



Transition to Low Carbon Buildings in Asia: Way Forward

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Keynote Speaker



Dr. Lutz Morgenstern
Head of Division at the Directorate of International
Climate Action and Energy Transition,
Federal Ministry for Economic Affairs and Climate
Action of Germany

Speakers



Julie Robles

Global Green
Growth
Institute



**Dietram
Oppelt**

HEAT GmbH



H.E. Vibol MAO

Under-Secretary of State,
Ministry of Land Management,
Urban Planning and Construction,
Cambodia



Wisaruth Maethasith

Engineering, Professional Level,
Department of Alternative Energy
Development and Efficiency,
Ministry of Energy, Thailand

ALCBT seeks to significantly reduce GHG emissions by catalyzing nationwide transitions towards LCB in Asian countries.



Technical, planning, and institutional tools for LCB implemented by key public and private sector stakeholders in Cambodia, India, Indonesia, Thailand, and Vietnam.

Implementation period: 5 years (2023-2028)

Key Project Participants



Standardized tools and systems for managing building carbon emissions



Enhanced capacity of key stakeholders to deliver low carbon buildings



Financial pathways established for low carbon buildings transition



Knowledge products produced to facilitate **replication and scaling up**

1.67 million tCO ₂ eq Direct and indirect emissions reduced	19,000+ people Enhanced knowledge and capacity	EUR 140 million Investment mobilized
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BEAT: Building Emission Assesment Tool

Transforming construction & buidlings for a Net
Zero Future

ALCBT IKI Project
Dietam Oppelt
Managing Director HEAT
COP29, 21.11.2024

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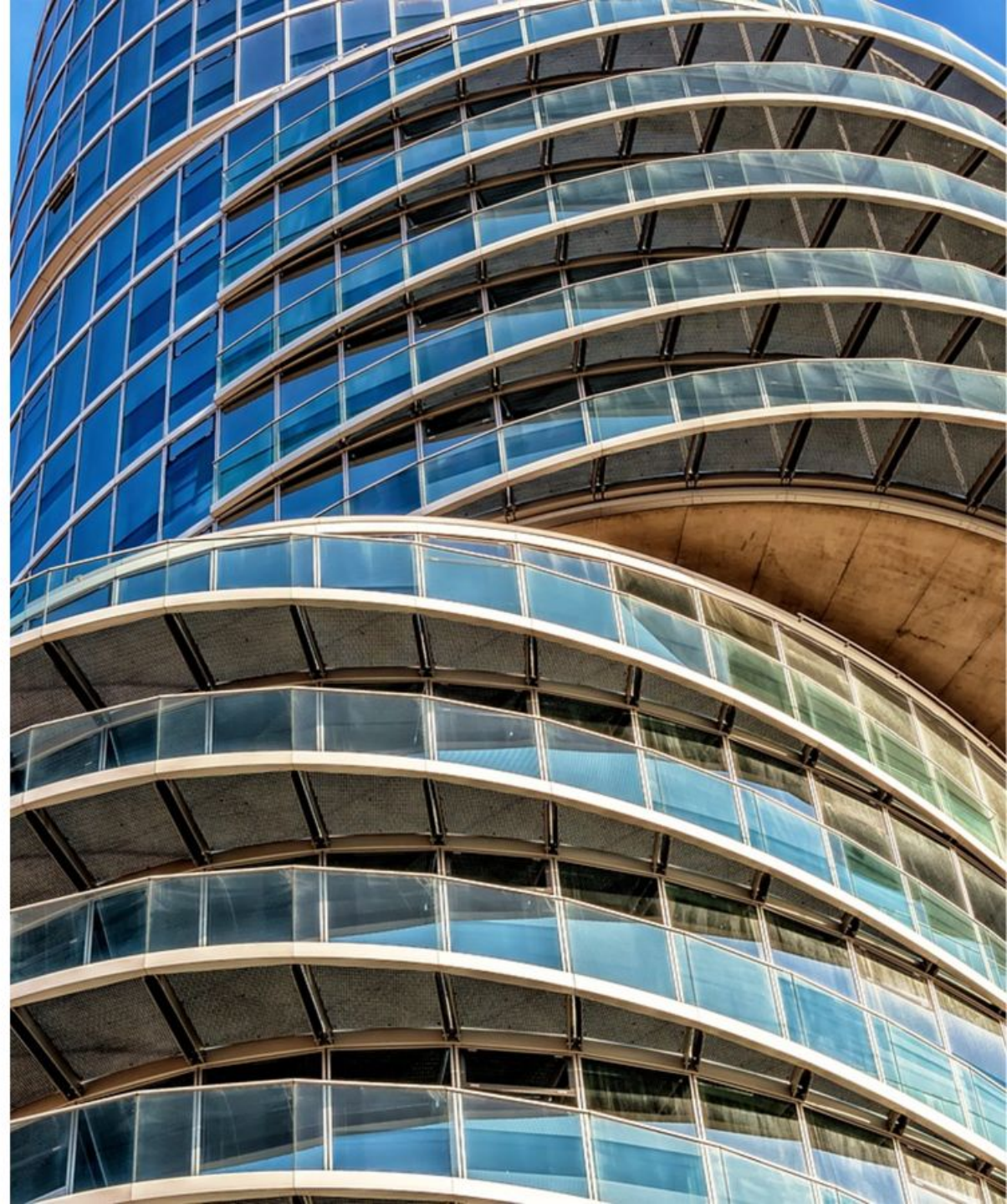


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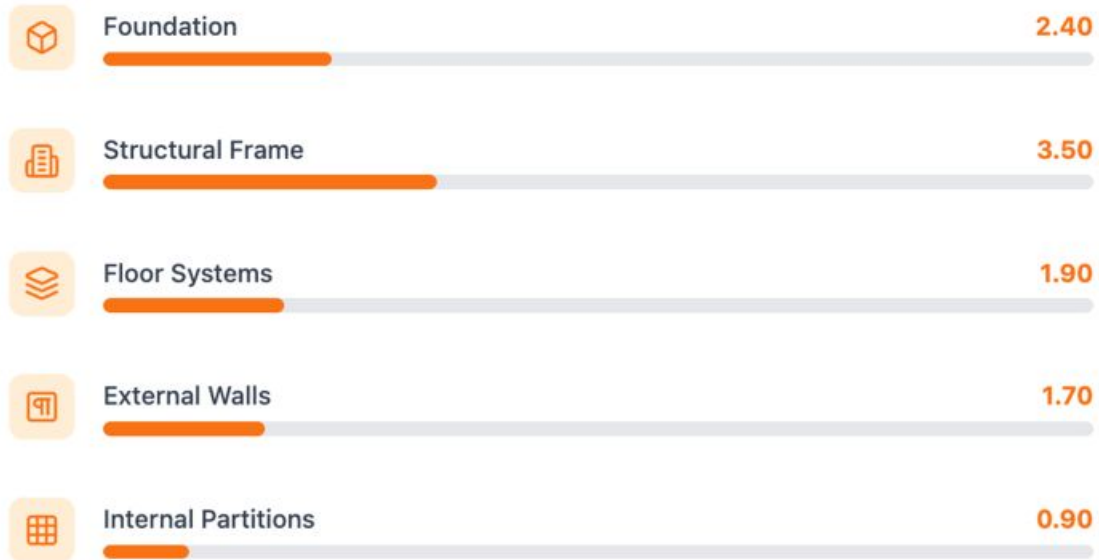


BRINGING EMBODIED CARBON IN BUILDINGS INTO PLAY

BEAT Annual Embodied Carbon

10.40 kgCO₂e/m²/year

Based on 50-year building lifetime



Highest Impact

Structural Frame (33.7%)

Life Cycle Assessment

50 years standard

- Comprehensive coverage of the total climate impact of building
- Focus on operational carbon & EMBODIED CARBON
- Allowing for comprehensive coverage of the climate impact of buildings

Building Transformation Journey



CURRENT STATE

- Asean buildings accounting for 23% of emission
- About 25% of buildings emission from embodied carbon
- Embodied carbon not addressed in building codes
- With progressing decarbonisation of the grid the embodied carbon share will rise

TRANSFORMATION

- Tool comprehensively addressing total LCA emissions
- Open source
- Allowing integration of national material databasis
- Serving as a basis for certification
- Integration into taxonomies of financial organisation and green public procurement

FUTURE VISION

- Comprehensive capture of building life cycle emissions
- Integration into building code
- Increasingly mandatory standards for new building
- Transformation and demand creation for low and net zero building materials

Key features



Comprehensive Carbon Assessment

Detailed Embodied Carbon for Structural/Non-Structural Elements

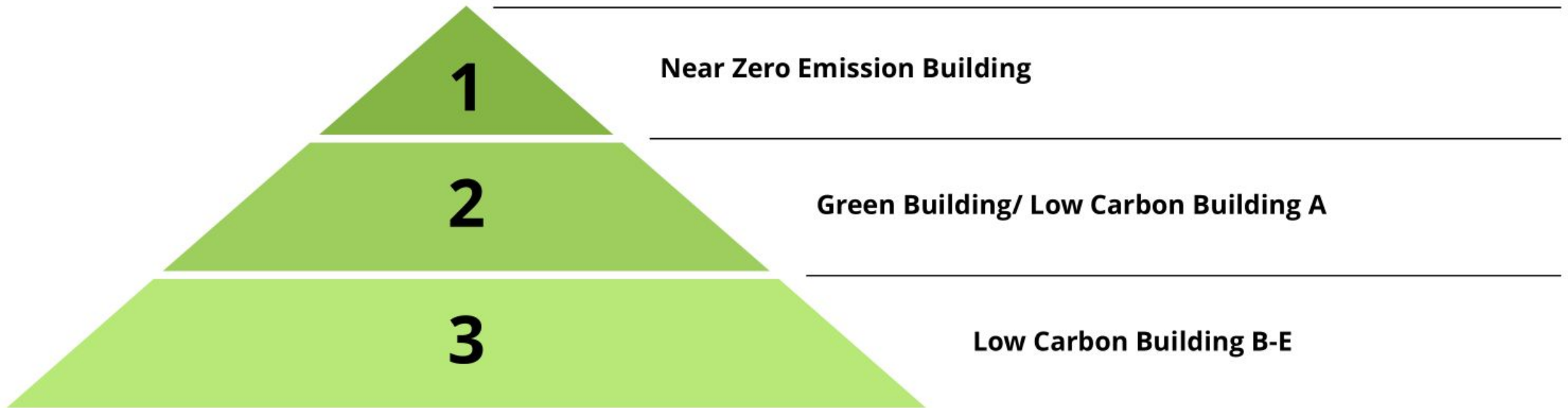
Operational Carbon over Building Lifespan

**Hierarchical LCA System:
Site-specific>National>Regional>Global>Calculated LCA**

Sensitivity analysis for material choices and design alternatives

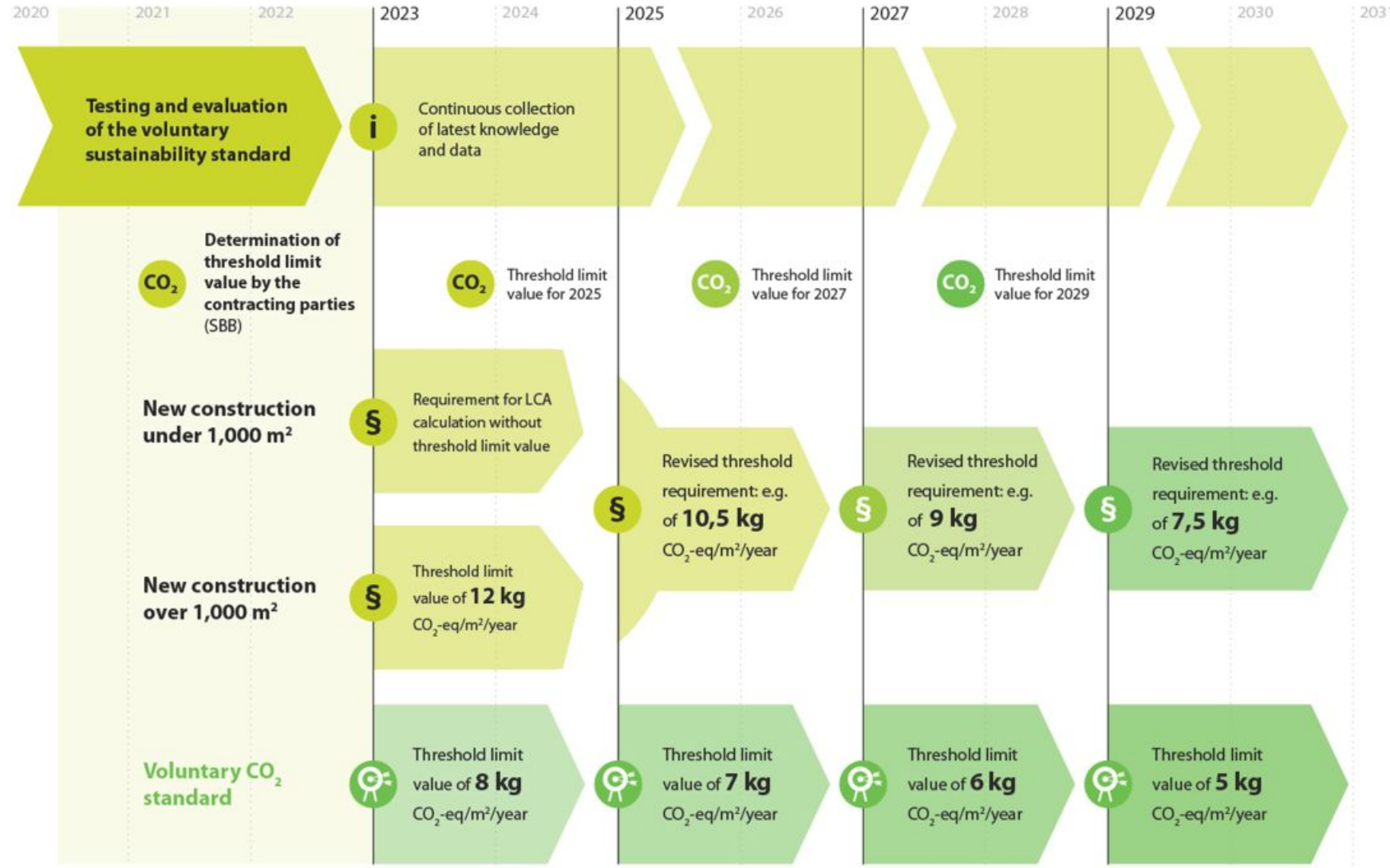
Taxonomy Features

- Dynamic thresholds based on collected data, with increasing thresholds over time
 - Tiered certification levels (e.g., bronze to platinum)
 - Separate categories for new construction and retrofits
- Alignment with international standards (e.g., ISO 14040/44)



Dynamically updated thresholds:

Example Embodied Carbon Denmark



Next Steps and Timeline

1 Advisory Board Feedback
Incorporation

2 Tool Development Implementation

3 Pilot Project Selection / Tool Evaluation

4 Stakeholder Engagement and Capacity Buildings

THANKS

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Contact

kontakt@heat-international.de



[@HEAT_GmbH](https://www.linkedin.com/company/heat-gmbh)

www.heat-international.de



ASIA LOW CARBON BUILDINGS TRANSITION PROJECT
Life Cycle Assessment for Transitioning to a Low-Carbon Economy

Thank you!

Learn more at www.gggi.org/alcbt



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