Global Compact Network Singapore

YEO HONG CONSTRUCTION & ENGINEERING

LowCarbonSG Awardees (2023 – 2025):

Leaders in Action on Decarbonisation

How Yeo Hong Construction & Engineering Pte Ltd Delivers Measurable Decarbonisation under Real-World Constraints



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i. Introduction

Across the global business community, climate ambition has become commonplace. Targets have been announced, strategies articulated, and commitments formalised. Yet as expectations rise, so too does scrutiny — stakeholders now ask not only what companies intend to do, but how progress is being made and whether it can be verified. In this context, credibility matters.

Singapore presents a distinctive operating environment for sustainability. As a small, densely urbanised city-state with limited access to renewable energy sources, businesses here cannot rely on the geographic advantages available to larger economies. Instead, they must find low-carbon pathways within tight constraints — navigating strict regulations, high governance standards, and complex supply chains, while maintaining operational efficiency and commercial viability.

This article is part of a series profiling companies recognised under the LowCarbonSG programme, an initiative helmed by the UN Global Compact Network Singapore (UNGCNS) that honours demonstrated, measurable progress in reducing Scope 1 and Scope 2 greenhouse gas emissions over a defined period. Rather than rewarding ambition or aspiration, the programme values disciplined, evidence-based improvement — reflecting a principle that is increasingly important for corporate leaders: climate action must be verifiable, defensible, and repeatable.

The company profiled here represents one such journey. Regardless of sector or scale, what unites the LowCarbonSG awardees is not perfection, but a commitment to progress — anchored in clear boundaries, credible data, management accountability, and sustained operational effort. Their experiences offer practical lessons for organisations across Singapore and beyond that are seeking to move from commitment to delivery, and from ambition to evidence.

The following profile documents the low-carbon journey of **Yeo Hong Construction & Engineering Pte Ltd**, a company in the Construction & Industrial Services sector and **2025** LowCarbonSG awardee.

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YEO HONG CONSTRUCTION & ENGINEERING

2025 LowCarbonSG Awardee: Yeo Hong Construction & Engineering Pte Ltd's Decarbonisation and Sustainability Journey

1. Company Introduction

Yeo Hong Construction & Engineering Pte Ltd is a long-established, family-owned engineering firm with deep roots in Singapore's industrial landscape. Founded in 1973 and incorporated in 1981, the company has grown into a multidisciplinary engineering, construction and maintenance provider serving the petrochemical, marine, pharmaceutical, and energy sectors.

Over the decades, Yeo Hong has become a trusted in-house contractor for major players on Jurong Island and across the region, reflecting its history of *"operating close to 40 years in Up and Down Stream Industries."*

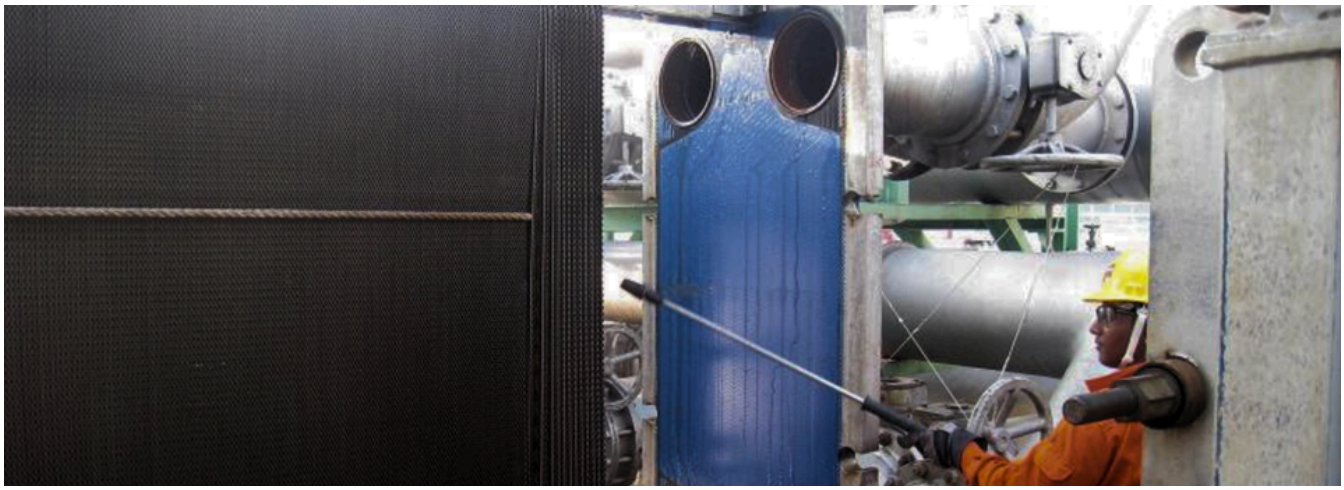
The company operates from an integrated facility at 20 Gul Crescent, comprising offices, a workers' dormitory, and six fabrication workshops equipped with overhead cranes. The site spans more than 75,000 ft² of floor area, including over 46,000 ft² of built-up workshop space. With a workforce of more than 150 employees across site and support functions, Yeo Hong delivers end-to-end solutions ranging from plant construction, in-house fabrication, piping works, and civil/structural works to comprehensive plant maintenance, planned turnarounds, and shutdown support.

Yeo Hong's Mission is *to provide dependable engineering services with strong emphasis on Safety, Quality, and Continuous Improvement*. Its Vision *is to be a trusted industrial solutions partner recognised for operational excellence and responsible growth*. These commitments are anchored by a clear Guiding Principle:

> "Productivity with responsibility — every safer, smarter, and more efficient operation is also a step toward lower carbon impact."

Supported by ISO 9001, ISO 45001, bizSAFE Star certifications, and active participation in LowCarbonSG, Yeo Hong positions itself as a preferred service provider committed not only to technical excellence but also to responsible, forward-looking growth.





2. Overview of Key Low-Carbon Initiatives

Yeo Hong's decarbonisation journey is based on practical engineering improvements, efficient operational management, and long-term strategy. The company has progressively embedded low-carbon practices across its operations through a combination of technology upgrades, process optimisation, and behavioural change.

Solar Energy and Renewable Integration.
Yeo Hong has expanded its solar photovoltaic (PV) system to 365 high-efficiency panels installed across several roof sections. Within a year, solar generation nearly doubled from 2023 to 2024. This increase has helped the company cut its reliance on grid electricity by 8%, contributing to a meaningful reduction in Scope 2 emissions.





Fuel and Equipment Efficiency.
In 2023, with the lifting of COVID-19 safe-distancing requirements, the company was able to streamline generator use through an area-optimisation plan. This allowed it to cut the total number of generators deployed by at least 50%. As a result, diesel consumption for non-transport energy dropped significantly, leading to an estimated 60% reduction in emissions.

Energy-Efficient Infrastructure.
As part of our ongoing energy efficiency initiatives, all halogen high-bay lighting and building spotlights have been replaced with LED lighting by the end of 2025 to reduce electricity consumption and improve lighting efficiency, resulting to savings of >19,000 kWh annually. In addition, new and fuel-efficient air-conditioners have replaced old and less efficient units.







Motion sensors have been installed in office restrooms to prevent unnecessary energy usage. In addition, lighting in the lobby and stairways has been programmed to dim automatically and switch off during non-office hours to further optimize energy consumption.

Smart Planning.
The company has been using a manpower-assignment and route-optimisation dashboard to reduce both travel time and the number of trips needed. What began as a manual dashboard is now evolving into a three-phase digital upgrade, incorporating software tools and eventually AI to support a more efficient and streamlined operation.

Operational Efficiency and Organisational Strengthening.
The company's Productivity Certification Framework (Silver Award, 2024) resulted in improved Process efficiency, Technology adoption, Manpower optimisation and Worker training. These enhancements reduced fuel consumption, minimised rework, and strengthened organisational data systems—creating a strong foundation for long-term sustainability.

Sustainable Mobility and Future Technologies.
Yeo Hong has been promoting hybrid and electric vehicles to its employees and tenants. As at the first quarter of 2026, three employees has converted to EVs.





These initiatives reflect a pragmatic, operations-driven approach to sustainability—one that prioritises measurable improvements while maintaining safety, reliability, and productivity.

3. GHG and Resource-Use Reduction Performance

Yeo Hong's CERT submission for July 2023 to June 2024 demonstrates substantial, evidence-based progress. The company achieved a 28% overall improvement across weighted emissions metrics compared with the previous year, driven by reductions in both Scope 1 and Scope 2 emissions.

Scope 1 Emissions.
A major reduction in non-transport diesel consumption led to an approximately 60% decrease in emissions, from 56,745 kgCO2e in 2023 to 22, 575 kgCO2e in 2024. This improvement resulted from optimising generator usage after pandemic-related operational changes were lifted.

Scope 2 Emissions.
A 37% reduction was achieved between 2023 and 2024 through expanded high efficiency solar PV capacity and behavioural changes under the Productivity Framework.

The total electricity consumption (grid + solar) for the same period decreased from 221,157 kWh to 203,224 kWh, while solar generation increased from 43,464 kWh to 90,575 kWh nearly doubling within the year.

Overall, Yeo Hong's emissions reductions are supported by clear evidence, disciplined implementation, and a strong alignment between operational improvements and environmental outcomes.

4. Transferrable Technologies and Practices

Yeo Hong's experience offers a set of practical, scalable solutions that other industrial firms can adopt to accelerate their own decarbonisation journeys.

Solar PV Deployment on Industrial Roofs.
Demonstrates strong ROI and rapid emissions reduction. This solution is suitable for fabrication yards, warehouses, and logistics hubs.

Generator and Equipment Optimisation.
Consolidation of redundant generators and replacement with efficient models. This is applicable to any site with temporary or mobile power needs.

LED and Smart Lighting Upgrades.
This is a high-impact, low-cost intervention with short payback periods. It is easily replicable across workshops, warehouses, and dormitories.

AI-Driven Logistics and Transport Routing Tools.
Reduces fuel consumption and improves scheduling accuracy. This is beneficial for contractors with multi-site operations.

Preventive Maintenance for Energy Efficiency.
Ensures motors, pumps, and equipment operate at optimal efficiency. This reduces downtime and extends asset life.

Workforce Engagement Through the "4Es".
Engage, Educate, Encourage, Explore. These provide structured approach to building a sustainability-aware culture.

5. Challenges, Actions Taken and Conclusion

For Yeo Hong, decarbonisation is a strategic priority, and an important part of how the company is preparing the business for a more sustainable future. The organisation remains committed to reducing emissions, improving operational efficiency, and exploring cleaner technologies across its projects and operations. At the same time, the path to decarbonisation in its industry is complex, especially in high-risk industrial environments where safety, technical feasibility, commercial viability, and client requirements must all be carefully balanced.

One of the key challenges the company faces is the use of full electric equipment in hazardous environments. While electric forklifts, trucks, lorries, welding generators, power tools, and other equipment can support lower-emission operations, their deployment is often restricted in certain plants and industrial facilities. In many hazardous or potentially explosive environments, plant owners impose strict rules on the types of equipment that can be brought on site. These requirements are driven by safety, certification, operational risk, and compliance standards. As a result, even when lower-emission electric alternatives are available in the market, they may not always be approved for use in the locations where Yeo Hong carries out its work. This creates a practical gap between sustainability ambitions and site-level operating realities.

Another major challenge is the capital investment required to transition to more efficient equipment, including better-efficiency engine generators and newer lower-emission machinery. These investments typically involve significant upfront CAPEX and are only financially justifiable when supported by projects of sufficient scale, duration, and margin. In a highly competitive market, not every project carries the commercial headroom needed to absorb these costs. For contractors like Yeo Hong, this means decarbonisation investments must often be paced carefully and aligned with larger, longer-term projects where the return on investment is more viable.

Infrastructure limitations also play a role. Decarbonisation in this sector is not simply a matter of replacing one type of equipment with another. Many project sites still have limited supporting infrastructure, such as charging facilities, stable temporary power supply, or suitable maintenance support for electric fleets and equipment. The operating hours, load demands, and mobility requirements of heavy construction and industrial work can make full electrification difficult under current conditions. Equipment reliability remains critical, and any disruption to operations can have direct implications for safety, project delivery, and cost.

Supply chain readiness presents further challenges. Access to suitable low-emission equipment, certified alternatives for hazardous environments, spare parts, and qualified technical support is still developing. Lead times for specialised equipment can be long, and market availability may not always match project timelines. This slows the pace at which companies can adopt cleaner solutions, even when there is strong intent to do so.

Despite these challenges, Yeo Hong has continued to make steady, meaningful progress—demonstrating that practical, incremental action can still deliver real results. Instead of chasing big, flashy solutions, the team focused on everyday improvements—using more solar power, cutting back on generators, upgrading lighting and equipment, and planning work more efficiently. These changes added up. The company achieved a 28% improvement in its emissions metrics and saw major drops in both Scope 1 and Scope 2 emissions. Yeo Hong's practices demonstrate that meaningful decarbonisation is achievable through a combination of technology, operational discipline, and workforce empowerment, and that climate progress often comes from consistent, thoughtful choices made across the organisation.

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UN Global Compact Network Singapore (UNGCNS) is the local chapter of the United Nations Global Compact. As the leading voice on corporate sustainability in Singapore, UNGCNS drives multi-stakeholder action to forge a more sustainable future, founded on the Ten Principles of the United Nations Global Compact and the Sustainable Development Goals. Through various platforms and partnerships, UNGCNS advances the stewardship of sustainable business practices and Singapore's national agenda of becoming a regional sustainable business hub.

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