



SUMMARY NOTES

EEAP WEBINAR 17

Implementing and Evaluating Energy Efficiency Policies for Buildings in Asia Pacific

On April 3, 2025, the Energy Evaluation Asia Pacific (EEAP) hosted its 17th webinar focusing on the **Implementation and Evaluation of Energy Efficiency Policies for Buildings in Asia Pacific**

The session featured three distinguished speakers:

- **Kimberly Roseberry**, Economic Affairs Officer, Energy Division, UNESCAP
- **Gennai Kamata**, Associate Programme Officer, Buildings and Urban Energy, UN Environment Programme
- **Thien Juengwirunchodinan**, Solution Development, Coral Life

Kimberly Roseberry, an Economic Affairs Officer at UNESCAP, highlighted the critical role of energy-efficient buildings in achieving sustainable development goals in the Asia Pacific region. She discussed policy tools, barriers, and implementation pathways, emphasizing the need for comprehensive evaluations to establish performance baselines and assess regulatory impacts.

Gennai Kamata, a technical expert at UNEP, introduced the Global ABC Building Roadmap, developed with input from over 700 experts. This roadmap provides tailored guidelines for decarbonizing the building sector. Gennai stressed the importance of multi-faceted evaluation criteria, including technical progress, policy advancement, market transformation, capacity building, and climate impact.

Thien Juengwirunchodinan, from Coral Life, shared their approach to sustainable building solutions, achieving over 70% energy savings and wellness-grade indoor air quality. He emphasized effective evaluation and monitoring using energy use intensity (EUI) benchmarks and real-time indoor air quality (IAQ) sensors to ensure optimal building performance. Thien also discussed the market potential for sustainable building solutions in Southeast Asia.

The webinar offered an in-depth exploration of sustainable building practices and energy efficiency, highlighting innovative solutions, policy frameworks, and evaluation methodologies. It served as an essential resource for policymakers, researchers, and industry professionals committed to advancing energy-efficient and resilient building sectors.

This document summarizes the key discussion points from the webinar.



Webinar Agenda

Time (Bangkok)	Sessions/Speakers
11:00-11:05 AM	<p>Welcome Remarks & Context Setting</p> <p><i>Edward Vine, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)</i></p>
11:05-11:50 AM	<p>Presenters</p> <ol style="list-style-type: none"> Kimberly Roseberry (Ms.), Economic Affairs Officer, Energy Division, UNESCAP <i>“Building Energy Efficiency: Taking Stock of Policy and Practice in Asia and the Pacific”</i> Gennai Kamata, Associate Programme Officer, Buildings and Urban Energy, UN Environment Programme <i>“UNEP/Global ABC and Cool Coalition efforts towards energy-efficient and resilient buildings in Asia”</i> Thien Juengwurchodinan, Solution Development, Coral Life <i>“Advancing Energy Efficiency in Buildings: Market Trends, Performance, and the Path Forward”</i>
11:50 AM - 12:15 PM	<p>Moderated Audience Q&A</p>
12:15 PM	<p>Concluding Comments & Vote of thanks</p> <p><i>Edward Vine, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)</i></p>

Introduction and Context Setting

Edward Vine, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)



Ed Vine, a member of the Steering Committee for EEAP, greeted the participants and speakers, introduced EEAP and provided a context of the webinar.

Introduction to Energy Evaluation Asia Pacific (EEAP)

Ed introduced EEAP to the participants. Established as a non-profit organization in 2018, and modelled after IEPEC (US, since 1983) and IEPPEC (Europe, since 2010), EEAP is focused on expanding the practice of objective evaluation in the Asia Pacific region. EEAP's mission is to lead in expanding evaluation practices, building capacity, and understanding the impact of energy efficiency and renewable energy programs and policies, aiming to provide a strong evidence basis for continuous improvement in these areas.

EEAP fosters exchange and interaction among evaluators, NGOs, government agencies, and academics to promote the value of energy evaluation and capacity building. EEAP offers a database of resources on best practices, holds webinars on various topics, and organizes international events and conferences, particularly in relation to the Sustainable Development Goals (SDGs). EEAP brings stakeholders together to support data-driven decision-making in the energy sector. One of its main objectives is capacity building, especially in the rapidly growing Asia Pacific region.

Ed also informed the audience that EEAP is planning to have a conference in Indonesia this year. The details will be shared on EEAP's website and social media once the details are confirmed.

Ed also informed the participants about the Eval Torch initiative, which EEAP is actively involved in. This initiative aims to unite the evaluation community to contribute to a more just and sustainable world by promoting the use of evaluation to address global challenges. The Eval Torch symbolizes a call to action for evaluators worldwide.

Ed also provided a context of the webinar topic highlighting the importance of the building sector in reducing emissions and energy use. He noted that the webinar's

focus on this sector aligns with EEAP's broader goals of enhancing energy efficiency and sustainability. By addressing the critical aspects of building energy use, EEAP aims to support the achievement of global energy efficiency targets and sustainable development goals.



#EvalTorch
Ignite the future of evaluation

- #EvalTorch is a symbol and a call to action, uniting the evaluation community to build a future where evaluation contributes to a more just and sustainable world. Starting its journey during the International Year of Evaluation in 2015, #EvalTorch carried the light of influential and transformative evaluation to over 70 countries and 92 events.
- Now reignited, #EvalTorch is travelling the world once again to celebrate the progress made and inspire action to make evaluation future-fit to address global challenges and opportunities.

Presentation by Speakers

Building Energy Efficiency: Taking Stock of Policy and Practice in Asia and the Pacific

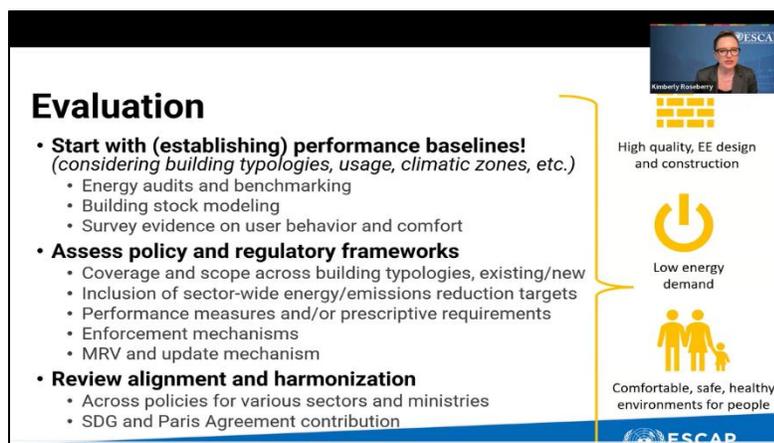
Kimberly Roseberry, Economic Affairs Officer, Energy Division, UNESCAP



Kimberly Roseberry presented the importance of the building sector in achieving sustainable development goals including SDG7, nationally determined contributions (NDCs), and net-zero goals. She highlighted that buildings consume approximately one-third of energy, and the Asia Pacific region, which is rapidly urbanizing and experiencing rising temperatures, is seeing increased energy demand, particularly for cooling. Most buildings in the region are designed with little consideration for energy efficiency.

Kimberly discussed several policy tools to address these challenges, including energy codes and standards, ratings and labeling systems, minimum energy performance standards (MEPS) for appliances and equipment, passive cooling integrated into urban planning, financial and non-financial incentives, and public procurement of energy-efficient equipment and materials. She identified key barriers to policy development, such as limited capacity among policymakers and practitioners, data deficiency, financing challenges, and lax enforcement of regulations.

To overcome these barriers, Kimberly emphasized the need for awareness, improved institutional capacity, a long-term perspective on building energy codes, piloting and demonstrations, finance mechanisms, and stakeholder engagement. She also stressed the importance of evaluating policies by establishing performance baselines through energy audits and benchmarking, assessing user behavior and comfort, and reviewing policy and regulatory frameworks for their scope, coverage, enforcement, and alignment with international commitments.



Highlighting a case study on Cambodia, Kimberly illustrated the country's challenges with rising energy demand, lack of building energy codes, and limited evidence base. Actions taken included reviewing and analyzing the built environment, modeling building performance, developing practical tools like a compendium and guidebook, engaging stakeholders, and conducting pilot demonstrations to trial materials and approaches for reducing cooling loads. These efforts aim to inform national-level analysis and contribute to the development of building regulations in Cambodia.

Main Takeaways

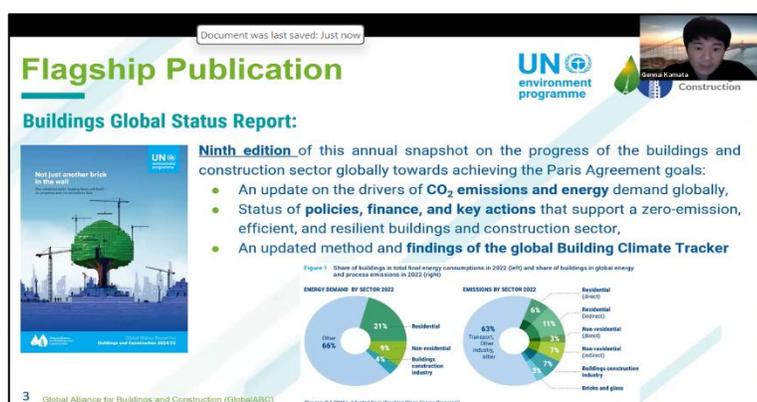
- **Critical Role of Buildings:** Buildings consume a significant portion of energy, making energy-efficient design and construction crucial for reducing energy demand and emissions in the Asia Pacific region.
- **Effective Policy Tools:** Implementing energy codes, standards, and incentives, along with improving institutional capacity and stakeholder engagement, is essential for promoting energy efficiency in buildings.
- **Importance of Evaluation:** Establishing performance baselines and conducting comprehensive evaluations are necessary to understand current energy use, model impacts of regulations, and ensure policies effectively reduce energy demand and emissions.

UNEP/Global ABC and Cool Coalition efforts towards energy-efficient and resilient buildings in Asia”

Gennai Kamata, Associate Programme Officer, Buildings and Urban Energy, UN Environment Programme



Gennai Kamata presented on the Global Alliance for Buildings and Construction (Global ABC) and its efforts to promote energy-efficient, resilient buildings. Launched at COP21 and hosted by UNEP, Global ABC has 339 members, including 68 countries, and aims for zero-emission, efficient, and resilient buildings and construction sectors. One of its flagship publications is the annual Global Status Report, which captures the global status of building decarbonization and resilience. Buildings account for almost one-third of global energy consumption and CO₂ emissions, and in Asia, they contribute significantly to energy consumption and emissions, including embodied carbon.



Gennai discussed the Global ABC Building Roadmap, developed through consultation with over 700 experts worldwide. This roadmap provides guidelines for decarbonizing the building sector, tailored to local conditions and practices. It encourages countries to focus on four objectives: zero embodied carbon, zero operational carbon, adaptation, and inclusion and well-being. The methodology includes a step-by-step guide for setting goals, identifying key actions, and creating pathways towards efficient, resilient, and inclusive buildings. This involves mobilization,

stakeholder engagement, baseline assessment, identifying challenges and opportunities, prioritization, action development, implementation, and monitoring and evaluation.

Evaluation criteria for the roadmap include technical progress (energy efficiency, material efficiency, and production process decarbonization), policy advancement (development and enforcement of building energy codes and integration into national commitments like NDCs), market transformation (adoption of eco-friendly materials and appliances), capacity building (quality and quantity of training and workshops, including advanced tools like building simulation software), and climate impact (CO₂ reduction and resilience measures).

Gennai provided a case study on Bangladesh, highlighting issues such as high carbon emissions, high-intensity materials, housing deficit, coordination issues, urban development challenges, and data management. Bangladesh set targets for reducing carbon intensity in materials like bricks and concrete and developed actions for strategic priorities, urban development, existing buildings, new buildings, and construction supply chains.

He concluded by encouraging the audience to refer to Global ABC publications focusing on Asian and Association of Southeast Asian Nations (ASEAN) contexts for detailed guidelines and methodologies. Gennai's presentation emphasized the importance of a comprehensive roadmap for decarbonizing the building sector, tailored to local contexts, and highlighted the need for multi-faceted evaluation criteria to ensure progress in energy efficiency, policy advancement, market transformation, capacity building, and climate impact. The case study of Bangladesh provided practical insights into addressing specific challenges and setting actionable targets.

Main Takeaways:

1. **Comprehensive Roadmap:** The Global ABC Building Roadmap provides tailored guidelines for decarbonizing the building sector, focusing on zero embodied carbon, zero operational carbon, adaptation, and inclusion.
2. **Multi-Faceted Evaluation:** Effective evaluation requires assessing technical progress, policy advancement, market transformation, capacity building, and climate impact to ensure comprehensive progress in building decarbonization.

Advancing Energy Efficiency in Buildings: Market Trends, Performance, and the Path Forward

Thien Juengwirunchodinan, Solution Development, Coral Life



Thien Juengwirunchodinan presented on Coral Life's innovative approach to sustainable building solutions. Coral Life is a pioneer in providing end-to-end, measurable high-performance building energy solutions, delivering over 70% energy savings while ensuring wellness-grade indoor air quality and long-term value. Thien highlighted their extensive experience in real estate development in Thailand, including a 53-floor tower that was used as a study case for the formulation of Thailand's Building Energy Code.

Thien emphasized the importance of creating a platform to bring together policymakers, decision-makers, and stakeholders to promote tangible ESG solutions and sustainability. Coral Life's approach involves integrating various building techniques, materials, and digital

transformations to significantly reduce energy demand. For example, a project with a Taiwanese company, Zending, achieved a reduction in energy use intensity (EUI) from 209 to 82, representing over 60% energy savings.

Coral Life's business model, "Energy as a Service," allows building owners to achieve energy savings without initial capital expenditure. This model ensures immediate tangible ESG benefits and wellness-grade indoor air quality for occupants. Thien explained that their process starts with benchmarking the baseline energy use and then implementing various measures to reduce energy demand before addressing energy supply, aiming for net-zero solutions.



Thien also discussed the importance of evaluating and monitoring building performance. They use EUI to benchmark energy performance and employ indoor air quality (IAQ) sensors to monitor and adjust air quality in real-time. This ensures that buildings maintain high standards of air quality, including low levels of PM2.5, volatile organic compounds (VOCs), and CO₂, as well as optimal humidity and temperature.

Thien provided a snapshot of Coral Life's headquarters in Bangkok, which achieved an 86% reduction in electricity bills compared to conventional designs. He also highlighted the potential for energy generation, noting that their buildings could generate a surplus of energy, contributing to revenue through selling back to the grid.

Thien concluded by emphasizing the growing market for sustainable building solutions in Southeast Asia, with opportunities for investment in energy-saving technologies, green building products, and district cooling. He stressed that energy efficiency is no longer optional but a baseline for smart, healthy, future-proof buildings. Coral Life aims to make measurable, inclusive, and irreversible transformations in the building sector.

Main Takeaways:

Energy as a Service Model: Coral Life's "Energy as a Service" model allows building owners to achieve significant energy savings without initial capital expenditure, making sustainable solutions more accessible and financially viable.

Evaluation and Monitoring: Effective evaluation using EUI benchmarks and real-time IAQ sensors ensures optimal energy efficiency and air quality in buildings.

Presenters' Bio

Kimberly Roseberry,

Economic Affairs Officer, Energy Division, UNESCAP

Kim is an Economic Affairs Officer with the Energy Division at the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), where she supports regional and national efforts toward the achievement of Sustainable Development Goal 7 and the Paris Agreement. She has been working with ESCAP in sustainable energy for more than 12 years and currently leads initiatives supporting the development of policy frameworks and encouraging best practice approaches for reducing cooling-related energy demand and greenhouse gas emissions in the built environment. Prior to ESCAP, Kim worked in the private sector for an architecture-engineering firm and a bioenergy venture. She has a BA in Asian Studies from Dartmouth and an MLA in Sustainability and Environmental Management from Harvard.



Gennai Kamata,

Associate Programme Officer, Buildings and Urban Energy, UNEP

Gennai Kamata is a technical expert on sustainable buildings in the UN Environment Programme. He works for UNEP-led Global Alliance for Buildings and Construction (GlobalABC) and UNEP-led Cool Coalition to advocate for energy-efficient and resilient buildings. He coordinates the international Passive Cooling Working Group to promote knowledge exchange on passive design to support enhancing policy, financial mechanisms and design technologies. He is a licensed architect (Japan) and has a variety of experiences in sustainable design and construction.

Thien Juengwirunchodinan,

Solution Development, Coral Life

Thien Juengwirunchodinan's role in Solution Development at Coral Life is at the forefront of pioneering sustainable building solutions designed to address the urgent environmental challenges of our time. His work involves steering the strategic vision and operational execution of the company's mission to revolutionize energy efficiency in building usage.

Thien's commitment to sustainability and deep understanding of energy design drives the company's efforts to lead the market in sustainable architecture and building practices.



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