representation on non-executive boards of EU-listed companies in the 27 member countries by 2026, nine of which currently have legislation regarding gender representation on boards. Similar quota requirements exist in other places around the world, such as Argentina, California, India, Morocco and UAE, among others.

A similarly important mechanism is disclosure requirement, often coupled with a recommendation for diverse directors. These may be driven from a nation/province/state, stock exchange, or other regulating body.

Nasdaq is the largest stock exchange to adopt a board diversity disclosure rule. It will impact the thousands of companies listed on Nasdaq's stock exchange, providing greater transparency to investors and promoting increases in the number of diverse directors serving on these companies. The Toronto Stock Exchange and Australian Securities Exchange have similar requirements as do the United Kingdom, Finland, Sweden, and other countries, all of which have been successful in promoting board diversity.

Activist shareholders

Boards face pressures from two other key groups. Importantly, institutional investors and proxy advisers have established policies to promote board diversity. BlackRock, State Street Global Advisors, Vanguard, and other investors have policies recommend a to vote against directors if the board does not meet diversity standards. Goldman Sachs will only take a US or Western Europe company public if it has two diverse directors. Glass Lewis and ISS recommend voting against governance committee chairs if certain diversity minimums are not met. Boards have been highly responsive to the pressures of these organisations because of the direct impact on each board and potential implications on their companies' stock value.

Finally, directors recognise the risk the board creates by neglecting to evolve its composition, or alternatively, the excellence they can achieve when thoughtfully forming the right group and enabling each member to drive positive impact for their stakeholders. The Business Roundtable Principles of Corporate Governance exemplify the philosophies of directors and business leaders, derived from their experience and understanding of how their corporations have benefited from diverse boards.

Conversely, many questions remain over the role of the board in driving corporate culture and boardroom diversity. Take, for example, the companies – Boeing, Wells Fargo, Volkswagen, Equifax – that have most recently experienced failures of corporate governance. Where was the board, and how did it miss out in identifying and preventing the failures? How did the board not recognise and appreciate the risk, or were directors unwilling to prevent management from making major mistakes that would jeopardise the company? These questions highlight the importance of board culture and composition.

Effective boards

When thoughtful composition and constructive culture combine, a board can foster a better exchange of ideas, leading to better decision making. Savvy boards meaningfully assess how to establish balanced composition and understand that greater cognitive diversity prevents risk and fosters an environment where more creativity and innovation can be achieved. Well-intentioned but non-diverse boards have blind spots. Discussions among sophisticated directors extend beyond the surface-level aspects of diversity to uncover aspects of bias in each individual and in the group as a whole. They create new paradigms for highly effective boards.

A highly effective board embraces the expectation and reality that directors should have differing experiences, profiles, and ways of thinking, because there is a natural inclination to question and explore topics. Diverse boards have intellectual curiosity as an inherent trait. They more freely explore the questions, "Is there a different (better) way that our business can operate? Is there something else that the business could do that would benefit our stakeholders and corporation?" This reflects an innate focus on matters of strategy and risk that drive and increase the chances for long-term success.
The importance a board places on diversity resonates throughout a corporation from a values and priorities perspective. Under the governance of a diverse board, a commonality emerges that diversity is a main driver of value creation and the success of the business, which in turn attracts employees and customers alike.

Although progress toward diversity is differentiated around the globe, boards are moving toward a future where a highly effective board will be based on embracing a holistic understanding of diversity. These boards should engage in regular, multifaceted refreshment exercises that help drive meaningful engagement and robust evaluation of business options and risks.

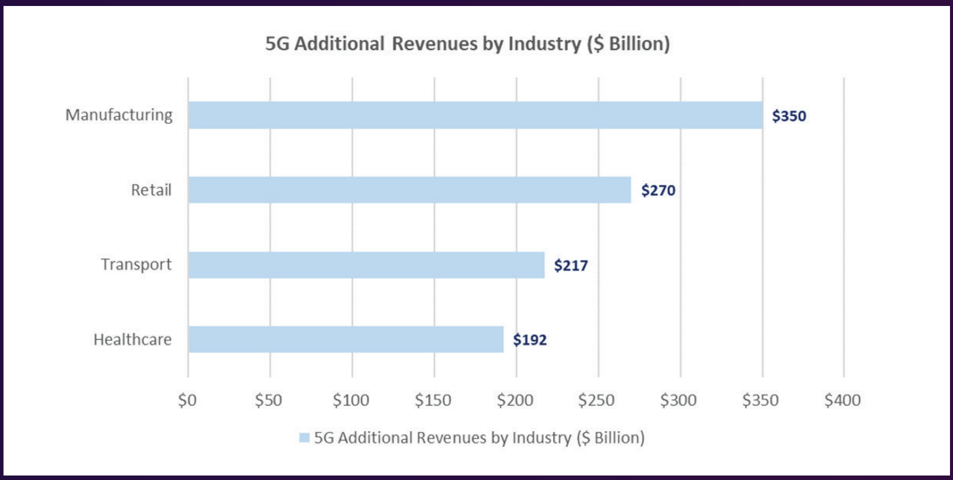
Diversity and inclusion in the boardroom should be viewed as competitive advantages and enablers of growth for any board and business that want to remain relevant for generations to come. Conversations on board composition should evolve to reflect that people are multifaceted and societies are dynamic and evolving. The boards of the future must embrace the notion that the non-conformist director should become the norm.

Advancing Enterprise Transformation and Innovation through 5G

By Chiew Tze Eng and John Lee, NCS

The next generation of connectivity, 5G, has kickstarted major transformations in various industries and paved the way for the development of novel use cases and business models. However, the benefits derived from the leap of 4G to 5G (with enhanced speed, connectivity, and reliability) is still an area of uncertainty for many enterprises and industrials.

To better understand how and where enterprises can succeed in capitalising opportunities (see box, "5G Additional Revenues by Industry"), we highlight some best practices in business transformations with 5G.



Source: Statista

Manufacturing

Manufacturers typically rely on the quality of service of underlying communications to support real-time data processing, machine-to-machine-to-human communications, and industrial automation. In the past, communication and synchronisation were not possible without pervasive connections throughout the facility which has been made possible with 5G today. These advancements empower manufacturers to utilise big data for analysis more effectively with a comprehensive network.

For manufacturers, the adoption of private 5G networks is a growing trend – over three quarters of manufacturing organisations in developed countries aim to adopt private 5G by 2024, according to a Capgemini report in 2022. Private 5G are networks designed for specific applications or use cases with indoor and outdoor coverage and a high degree of security, providing the user complete control over data, security, and network. Large-scale private 5G deployments require ongoing maintenance and IT resources to maintain and are usually adopted by larger organisations and can achieve high return on investment. In contrast, public 5G can be deployed on-the-go, and even through an as-a-service, low-cost deployment model. This enables users to get started quicker and synergises with other IT applications for a wider range of use cases.

Ericsson

In Ericsson's Smart Factory based in Texas, US, its deployment of next-generation 5G technology at the site and its subsequent impact – an impressive 2.2 times improved output per employee, compared to a similar site without such automation and operational improvements. Ericsson introduced video analytics to monitor worker safety thereby reducing the number of workplace incidents involving workers.

Deployment of autonomous guided vehicles helped to automate unpacking, transporting and organising of materials in factory, freeing workers to focus on more productive activities. Furthermore, 5G-powered augmented reality to enable remote experts to provide technical guidance for factory teams boosts collaboration and skill levels of workers.

As with Ericsson's smart factory case, 5G networks has demonstrated ability to be deployed for specific on-premises applications. With upgraded 5G networks, manufacturers also benefit by unlocking new technologies to maximise efficiency and productivity while building additional revenue streams – today and in the future.

Retail

Global challenges around the pandemic over the last two years have forced many retailers to go out of business, while others have had to find a way to pivot and increase their online footprint to reconnect with customers. 5G for retail aims to create superior customer experiences and innovate traditional retail facilities and touchpoints.

An interesting way retail business are evolving is through the development and growth of use cases in the metaverse – a virtual reality three-dimensional space where individuals can interact to work, play, shop and socialise. In 2021, Nike launched its own metaverse Nikeland on Roblox where visitors can compete with each other, attend events, and even shop for clothing to dress their avatar.

5G plays a crucial role in supporting a fully functioning metaverse by providing ultra-low latency and high throughput allowing multiple number of users connect to the same metaverse server and interact with each other in real-time. On top of foundational connectivity, most users interact on the metaverse using personal headsets. This requires real-time connectivity and high bandwidth to support massive data transfer that only 5G can support. While these forays into the metaverse may help future-proof a business, such nascent technologies have yet to be adopted at scale.

Cloudpick

Not all retailers have adopted 5G in such manner. In Singapore, an autonomous store startup, Cloudpick, has established four of its stores around various university campuses in Singapore. Powered by artificial intelligence (AI) utilising computer vision, Cloudpick employs smart shelves and sensors to track product removal and returns as well as when products leave the store – thereafter automatically charging customers for what was bought. The store can leverage on 5G's high bandwidth and low latency features to collect and process all data from sensors and video feeds around the store.

This empowers instantaneous response to customer actions, providing a seamless retail experience that can be delivered to customers round-the-clock. This is an alternative approach to integrating 5G with a physical retail experience to create a convenient experience for customers.

Transport

Over the coming years, investments in 5G for transport in technologies such as Multi-access Edge Compute will enable smarter and safer transportation from connected vehicles to autonomous transport to smart traffic ecosystems.

Self-driving cars can be one such way – altering the way people move from products (purchasing vehicles) to services (paying based on distance travelled). The shift towards "mobility-as-a-service" (MaaS) also represent a convergence of data, software and hardware within the transportation industry. To fully unlock the potential of MaaS, enterprises involved along the supply chain must leverage their technologies on robust networks, such as 5G, to support mission critical MaaS. With the right partners and network, MaaS providers (from components vendors to mobility providers) can earn massive revenues built on a refreshed business model.

Yutong

In Henan, China, Yutong has transformed itself beyond just a bus manufacturer to an autonomous fleet operator, as highlighted in a BusinessWire report in 2020. Although public transport has always been the traditional form of MaaS, building a consumer-centric, on-demand fleet of autonomous bus transforms the way passengers travel. Passengers can now hail an autonomous bus from their location and be sent to their intended destination, while the bus picks up other passengers along the route and plans the most optimal route to take.

To successfully implement such a solution, Yutong built an intelligent public transportation system solution based on the 5G network, integrated "vehicle-road-network-cloud" systems and orchestrated the integration of their network transportation system and their autonomous bus.

With 5G technology, traffic management systems and infrastructure such as roads, traffic monitoring traffic lights and pedestrian paths can greatly shift in the way they are utilised and monetised. Furthermore, these innovations can facilitate smart vehicle solutions, public and private safety features, real-time traffic analysis and routing, smart pedestrian services, etc. To transform the future of transportation means leveraging 5G to create more efficient, safe, and reliable vehicles and traffic systems integrated seamlessly with the environment and surrounding infrastructure, which has the potential to transform both the industry and people's lives.

Considerations for enterprise decision-makers

The transition to 5G is more uncertain and complex compared to previous generations of networks. If enterprises are determined to unlock the value of 5G, they must look to quickly build, test and launch use cases most suitable to their business needs. This will help to effectively realise benefits of advanced networks.

Simultaneously, working with trusted partners on innovation and transformation can accelerate the realisation of 5G value and unlock opportunities within the organisation over the long term. While there is massive potential for enterprises to transform, leaders must be clear about what needs to be built and how to build it. These are key considerations for complete transformation with 5G.

Chiew Tze Eng is Senior Director and John Lee is Consultant at 5G & IoT Transformation, NCS.

The C-Suite Guide to Simplifying for Cyber Readiness

By Kyra Mattar, Shong Ye Tan and Raymond Teo, PwC Singapore

The past year has been challenging for cyber security. The ups and downs of the continued pandemic had an immense impact on organisations, changing the way employees work and introducing new cyber risks.

The majority of organisations are aware of the risks. According to the PwC Digital Trust Insights Survey, an average of 62 per cent of respondents expected a significant rise in reportable incidents in 2022, above 2021 levels. Beyond the number of attacks, the intricacies of the attacks have grown more sophisticated. The increasing interdependence of organisations' systems create more complexity and magnify the effects of a cyber attack. As a result, 90 per cent of Singapore respondents say that too many avoidable, unnecessary organisational complexities pose concerning cyber and privacy risks.

Considering four key questions around digital trust can yield significant dividends.

1. How can the CEO make a difference to the organisation's cyber security?

More than a third (38 per cent) of non-CEO respondents in Singapore require significant support from their CEO to embed cyber and privacy in key operations and decisions of the organisation, and 34 per cent require their CEO to connect with confidence with customers and business partners and ensure adequate resources, funding and sufficient priority.

2. Is the organisation too complex to secure?

In the context of rising cyber breaches and security threats, managing complexity is a key focus for organisations. This is particularly true for Singapore where an overwhelming 90 per cent of Singapore respondents say that their operations were at avoidable, unnecessary levels of complexity as compared with 80 per cent of respondents for the global and Asia Pacific regions.

3. Is the company securing against the most important risks?

As cyber attacks become more frequent, organisations must strategically identify their most pertinent risks and guard against them. In Singapore, 37 per cent of respondents indicated that use of generally accepted standards and frameworks in assessment and diagnostic tools are critical in making decisions about cyber investments and responding to cyber risk.

4. How well understood are the risks posed by third parties and the supply chain?

As organisations are increasingly collaborating with third parties, it is critical to understand the types of third-party risks and have a third-party risk management system in place. Generally, Singapore respondents ranked higher in their level of understanding of third-party risks as compared to global respondents – 63 per cent of respondents in Singapore said they refined their criteria for onboarding assessments. 54 per cent rewrote contracts with certain third parties to mitigate risks, and 46 per cent audited and verified the security posture and compliance of third parties or suppliers.

Source: 2022 Digital Trust Insights Survey: Singapore report

Kyra Mattar and Shong Ye Tan are Partners, Digital Solutions, PwC Singapore. Raymond Teo is Partner, Cybersecurity, South East Asia Consulting.

DEI Helping Organisations Recover, Rebuild and Reinvent

By Shoon Lim, Consultant at Russell Reynolds Associates

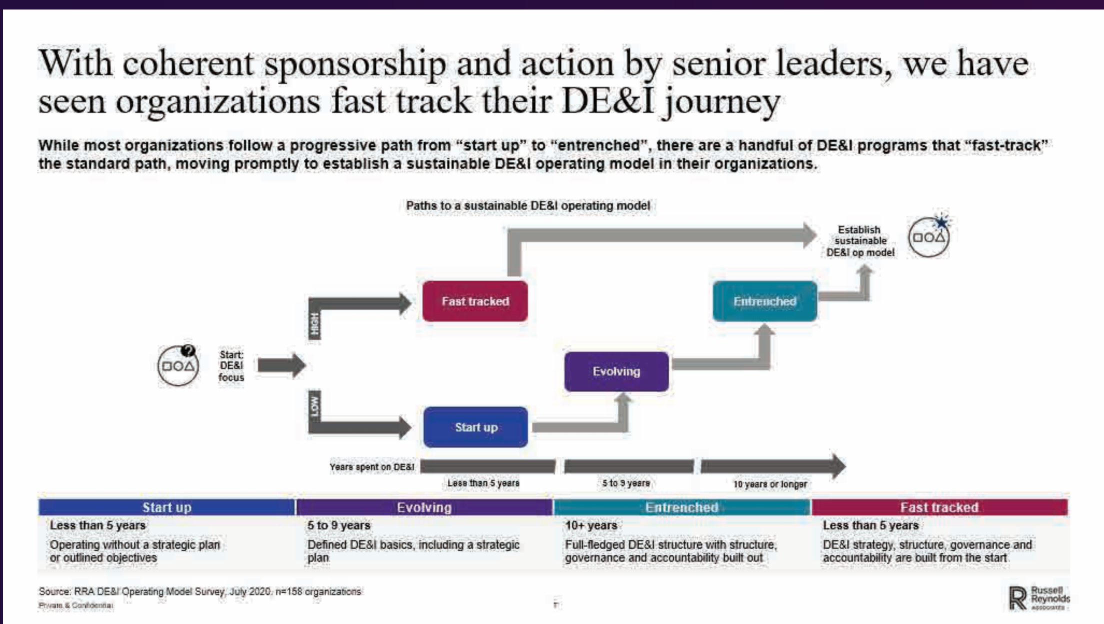
As companies begin emerging from the slowdown of business activities in the pandemic, they face the headwinds of employee turnover, retention of diverse talent, employee expectations for new ways of working, and employee growth and progression.

Two-thirds (64 per cent) of global executives say employee turnover in their organisations has increased over the past 12 months, according to a survey of executives conducted by Russell Reynolds Associates in its 2022 *Global Leadership Monitor*. Underrepresented groups, such as women, were more likely to leave due to organisational culture and leadership. Among the most cited reasons women executives left their jobs in 2021 centred on the desire for a different kind of leadership and a need to feel better valued; whereas the top drivers cited by men was the search for better pay and career advancement.

Employees increasingly expect new ways to connect, collaborate and work to address their concerns around flexibility, safety, health and well-being. Kantar's global study into the future of work found that 63 per cent of Gen-Z employees are motivated to find a new role, in part because of the lack of remote-working policies at their current employer.

In a 2021 poll of job candidates, Monster found that 86 per cent felt that the pandemic had stalled their career progression, whilst 80 per cent questioned the potential for their current employer to offer growth opportunities. Clear career paths and progression are especially important in the market recovery.

Diversity, Equity and Inclusion (DE&I) sit strategically at the core of solutions to address these multi-dimensional challenges as well as to help leaders inclusively navigate human capital transformation and employee reengagement. Leaders are looking for ways to quickly establish or re-energise DE&I in their organisations to be sustainably scaled.



RRA surveyed more than 150 senior DE&I leaders and found that many organisations had taken a linear and lengthy route to establish their DE&I functions slowly over a period of 5 to 10 years. Typically, the highest level of DE&I maturity has been more aspirational than reality, with only about 15 per cent of organisations believing they will achieve it.

A small group of companies however were found to have taken a fast track approach, investing heavily upfront in DE&I and therefore halving the time it would take to establish a mature DE&I function.

To understand more about what the DE&I fast track journey looks like and what it takes to be successful, RRA interviewed four senior DE&I leaders who helped their organisations make rapid progress. Their reflections and advice focused on five key areas:

1. No matter how much urgency there is, take time to take stock

- It is important to understand the organisation and its history before trying to catalyse change.
- Analysing the needs and strengths of the organisation through employee surveys and focus groups will lay the groundwork for more relevant initiatives and also increase organisational buy-in by focusing on what people care about most.
- Clearly define key terms such as diversity, equity, inclusion and belonging. It is critical to creating agreement among different stakeholders on what these terms mean and in turn avoid confusion on what can become an emotionally charged topic.

2. Passion is not a substitute for budget

- A financial commitment is table stakes. As with any business initiative, it requires investment.
- While the precise level of investment required varies with size and complexity, organisations following a traditional trajectory tend to start with less than they need, making it difficult to gain traction quickly. Fast-track organisations are more likely to start with larger annual budgets of up to $500,000, not including DE&I staff salaries.
- At a minimum, organisations need to provide adequate resources to the leaders and staff who are dedicated to overseeing DE&I efforts, to support the organisations with training and education, as well as the necessary tools to measure and track progress.

3. DE&I needs leadership support as well as broad organisational support

- Engage leaders and employees to gain their buy-in and support to change the culture from the inside out.
- Creating broad engagement is to build DE&I as a hybrid centralised-decentralised model, blending specialist support and oversight centralised at the corporate centre, with broad-based engagement in which businesses or functions own the delivery of DE&I programmes.
- Involve leaders across the organisation through a DE&I advisory council that helps define strategy and bridge gaps between leaders and employees.
- Ask top leaders to sponsor Employee Resource Groups (ERGs). This gives them new perspectives on the business and empowers the ERGs to catalyse change within the organisation.

4. Leaders need to ensure employees have voice and influence

- Having a voice on the topics that matter most makes employees feel that their experience and perspectives matter, and that management is willing to take action, especially for underrepresented groups who feel their voices are undervalued.
- Scrutinise talent management processes for tendencies to normalise, such as hiring for culture fit or onboarding to homogenise. These should be reviewed and replaced with more equitable hiring, development, promotion, and retention practices.
- Forums for underrepresented communities, such as ERGs, offer an important vehicle for leaders to hear

from employees. When leaders take time to learn about their people, they show that they value what each person brings, which can ignite belonging, increasing performance by 56 per cent and reducing turnover by 50 per cent.

5. Accountability is essential for intentions to become reality

- Set clear goals that have a direct impact on people's performance and compensation to generate DE&I results and sustainable change.
- It is also important to informally acknowledge wins within the organisation, including the behaviour changes that often go unnoticed or unrewarded.
- When employees, especially underrepresented groups, fail to see senior leaders that look like them, it is a stark reminder of the barriers to advancement, leading to questions of opportunities for development and progression, which have been considered important for retention.

Looking ahead

As these fast track organisations show, it is possible to create a full-grown DE&I function very quickly, and make remarkable progress within the space of a year. However, true DE&I maturity requires a number of tangible and intangible factors, including workforce diversity, equitable talent management systems, inclusive leadership skills, and a culture that is willing to change. Organisations that are serious about recovery and reengagement in a post-pandemic world, can stand to gain from incorporating these DE&I principles into their everyday practice.

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DIRECTORS IN A 4D WORLD

Digital, Decentralised, Decarbonised & Diverse

SMEs and Decarbonisation: A Practical Guide

By Sovann Giang, Daryl Goh, Jolynn Ee, ESG Practice, RSM

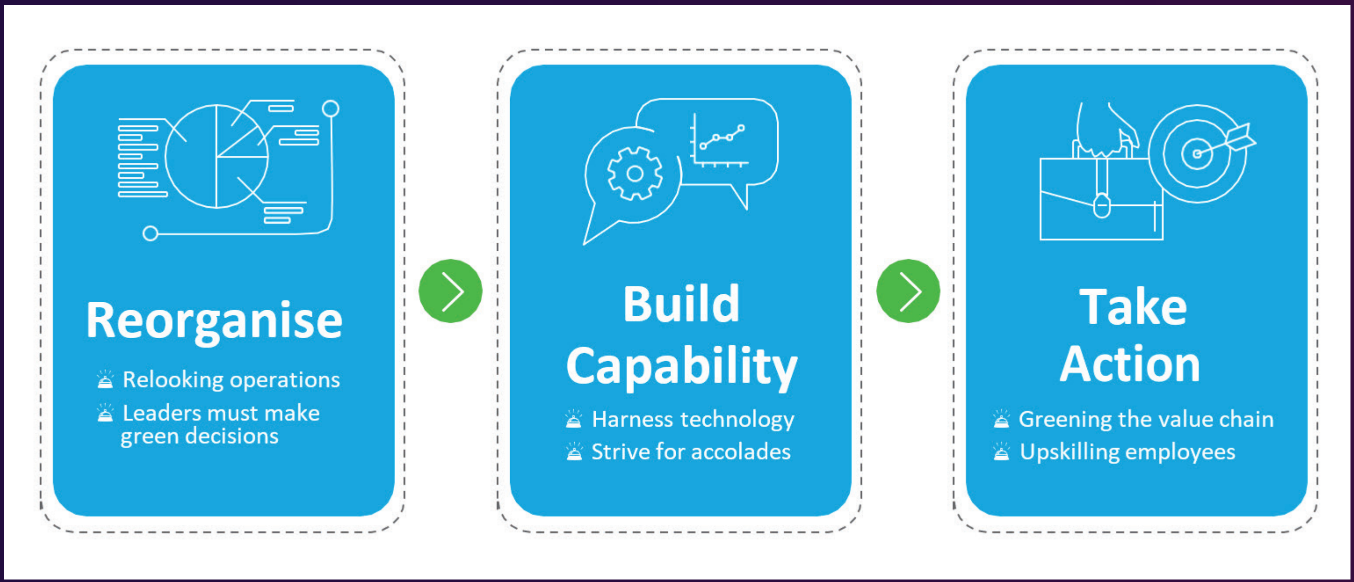
The transition towards a green economy cannot be over-emphasised in today's business world. Singapore's commitment to carbon emission goals for 2030 and 2050 have accelerated the need for more pervasive measures to be taken to address the issue of "greening". Regulations have been tightened and a slew of initiatives have been introduced to encourage greater adoption of sustainable business practices.

Carbon tax will continue to progressively increase to hold businesses accountable for their carbon emissions. By 2024, businesses are expected to pay S$25 for every tonne of carbon emitted (approximately equivalent to operating a gasoline powered car for half a year, or taking about three economy flights within Europe). This will increase to S$50-S$80 per tonne by 2030.

To improve accountability for non-listed companies, the newly established Sustainability Reporting Advisory Committee set up by ACRA and SGX in June 2022 also seeks to develop a roadmap for sustainability reporting for such enterprises.

SMEs (small and medium enterprises), which contribute almost 50 per cent of Singapore's gross domestic product, will unquestionably have to manage their own decarbonisation transition. They will need to capture opportunities in the green economy to remain relevant and competitive. SMEs can consider adopting the following framework, as shown in the box, "A Step-by-Step Guide for SMEs".

A Step-by-Step Guide for SMEs



Reorganise

Being sustainable is good for business. As SMEs embark on sustainability plans, they are also creating their own competitive advantage against industry peers. Numerous studies have shown that "green companies" have inherently higher valuations, are able to attract talent (especially the younger generation), and having a green agenda improves brand reputation and marketability.

The Greenhouse Gas (GHG) Protocol has established a GHG emissions classification system that allows for businesses to track direct and indirect GHG emissions. SMEs today can deep-dive into their operations, examine the business from a sustainability angle and identify areas where improvements or outright changes can be made. For example, they can modify the way customers are served, or reassess the viability of continuing certain lines of business.

Today, the clean energy movement has driven companies to accelerate sustainability plans, including traditional energy providers such as natural gas suppliers. Locally, a number of alternative energy providers have adopted practices like installing solar panels to provide clean energy and reduce reliance on non-renewables. These efforts go some distance in enabling the company to save costs, reduce pollution and increase efficiency.

Leaders must be prepared to make green decisions. Middle market players need to prepare themselves for a mindset change and constant evolution to navigate the business transition into a more green state. The change starts from the top. Leaders need to start with a green strategy, build the components of the business around achieving this strategy and contributing to business performance in the longer run. To encourage the right type of behaviours, leaders can consider:

- **Setting up a sustainability task force.** This ensures that there are nuanced discussions around ESG and a roadmap can then be formulated to reach certain ESG milestones or targets within realistic time frames.

- **Recognising and rewarding employee actions which align with ESG goals.** This ensures that the business is transforming in the right direction. Changing attitudes, mindsets and behaviours when it comes to sustainability transforming is the secret to winning the war.

Build capability

A business's sustainability practices goes hand in hand with digital movements. Going digital creates a wider impact to the economy, reaching a broader user base. Going digital also reduces the amount of greenhouse gas emissions associated with traditionally cumbersome and manual processes. To aid this transformation, Infocomm Media Development Agency introduced a Playbook to raise awareness on sustainability. This allows SMEs to leverage on the Internet of Things, data science and digitalisation initiatives. These will allow better tracking and optimisation of energy resources.

Locally, there have been success stories with companies in the cleaning and maintenance sector adopting automation to achieve better sustainability in operations. The application of robotics that possess energy-conserving systems contribute to a more eco-friendly service approach.

Accreditations and certifications are not just badges of honour. The entire process usually involves a critical appraisal by professional bodies. This allows SMEs to compare themselves against green standards adopted by other industry players. Associations such as the Singapore Environmental Council provides assessment processes that aids applicants in implementing effective environmental friendly practices. Other international environmental standards such as ISO14001 Environmental Management Systems, can provide some form of benchmarking in terms of processes and practices.

Take action

Involve the value chain. It is important for businesses to realise that their decisions on going green will affect the wider supply chain. According to the GHG protocol, emissions indirectly emitted via the company's value chain accounts for more than 70 per cent of the total business emissions (both up and down stream). Some examples of this include buying from sustainable sources, working with partners that deploy sustainable logistics and distribution measures, and treating and reducing the impact of waste and by product emissions. With the spotlight now placed on sustainable food sources, there are poultry producers who repurpose waste by products for different applications (e.g. packaging, re-using products for other industry applications). These measures reduce the resource gap and contribute by lessening GHG emissions caused by the SME's value chain.

Developing deep skills. It is important for SMEs to bring along their employees on this sustainability journey. SMEs should consider enrolling their existing employees for sustainability themed courses, help with job redesign and redeployment of the workforce. For instance, the SG United Career Conversion Programme will give companies access to relevant technical training that aids in job transformation for the sustainability movement. Other government agencies and business associations are also contributing to the support for industrial transformation.

Singapore's SMEs have proven themselves resilient and adaptable. The Covid-19 pandemic has shown that business owners with the right attitudes and tenacity can tide through challenging economic times. The sustainability movement is a not a rude awakening, but rather should be seen as an opportunity to change and transform the old ways. And in doing so, one can uncover opportunities to breathe new life into the business model, whilst at the same time allowing SMEs to do their part.

Climate Reporting – Unmaking Greenwashing

By Tan Boon Gin, CEO, SGX RegCo

A year ago, everything seemed so straightforward. A consensus had been reached at COP26. Everybody was making net zero pledges. ESG (environmental, social and governance) investing was booming.

Today, as we get down to the nitty-gritty of implementing these commitments, we run into questions about the trade-off between climate security and energy security; questions about the right balance between cost and benefit; inflation; as well as questions about the integrity of climate reports.

It bears reminding that the long-term answers remain the same. There must be investment in new solutions, infrastructure, and technology. The estimated green investment needed in ASEAN alone is US$200 billion (S$280 billion) per year till 2030.

Other risks and opportunities will arise from the penalties and incentives introduced to change behaviour, to switch to clean energy and to curb emissions.

The stakes are high, making it critical for the market to have accurate climate information to drive decision making. The biggest threat to this right now is greenwashing.

What is greenwashing?

Simply put, greenwashing is claiming that something is green, when it is not, or greener than it is. Greenwashing is usually associated with public representations, for example, an exaggeration in the sustainability report of a company or the portfolio composition of a fund.

But it can also be found in an internal representation, for example, to the board or employees of a company. This can be equally insidious. Employees may be joining the company on the purported strength of its environmental credentials. The board may be misled in its oversight of the company's sustainability practices.

When we think of greenwashing, we also tend to think of it as deliberate. But again, that is not always the case. Mistakes may have been made in data collection, or less than thorough due diligence may have been conducted on parts of the supply chain.

Why is greenwashing such a big deal? What is so bad about it?

First and foremost, it is false and misleading information. This is particularly damaging in a disclosure-based regime where the accuracy of the information on which decisions are based determines how effective the market is in the pricing of risks and allocation of capital.

Second, it results in an un-level playing field. Greenwashing left unchecked will allow companies that do not incur the cost of greening to enjoy the climate incentives and avoid the penalties that I mentioned earlier. In addition, such companies can compete more effectively for the green dollar, against others which have incurred such costs.

In the long run, the genuinely green companies and products may end up failing, because, if the market cannot tell the difference, it may choose the lower-cost greenwashed companies.

So, we as regulators must do something about greenwashing. What to do? To my mind, three things are necessary, some of which are already underway:
a. Make information available
b. Make information comparable
c. Make information trusted

Making information available

Let me start with making information available. There are two dimensions to this. The first is the disclosure requirement, and the second is the access requirement.

On disclosure, SGX-listed companies have been mandated to do sustainability reporting since 2016. Last year, we mandated climate reporting in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). This will be introduced in phases. The first phase is for companies to do climate reporting on a comply or explain basis in 2022. Subsequently, climate reporting will become mandatory for more and more companies, starting with the companies in the most carbon intensive industries such as the (i) financial, (ii) agriculture, food and forest products and (iii) energy industries.

On access, the market provided strong feedback that it wants all the companies' climate disclosures available on a single platform that users can easily access. SGX had previously consulted on a proposed digital data portal where investors can access ESG data in a structured format as reported by issuers in accordance with our disclosure requirements. This proposal was well received and the ESGenome disclosure portal has just been launched. Apart from giving users a single point of access, it also includes features that we hope will help issuers, such as guiding companies to enter the necessary information to meet our disclosure requirements and autogenerate sustainability reports.

If we want ESG data to drive behaviour, then digitalising such data is key. This would help investors and stakeholders manage and process the data. One of the options we are now considering is whether to mandate all listed companies to prepare their sustainability reports using a common digital format. ESGenome may be one such solution to achieving this.

Making information comparable

Up to now, we have had a lack of consistency and comparability in terms of climate disclosures, with different issuers reporting against different standards and frameworks, to the frustration of the users of such information. This includes not just investors but even the companies themselves as they try to benchmark against their peers. That is why we mandated reporting against the TCFD recommendations, which is a widely accepted framework.

Looking ahead, ISSB, the International Sustainability Standards Board, which was set up to develop a global baseline standard for sustainability reporting, has released two Exposure Drafts for public comment. The first is on general sustainability disclosures, and the second is focused on climate-related disclosures. If all goes well, these standards will be issued by the end of the year.

I have no doubt that reporting to a common global standard will promote more consistent and comparable disclosures. When the ISSB standards are issued, we will begin the process of incorporating the ISSB standards into our listing rules as mandatory disclosure requirements for our listed companies. In preparation for this process, we have set up a Sustainability Reporting Advisory Committee together with the Accounting and Corporate Regulatory Authority (ACRA). The committee comprises all our major stakeholders to ensure a smooth and practical implementation tailored to our market.

The ISSB builds upon the TCFD recommendations for climate reporting, and applies them to sustainability reporting as a whole. So issuers already using TCFD for climate reporting will find it familiar and relatively easier to apply to the rest of their sustainability reporting.

There are a few key differences between the ISSB climate-related disclosures and the TCFD recommendations. One key difference is that the ISSB climate-related disclosure standard mandates Scope 3 greenhouse gas emissions (meaning the indirect emissions throughout a company's value chain, both upstream and downstream), as a cross-industry metric. The other differences are in the level of prescription and detail. The ISSB climate disclosure standard, for example, has more detailed industry classification and disclosure topics and metrics for each industry, which I personally think is more helpful to preparers of climate reports.

One of the things we will definitely consider very carefully is the pace and cadence at which we adopt the ISSB standards. This is particularly true for Scope 3 emissions. In fact, one of the purposes of the Sustainability Reporting Advisory Committee is to advise on a sustainability reporting roadmap for Singapore companies including non-listed companies as well. This is relevant for Scope 3 emissions because without accurate climate reporting by non-listed companies, it will be difficult for companies to disclose their Scope 3 emissions as not all their suppliers and customers will be listed.

Making information trusted

Information must not only be available and comparable, it must also be reliable. Governance is key, which is why the first pillar in both the TCFD and the ISSB frameworks is governance. This reflects the important role that the board of directors plays in policing climate information and is one of the reasons why we mandated compulsory training for directors in this area. Climate information is becoming as material as financial information and we could see the same kind of enforcement action being taken for material gaps and misstatements in climate disclosures. Indeed, regulators such as the US Securities and Exchange Commission have already set up a Climate and ESG Task Force in their Enforcement Division.

We have also required issuers to minimally subject the climate reporting process to internal review by their internal audit functions. In respect of external assurance, this is still a developing area and there is a lack of globally recognised standards or frameworks in relation to assurance on sustainability and climate information. Hence, we have not mandated external assurance, though we have provided further guidance in our Sustainability Reporting Guide for issuers that do conduct external assurance.

The International Auditing and Assurance Standards Board has since announced it is targeting to propose new sustainability assurance standards for public comment during the second half of 2023.

A couple of years back, I spoke about the dangers if corporate accounts cannot be relied upon. The very same risk affects sustainability disclosures. How should we approach the assurance of ESG information in a way that avoids the pitfalls of a lack of trust? This is something that I'm sure will be the subject of many discussions going forward. On our part, we will certainly keep a close eye on this space.

Looking ahead

Since 2016, SGX has helped companies with capacity building as sustainability reporting transitioned from voluntary to mandatory. We have started workshops on TCFD and climate reporting which is the next stage of the journey for reporting, as well as introduced mandatory director training on sustainability. The response has been positive, and we have received feedback that capability building for board and management should be an ongoing process and not just a one-off affair. Companies can expect more of such efforts ahead.

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Digital Transformation of a Not-for-Profit Organisation

By Yeo Teck Guan, Chief Business Technology Officer, Singapore Pools

The Covid-19 pandemic has rapidly accelerated the pace of business digital transformation across many industries globally. For the nonprofit sector, with its reliance on face-to-face interaction and high touch points, the learning curve was considerably sharper.

The digital transformation journey of Singapore Pools began in 2015, before the lockdowns and disruption to daily life. The early start has helped the organisation transition smoothly when the pandemic hit.

Singapore Pools established its Transformation Programme Office in 2015, with the mandate to build a digital operations backbone for the organisation. By integrating digital technology into various aspects of the business, this has fundamentally changed the way the organisation operates. At the same time, Singapore Pools has developed new digital offerings for its customers.

The organisation has continued to keep abreast of new gaming trends and technology and sharpened its focus on five key areas:

1. **Capability Development.** Ensuring that projects are delivered in tandem with the overall strategy.
2. **Innovation.** Considering technologies that can be relevant in the future through proof-of-concepts and driving an innovation culture from ground up.
3. **Digitalisation.** Focusing on automation of manual processes.
4. **Sustainability.** Driving more green initiatives.
5. **Governance.** Ensuring high quality of project implementation and proper review.

Driving transformation efforts

Singapore Pools' transformation efforts, both in enhancing customer experience and improving workforce productivity, have introduced several key projects.

- **ePayment.** To bring greater convenience to customers, Singapore Pools rolled out the first phase of electronic payments across its retail and remote channels in 2021. This offers additional payment and prize claim options to the customers. Leveraging the national payment infrastructure such as PayNow, FAST, MEPS and other bank wallets as permitted under the banking regulations, ePayment not only improves the customer experience but provides a deterrent against illegal bookmakers.
- **eBetslip app.** Singapore Pools introduced refreshed retail concepts, supported by a new digital retail betting service. Customers can now utilise the services through an app at selected branches, doing away with queues and paper betting slips.
- **Unified betting terminals.** Towards the end of 2021, Singapore Pools installed close to 1,300 new betting terminals across its retail outlets. The terminal consolidates sales of all games (lottery, sports and horse betting) and replaces obsolete hardware and software which helps reduce maintenance and repair costs.
- **Digital document system.** In May 2022, the organisation completed the digitalisation of all hard copy documents across all divisions, and stored them in a repository with search capabilities. As a result, 540 square feet of storage space has been freed up for alternative use and the organisation expects to save over 30,000 sheets of A4 paper.

This constant effort to push digitalisation has created a culture of innovation, with close to 30 proof-of-concepts developed within 18 months. At the inaugural Innovation Challenge organised in 2021, a total of 15 teams took part and pitched their solutions to problem statements shared by the management team. Eight teams were shortlisted to progress to the prototyping stage and they eventually presented their prototypes to the judging panel.

An important aspect of the digitalisation effort is the workforce. Frontline staff were trained and equipped with devices and skills to improve their productivity and engagement with customers. Throughout the organisation, employees were offered training and skills upgrading to learn about software such as Outlook and Teams, to facilitate sharing of information.

Helping charities in their digitalisation journey

As a not-for-profit organisation, Singapore Pools has channelled its surplus funds to causes that benefit the community. Giving back to society, extending a helping hand to vulnerable groups and building an inclusive and resilient community are some of the ways.

To enhance the digital capabilities of the charity sector, iShine Cloud was set up in 2018 to provide other charities with an affordable, integrated suite of charity-specific solutions via a secure cloud-based IT platform. These solutions cater to the various organisational functions ranging from finance and human resource to donor, volunteer and case management.

As of 31 March 2022, iShine Cloud had a total of 56 charities and nearly 2,300 users onboard. Due to limited manpower and financial resources, many charities often suffer from a lack of IT support. With the Covid-19 pandemic, iShine Cloud has stepped up its support to help these charities begin their digitalisation journey. Many have been able to leverage the IT infrastructure and resources to improve their productivity, governance and efficiency.

With the right transformation toolkit and implementation frameworks, not only can charities better understand and manage their stakeholders and beneficiaries, they can also identify opportunities to boost productivity in their organisations.

DIRECTORS IN A 4D WORLD

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The inclusive approach behind a thriving workforce

By Dean Tong, Head of Group Human Resources, UOB

Covid-19 has upended work practices globally as businesses were forced to react to lockdowns, movement restrictions and safe management measures. The pandemic has been a catalyst to re-imagine the future of work, as the collective experience with remote working has clearly proven that business can indeed go on as usual outside the office.

While altering the definition and norms surrounding work, the pandemic has also cast a harsh spotlight on inequality in the labour force. Particular demographics, including women, the elderly and differently-abled, who already faced difficulties in the workplace pre-pandemic, were caught off-guard by the monumental changes introduced during Covid-19, and confronted with even greater challenges.

Working women, who were often juggling their jobs with a dominant share of domestic tasks and caregiver roles at home previously, were hard-placed to cope when the two worlds collided. A Washington Post study found that 54 million women left the global workforce in the first year of the pandemic, with nearly 90 per cent exiting the labour force completely as compared to 70 per cent of men. The study also found that more women who were pushed into the gig economy after losing formal employment were working in precarious conditions with lower pay and no job security, irregular hours or less benefits, compared to men.

On the surface, senior workers in Singapore seemed to have weathered Covid-19 fairly well. According to figures released by the Ministry of Manpower, the employment rate for residents aged 65 years and over rose to 31.7 per cent in June 2021, surpassing 2019's pre-Covid rate of 27.6 per cent.

In an internal survey conducted by UOB staff in the same month, more than eight in 10 employees said they would consider some form of work after retirement, with a flexible work scheme that offers work-life balance their foremost priority for taking up post-retirement work. The rise in national employment rate for seniors, coupled with UOB's survey results, highlights the latent demand from seniors who wish to continue contributing to the workforce even after retirement. However, opportunities available for seniors to continue working post-retirement, on their terms, are limited.

Even though differently-abled people saw a slight rise in employment rate during the pandemic, the base number was not high to begin with. In Singapore, the average resident employment for people with disabilities aged 15 to 64 was 30.1 per cent in the two-year period spanning 2020 and 2021. This was an encouraging gain of 1.9 per cent from 2018-2019, but still less than half of the general employment rate of 67.2 per cent for residents aged 15 and over recorded in June 2021 by the Ministry of Manpower.

As employers relook their job structures post-Covid-19, it is imperative to address the structural inequalities facing these groups of workers, particularly women and mature workers, who form a significant part of the workforce. The female labour force participation rate was at 61.2 per cent in 2020, with 1.02 million women employed in the workforce, while one in four workers in Singapore were aged 55 and above.

There is resounding evidence that women, elderly and the differently-abled are eminently able to contribute in a deliberate and meaningful way, if necessary and fundamental adjustments are made to job requirements and scope, to level the playing field for them.

Supporting the silver workforce

It is a common misconception that senior workers nearing retirement age are looking forward to calling time on their careers. UOB piloted its Gig+U employment model last year, where retirees can continue working for the company on a gig employment basis with full healthcare benefits and insurance coverage on top of the salary payments for their contributions. This model complements the government's raising of the retirement age to 63 years in July 2022, as part of a progressive increase of the threshold to 65 years.

Under Gig+U, staff who wish to retire before 63 years now have a viable means to continue working meaningfully as a valued member of UOB. This is the first such scheme to be introduced by a Singapore bank. The skills and experience imparted by veteran employees will be invaluable in creating a multigenerational workforce. A Randstad study in 2018 on the pros and cons of a multigenerational workforce has shown such measures can provide a host of real and tangible benefits, such as driving innovation, building a healthy talent pipeline and promoting the sharing of best practices and different perspectives.

Offsetting the "Covid cost" for women

The pandemic has imposed what researchers from the Singapore University of Technology and Design term a "Covid cost", the result of constant multi-tasking and the resulting taxing impact on women. In general, the pandemic has increased the caregiving duties women have to undertake, exacerbating the "double burden" for women that existed pre-pandemic.

More can be done to support women in balancing their career ambition and responsibilities at home. The more employers get on board, the more the economy will benefit from the overall benefits of providing greater access to women in the workforce. UOB has a comprehensive leave and flexi-work framework in place for all employees. In addition, the bank is looking at more targeted assistance for mothers of newborns in light of the additional time they will need for their children during the formative years.

Empowering the differently-abled

A study commissioned by UOB in 2019 found that a third of companies surveyed expressed reservations when asked if they would be interested in hiring differently-abled persons, even as 86 per cent had said manpower concerns were regularly on their minds. This apparent reluctance to hire differently-abled persons is unfounded, and there has to be a mindset change.

At the UOB Scan Hub, more than a third of staff are persons with autism or hearing impairment. The general experience is that differently-abled employees demonstrate attention to detail and high levels of concentration and accuracy, which have improved productivity and employee retention rates. UOB has also partnered SG Enable and numerous social service agencies to form The Unlimited, a first-in-kind private, public and people sector initiative that makes it easier for companies to hire people with disabilities.

Inclusivity is vital in the workplace, and there is no better time than now to enact change. Employers as well as employees stand to benefit when jobs within the organisation are customised to the needs and strengths of the various demographics.

But employees need to acknowledge that they need to change as well in a landscape that is moving inexorably towards digital transformation, gig work and job mobility. To thrive in this new world, workers must also be open to new skills, technologies and ways of working. Companies can play their part, by organising training programmes and workshops focusing on the soft and hard skills relevant to the digital-focused world today.

Job upskilling

The Singapore government has in recent years placed great emphasis on job upskilling to future-proof the workforce. In his February 2022 Budget speech, Deputy Prime Minister and Finance Minister Lawrence Wong announced that the government would do more to support smaller and micro businesses in training workers, as well as enhance mid-career training programmes in order to support workers who were more vulnerable to disruptions in the workplace.

A Mercer study conducted in 2021 found that just over a third of companies in Singapore were prioritising upskilling and reskilling, with just 9 per cent of human resource leaders planning to reward skills acquisition. For those companies that recognise the value of employee upskilling, the benefits can be rewarding in many ways.

In 2019, UOB launched its flagship training programme, Better U. Since then, more than 15,000 employees have completed the foundational Better U modules in the areas of growth mindset, problem-solving, digital awareness, human-centred design and data storytelling. The programme has expanded to include a training track on artificial intelligence (AI), given its increasing prevalence within the financial sector. The track introduces basic AI concepts with the aim of helping employees understand how they can apply this knowledge in the workplace.

This is supplemented by an in-house leadership acceleration programme, which prepares high-performing colleagues to take on executive roles by providing them with intensive learning experiences through cross-country assignments, leadership coaching and executive education. UOB also partnered with LinkedIn to offer staff access to more than 16,000 courses on its learning platform, with topics ranging from business and professional development-related to technology.

The workforce of the future must be based on inclusivity. It is a win-win for employers and employees alike, but both parties need to work together to make it work.

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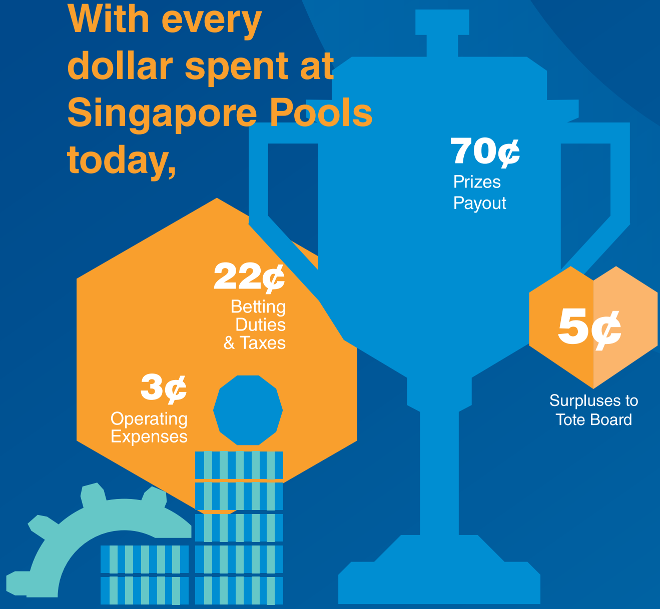

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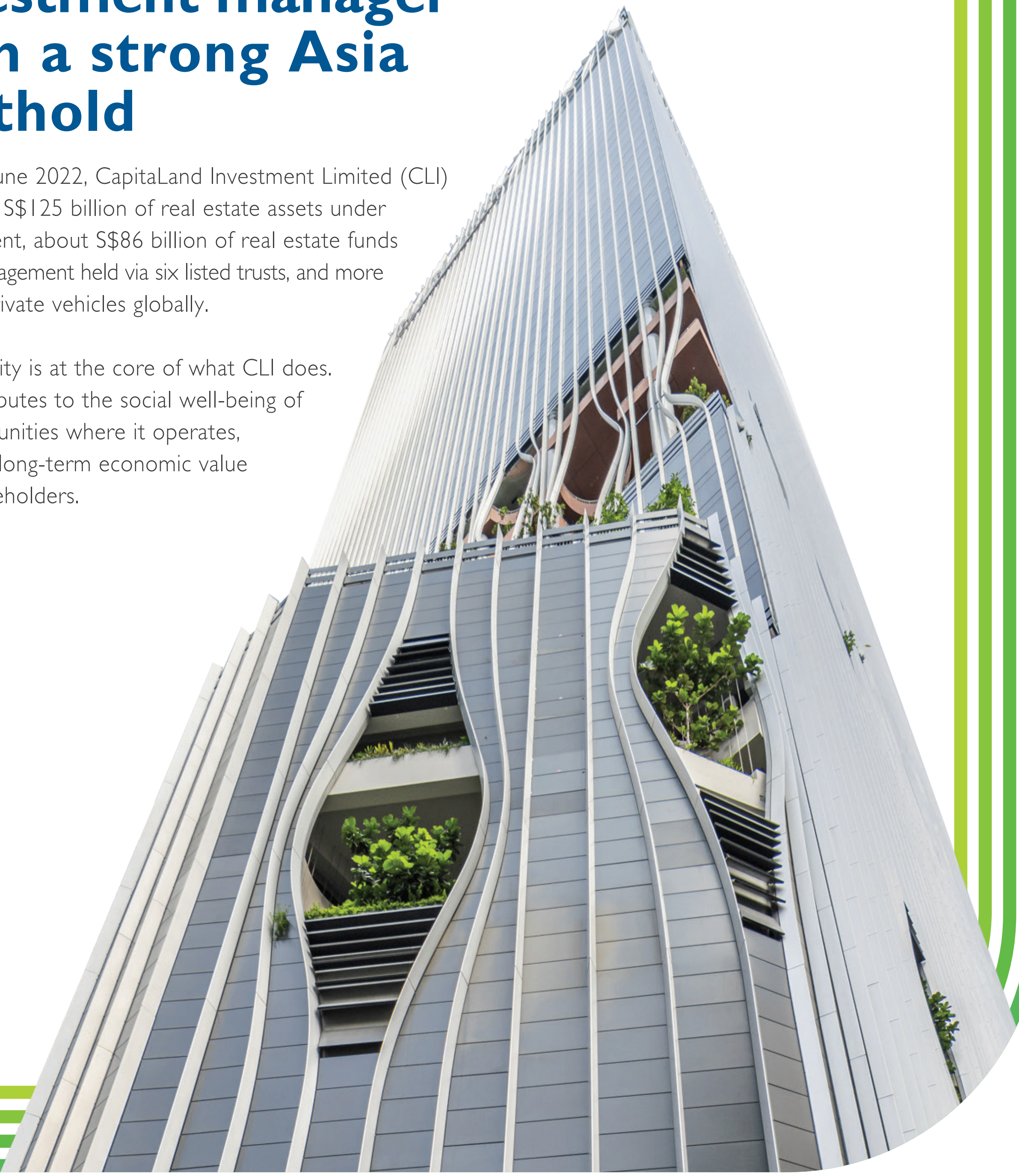

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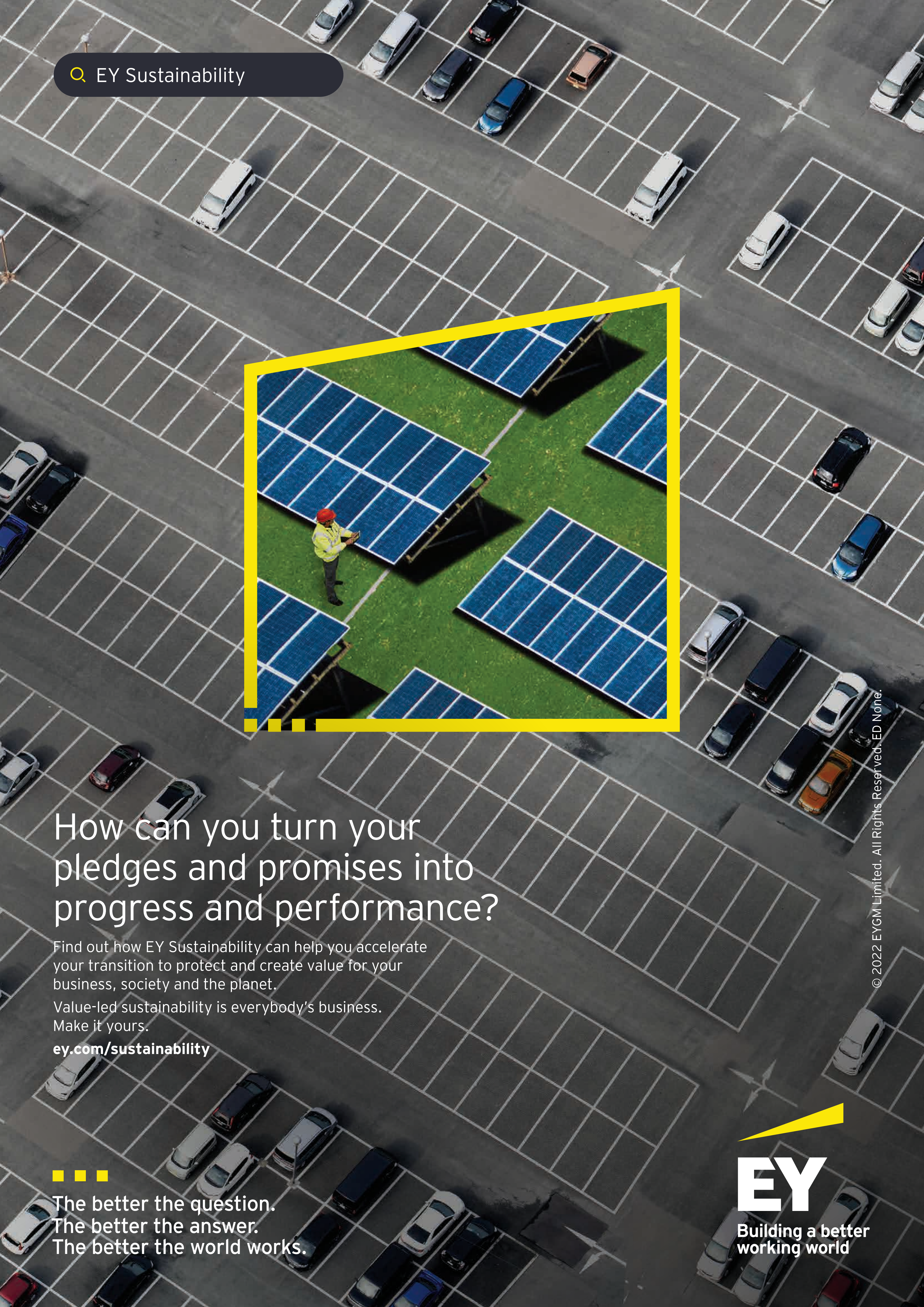
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