

## Practical ESG

### Sustainable urban solutions and measuring success



IREUS roundtable session of 11 July 2024 in progress. PHOTO: JOSEPH OOI

**26 July 2024**

ESG will progressively acquire a greater sense of importance and urgency as we draw nearer to the 2050 net-zero deadline. Achieving such an ambitious goal requires a concerted effort from all stakeholders, including governments, financial institutions, businesses, and the think tanks that support policy making and corporate strategy through robust research and evidence-based recommendations.

Real estate accounts for approximately 40% of carbon emissions worldwide. While new buildings can be built in

accordance with green specifications, the greater challenge lies in retrofitting the existing stock and enabling their transition to green buildings, said Mr Tan Swee Yiow at a roundtable session organised by the NUS Institute of Real Estate and Urban Studies (IREUS) on 11 July 2024.

Yet, even as we focus attention on decarbonisation and green technologies, we have to be mindful that ESG encompasses a substantially broader scope that extends beyond energy savings.

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## Sustainable urban solutions – making sustainability a business

“ESG is not just about energy performance,” said Mr Tan. “A good building also needs to address tenants’ wide-ranging needs and create social capital through thoughtful placemaking, shared amenities, communal spaces and community activities.”

Beyond renewable energy, water-saving solutions and sustainable cooling systems, Mr Tan believes that enterprise solutions – such as those Keppel is implementing for its real estate – hold the potential to be a blueprint for industrywide implementation.

Mr Tan Swee Yiow is chairman of Keppel REIT, and has over the course of his career served in various key appointments in the Keppel Group. As president of the Real Estate Developers’

Association of Singapore (REDAS), he champions best practices and excellence in the industry, and in his roles on the World Green Building Council and Singapore Green Building Council, he is an advocate for sustainable practices in the building and construction sector.

Citing the redevelopment of Keppel Towers as an example, Mr Tan highlighted that in addition to remarkable energy performance, the new building would also feature a panoramic social space on the rooftop, a lounge and social kitchen on the sky terrace, family and recreational spaces such as a children’s library, pet run, movie room, gym, rest pods and various other facilities aimed at fostering a sense of community and wellbeing.



Illustration of redeveloped Keppel Towers: KEPPEL LAND

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*- Tan Swee Yiow*



Tianjin Eco-City. PICTURE: KEPPEL

Going beyond the perimeters of the building, sustainable urban solutions can next be applied at the township level, of which an outstanding example is Keppel’s Tianjin Eco-City. Started in 2008, the project was developed based on a comprehensive green masterplan which focused on protecting the “green and blue assets” (i.e. vegetation and water) of the district, and at the same time creating an integrated environment to live, work, play and learn. The eco-city today covers an area of 30 sq km, and is home to over 26,000 registered companies and 140,000 people living or working in the city.

As a response to rising sea levels, one of Keppel’s adaptation solutions is to build floating near-shore facilities and housing – which could integrate with coastal protection, bottom-sitting infrastructure to form a self-sustainable near-shore township of the future.

Responding to session moderator, Leslie Yee, Mr Tan remarked that

knowledge was a critical factor in the progress of ESG. By and large, ESG had secured industrywide acceptance, and going forward, the mechanics of implementation are now a key concern. He added that successful solutions ought to be documented as case studies and widely shared among industry practitioners.

During the lively Q&A segment of the roundtable session, Mr Tan further added that a top-down approach would further facilitate implementation, since senior executives would be in a better position to weigh the long-term upsides of ESG against trade-offs such as higher operational overheads over the near-term.

With S\$55bn worth of assets under management at end-2023, Keppel aims to reach S\$200bn by 2030, guided by the goal to “invest in real assets and solutions that create a sustainable future”.

## How to measure success?

In tandem with sustainability initiatives, the ability to quantify and measure success is equally important. How do we know that we have achieved our intended outcomes?

Here, MIT’s Professor Zheng Siqi presented a compelling case for a multidisciplinary, cross-sectoral approach that deploys comprehensive data, analytics and robust evidence-based research as a solution.

Prof Zheng is the faculty director of MIT’s Center for Real Estate. She is also the 2nd Vice President of American Real Estate and Urban Economics Association (AREUEA) and the Editor of Journal of Regional Science.

According to Prof Zheng, research is guided by three pillars, which respectively entail (i) measuring the financial value of building decarbonisation, (ii) quantifying the cost of climate risks, and (iii) advocating for the well-being of the vulnerable.

Referencing a case study for a high-rise, new office building in Manhattan, Prof Zheng shared how the building owners had to balance between penalty fees payable under New York City’s Local Law 97, which penalized greenhouse gas emissions, against fully adopting electricity, which is pricier than gas. Through scenario modelling that estimated the financial value of building electrification under different circumstances, a staggered implementation approach was recommended, which would eventually switch over to full electrical energy at a later juncture.

Pre- and post-disaster econometric analysis of real estate values – for example, how property prices dipped after a hurricane – represented a way to quantify the cost of climate risks. The mathematical models developed through research, and how ex-post prices dynamically evolved over time would generate implications for asset valuation and cash-flow projections. Measuring the financial costs of natural catastrophes was therefore useful to help developers, asset owners and portfolio managers plan for and adapt to the impact of disaster.

### The 3 pillars of research



ILLUSTRATION: MIT CENTER FOR REAL ESTATE

Finally, even as we champion sustainability, we need to be constantly mindful of the disproportionate impact on vulnerable demographic groups, such as low-income households. Sustainable housing, for example, would naturally entail higher capital outlay for developers, who may in turn pass the additional costs on to housing consumers. The role of research in this area would be to examine where other policies (e.g. zoning restrictions etc.) could be loosened so that developers could offset cost-savings there against the upfront costs of sustainable projects, and thereby keep prices affordable.

During the Q&A segment, Prof Zheng additionally underscored the importance of green finance in supporting the growth and acceptance of ESG. Responding to questions from the floor, she cited the example of lower

mortgage interest rates to motivate housing consumers to opt for energy-efficient homes.

The roundtable session of 11 July 2024, jointly organised with the MIT Center for Real Estate and Raffles Quay Asset Management, is part of IREUS' series of roundtable sessions on ESG – Beyond Compliance.

Previous roundtable sessions featured: Mr Niel Thassim, Brookfield Asset Management's Managing Partner, Global Chief Operating Officer & Head of Europe, Global Client Group; Mr Paul Kwee, Head of Industries Risk at Standard Chartered Bank; Professor Sven Bienert of the University of Regensburg; and Mr Benjamin Towell, OCBC Bank's Executive Director for Global Wholesale Banking Sustainability Office.

**Multidisciplinary and cross-sectoral collaboration to create innovative solutions for climate adaptation and mitigation.**



Keppel's nearshore solutions for rising sea levels. ILLUSTRATION: KEPPEL