

PROF. RADIN UMAR BIENNIAL MEMORIAL LECTURE NO. 5 - 2025

Transport Projects Design and Construction: Lifecycle Emissions Embodied and Operational Carbon Assessment

Organised by: Highway and Transportation Engineering Technical Division (HTETD)

BEM Approved CDP: 2 Hours

Ref. No.: IEM25/HQ/095/T



Saturday, 26 April

09.00-11.00 Am



Auditorium Malakoff

Wisma IEM



Ir. Gandhi Suppiah

*Regional Director and Principal
for South East Asia TSA Riley*



Registration fee

Student Member: Free

IEM Member: RM15.00

Non-Member: RM70.00



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Synopsis

This session will explore the impact of lifecycle emissions in the design and construction of transport infrastructure, with a focus on both embodied and operational carbon assessment. It will examine how materials, construction methods, and transport infrastructure operations contribute to carbon emissions and explore strategies to minimise environmental impact while enhancing sustainability.

Engineers will gain insights into carbon accounting methodologies, global standards, regulatory frameworks, and industry best practices for assessing and reducing emissions at each stage of a transport infrastructure lifecycle. The session will also discuss innovative solutions, including sustainable materials, energy-efficient construction techniques, and low-carbon maintenance strategies that can help Malaysia advance its transport decarbonisation goals. The transport sector in Malaysia is a significant contributor to Malaysia's GDP and carbon emissions. It accounts for approximately 18% of CO₂ and 35% of the total energy consumed nationally and produces nearly 50 million metric tons (Mt) of CO₂ per year.

Reduce Carbon = Reduce Cost

There is need to discuss on net-zero strategies, carbon reduction policies, and engineering-led innovations, this session aims to inform and equip transportation professionals with the knowledge and tools needed to drive sustainable transformation in transport engineering and infrastructure development.

Speaker's Biodata

ir. Gandhi is an experienced professional civil engineer with over 25 years global experience with successful track record in delivering major infrastructure developments projects across the entire project lifecycle from concept through design, construction, asset management and operations.

Gandhi's track record of achievements reflects his pragmatic and commercial mindset. He has proven success in establishing and winning key client accounts in SEA and globally he has shaped outcomes on numerous projects blended with leadership and organisational capabilities demonstrating significant value in delivering major sustainable development infrastructures to achieve Net Zero targets. He has demonstrated success in leading diverse teams and delivering major innovative solutions and excellence in civil engineering project delivery and lifecycle management.

His specialties include:

- Engineering and Operational Excellence
- Sustainable Developments, including Carbon LCA's
- Project Management and Lean Process Optimization
- Digital Technology Implementation and Smart Infrastructure
- Leadership and Team Development in Multicultural Environments

PROGRAMME

TIME	DESCRIPTION
08:15 – 08:45 am	Registration of Participants
08:45 am	Arrival of Memorial Talk Speaker, Ir. Gandhi Suppiah
9.00 am	Welcome Speech by Chairman Highway and Transportation Engineering Technical Division Ir. Foo Kam Fai
09:05 am	Opening Speech by IEM President, Ir. Prof. Dr. Jeffrey Chiang Choong Luin
09:10 – 10:30 am	Memorial Talk by Ir. Gandhi Suppiah
10:30 – 11:00 am	Q & A Session
11:00 am	Presentation of Token of Appreciation by the President of IEM to Ir. Gandhi Suppiah