

## GREEN AND RESILIENT BUILDINGS IN ASEAN CITIES

5-6 SEPTEMBER 2023

The ASEAN Catalytic Green Finance Facility (ACGF) Innovative Finance Clinics, developed by the Southeast Asia Green Finance Hub in close collaboration with other ADB departments, ACGF partners, and ASEAN governments, aim to originate green and climate-resilient projects in ASEAN that mobilize private, institutional, and commercial capital. The Clinics bring together government officials, experts, financiers, and other stakeholders to identify and enhance capacity for bankable project opportunities.

The green and resilient buildings Clinic took place in Singapore, renowned for its leadership in green high-rise developments, at the inspirational Parkroyal Collection Pickering Hotel, recipient of the 'World's Leading Green City Hotel' award from 2018-2023. Over two days, business and financing models were reviewed to demonstrate how addressing project structuring challenges and sharing risks can effectively align the availability of capital with demand. The agenda included case studies covering green and resilient social housing, green hospitals, financial intermediation, green buildings certifications, and energy services.



### CLINIC BY THE NUMBERS



**113** people (**33%** women) from **8** developing member countries and **18** private organizations; **47** ASEAN government officials (**32%** women).

**Organizations:** City governments, ministries of finance, industry and energy, national banks, commercial banks, utilities companies, real estate firms.

**Countries:** Cambodia, India, Indonesia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, United Kingdom, Viet Nam.

**40 presentations from public and private sector experts, covering:**



**Topics:** Sector overview and opportunities; scaling up investments including codes and certifications; resource efficiency and resilience; financial institutions and financing innovation; capital markets and the role of the private sector.



**Case studies:** Green social housing bonds in Thailand; inclusive, resilient, and sustainable housing for urban poor in Tamil Nadu; project bonds for green hospitals in Turkey.

### LEVERAGING PARTNERSHIPS



### WHY ARE GREEN AND RESILIENT BUILDINGS IMPORTANT FOR ASEAN?

Buildings are responsible for **40%** of energy use emissions globally, and approximately **one third** of end-use energy consumption and emissions in ASEAN.



By 2030, **almost 56%** of ASEAN's population is expected to live in cities. The impact of the urban built environment will continue to expand as building floor space in the region is projected to double by 2060 compared to 2020.

Clear evidence shows a strong business case with favorable economic and financial returns, but perceived complexities related to technologies, standards, stakeholders, and incentives hinder investments in green and resilient buildings.

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*“Achieving the 1.5°C target means that we’ve got to prioritize and focus on putting right quickly the things that have the greatest room for impact and it’s in that vein that the built environment sector, which accounts for nearly 40% of emissions globally, is such a key component in this transition, both from the perspective of cutting emissions and of adapting to the effects of climate change that we will be unable to avoid.”*

**Kara Owen**

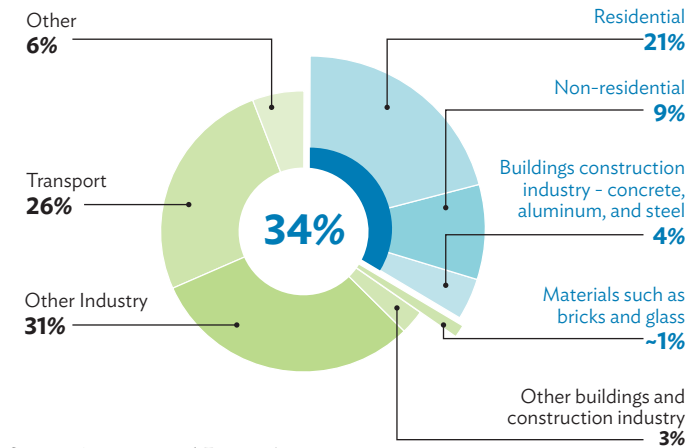
CMG CVO, British High Commissioner to Singapore

*“There is no transition to net zero without ambitious action in the building sector.”*

**Hong Soo Lee**

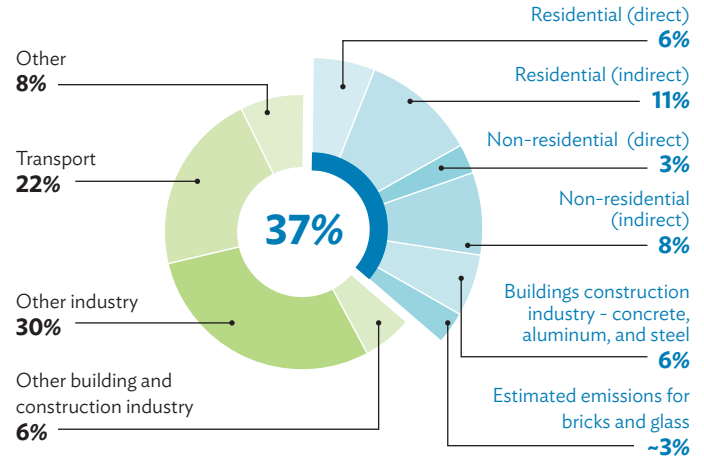
Senior Urban Development Specialist,  
Asian Development Bank

### SHARE OF BUILDINGS IN GLOBAL ENERGY CONSUMPTION



Source: International Energy Agency.

### SHARE OF BUILDINGS IN GLOBAL ENERGY AND PROCESS EMISSIONS



### SELECT BUSINESS AND FINANCING MODELS

- Singapore’s leadership in the green and resilient buildings sector can be attributed to a combination of factors, including strong political commitment, and coordinated planning across ministries. Early adoption of energy efficiency benchmarks and sustainability standards, and the implementation of comprehensive green building masterplans have been instrumental. Key financial incentives and schemes include the Green Mark Incentive Scheme, encompassing initiatives such as the Building Retrofit Energy Efficiency Financing (BREEF) Scheme, Energy Performance Contracting (EPC) for retrofits, and the Zero Capital Partnership (ZCP) Scheme, guarantees for green loans, tax incentives, and research and development (R&D) grants.
- Technology lists, such as Carbon Trust’s Green Technology Selector (GTS), are tools to identify market leading technologies for financing by connecting investors, financiers, and vendors to green technology suppliers. For example, the GTS reduces transaction costs by streamlining diverse and fragmented segments of the value chain, providing access to incentives or concessional finance (such as bundling with credit line options), and raising awareness of green and energy efficient technologies.
- Cooling as a Service (CaaS) is an innovative business model that enables building owners to purchase the cooling service from the CaaS provider on a pay-per-use or pay-for-performance basis. The CaaS service provider owns and maintains the cooling equipment and assumes all financial and operational responsibility to deliver the cooling service. This mitigates certain price risks for building owners while enabling a portfolio approach for the service provider, reducing operating costs and diversifying technology and implementation risks. It incentivizes building owners and operators to adopt state-of-the-art monitoring systems that allow for proactive maintenance, energy optimization, and performance improvements, thereby further reducing environmental impact. CaaS allows for scale and speed for growth within the sector as it can be tailored to customer needs and is adaptable across building types.

### KEY TAKEAWAYS

1. Scaling up the green buildings sector requires strong partnerships between the public and private sectors, along with innovation, and effective mobilization of finance.
2. There is a strong business case for investing in energy-efficient and climate-resilient buildings. Some of these added benefits include enhanced marketability, cost savings, and improved productivity.
3. ASEAN countries show varying degrees of progress in green building initiatives, with only a few having robust frameworks. Strengthening policies aligned with regional standards, such as the ASEAN Taxonomy, can align stakeholders and drive regional progress.
4. Both the public sector and financial institutions can encourage green building opportunities through incentives including preferential loans, tax rebates, and technical assistance. Meanwhile, the private sector remains crucial in driving innovative technical and financing solutions for green and resilient buildings.

### CLINIC OUTCOMES

- The workshop generated 21 expressions of interest from ASEAN countries for ACGF technical assistance to develop early-stage concepts and projects. Ten sovereign and five sub-sovereign entities requested funding to support regulatory frameworks and project designs, the adoption and enforcement of building energy codes at national and local levels, the design of a green social housing financing platform, and to advance green hospital projects.
- Additionally, six private sector financial institutions and property developers requested support to establish transition targets, mobilize green financing, and develop green building strategies and products.
- In 2024, as a follow-up to the regional Clinic, the first national ACGF Clinic on Green and Resilient buildings was held in Ha Noi, Viet Nam.