Global Compact
Network Singapore

LowCarbonSG Awardees (2023 – 2025):

Leaders in Action on Decarbonisation

How New Toyo Aluminium Paper Product Co. (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 **New Toyo Aluminium Paper Product Co. (Pte) Ltd**, a company in the manufacturing sector and **2024** LowCarbonSG awardee.

ii. Case Study

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2024 LowCarbonSG Awardee: New Toyo Aluminium Paper Product Co. (Pte) Ltd's Low-Carbon Journey

1. Company Introduction

New Toyo Aluminium, founded in 1975, has grown into a prominent regional player in the packaging industry. Operating from a 3,936-square-metre facility and supported by a team of more than 63 professionals, the company has built its reputation on quality, innovation, and responsible manufacturing. Its mission is to "grow shareholder value through quality packaging solutions and services," and its culture is described as one that "thrives on collaboration, integrity, and continuous improvement." Today, New Toyo Aluminium produces laminated and printed packaging products, positioning itself not just as a supplier but, in its own words, "a partner shaping a more sustainable future."

2. Low-Carbon, GHG and Resource Reduction Initiatives

New Toyo Aluminium (NTA)'s low-carbon strategy is anchored in practical technologies and operational improvements that reduce emissions at their source. The company's top three initiatives—product design improvements, production order management, and loss analysis—form the backbone of its decarbonisation efforts.

Product Design Improvements
New Toyo Aluminium has redesigned selected products by removing aluminium foil and solvent-based coatings. This change eliminated part of the production process and reduced the use of diesel, aluminium, and solvents – all of which are significant Scope 1 GHG contributors when combusted or processed. Moreover, foil laminated products are more complicated to recycle.

The alternative is a paper-based product which eliminates the need for foil (reducing one element of the specification) and is 100% recyclable which enables the product to be disposed of easier by the users.

By simplifying production and lowering material intensity, the company reduces both emissions and waste.

Production Order Management
New Toyo groups similar production orders to minimise machine changeovers allowing for continuous and efficient processing. This sequencing strategy reduces downtime, energy consumption, manpower labour, and material waste.

Loss Analysis and Efficiency Measures
New Toyo conducts regular loss analyses to identify where energy, water, and materials are being wasted. This includes reviewing lighting, air-conditioning, machinery, and office equipment to determine where inefficiencies occur and what measures are needed to eliminate them. As part of this, the company replaced high-bay lights with LEDs, installed skylights to reduce daytime lighting needs, and upgraded to inverter air-conditioners and refrigerators. These measures address waste energy across office and factory areas.



LED Lightings - Office



Sky Light at Warehouse & Production Floor



Inverter Aircon with 5 Ticks

Water-Saving Technologies
The company has installed dual-flush toilets and water-flow limiters to replace self-closing taps, in line with government recommended measures. Beyond regulatory requirements, New Toyo also reuses wastewater from water dispensers for cleaning, which significantly reduce overall water consumption from operations.

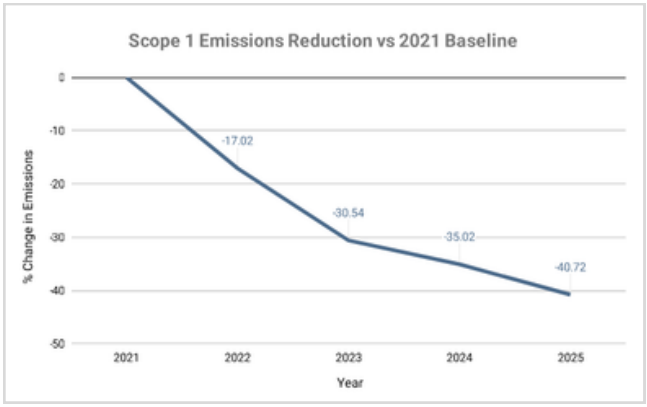
Process Efficiency for Specialised Products
For laminated colour SKUs, New Toyo introduced a special and proprietary product that requires only one time-setting adjustment, reducing electricity use over long production runs.

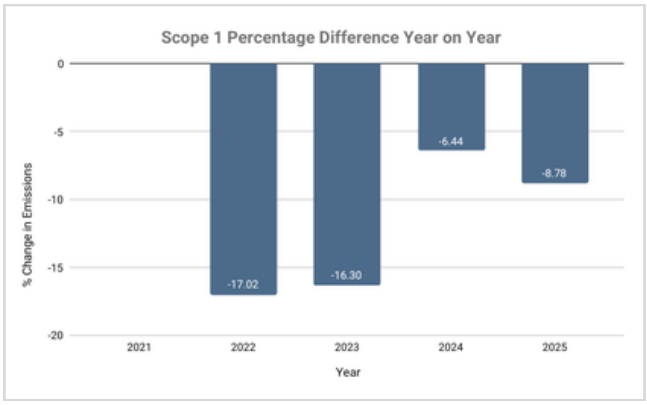
Employee Engagement and Behavioural Change
New Toyo emphasises "100% people involvement," encouraging employees to adopt a zero-loss mindset and take responsibility for reducing waste. Its education and awareness efforts cover not only operational efficiencies, but also simple everyday actions such as switching off lights when not in use. This cultural approach helps embed sustainability into day-to-day operations.

Supplier and Customer Collaboration
The company works closely with suppliers and customers to develop innovative product with improved recyclability, as well as biodegradable and compostable features. This includes responsible sourcing, product redesign, and shared reduction initiatives.

3. GHG and Resource-Use Reduction Performance

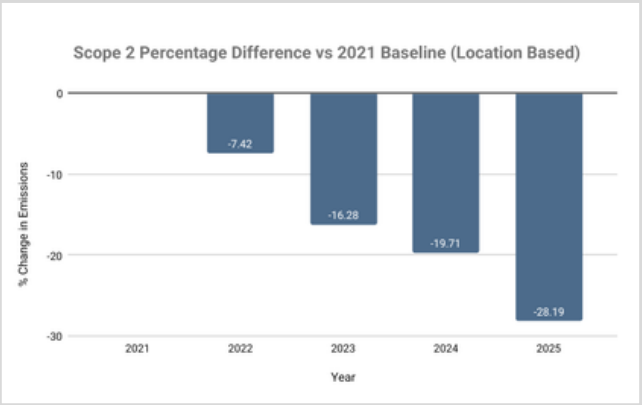
New Toyo's greenhouse gas (GHG) reduction performance demonstrates steady and measurable progress. Compared with 2021 baseline year, the company has consistently reduced its Scope1 emissions, achieving a 40.72% reduction in CO_2e. Although the year-on-year reductions were not perfectly linear, the overall trend reflects sustained commitment to reduce direct GHG emissions from the company's operations.

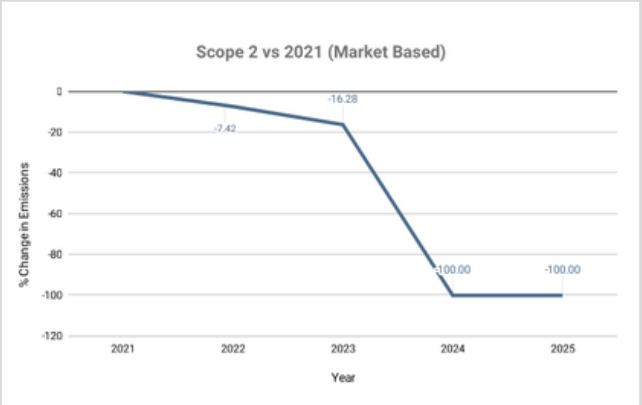




Scope 2 emissions—indirect emissions from purchased electricity—have steadily declined relative to the 2021 baseline. In 2024, market-based emissions are reported as reduced by 100%, following the company's full purchase of renewable energy certificates (RECs). At the Singapore facility, Scope 1 and Scope 2 emissions data have been externally verified.

This reported reduction reflects the use of RECs sourced from outside Singapore. While such instruments are widely used for emissions accounting, UNGCNS places greater emphasis on direct emissions reduction and the adoption of RECs tied to locally sourced renewable energy. This approach is more closely aligned with the concept of "deliverability," in line with RE100 standards, where contractual instruments are ideally limited to the same market boundary in which the electricity could reasonably contribute to the reporting entity's energy mix.





Water consumption reduced by 8.4% 2024 versus 2025. The site continues to achieve 100% **zero waste** to landfill and there was a reduction in waste generated of 8.7% between 2023 and 2025. Progress toward 2030 targets is on track.

The company's Scope 3 emissions strategy focuses on the most material areas across its value chain, where collaborative action can deliver the greatest impact. It recognises that Scope 3 emissions are inherently challenging to manage, as many sources lie outside its direct operational control. As such, the company prioritises influencing change through close engagement with suppliers and partners across the value chain. Current efforts concentrate on categories that contribute significantly to its Scope 3 footprint, particularly purchased goods and services, as well as upstream and downstream transportation.

New Toyo's achievements make clear that its low-carbon initiatives are delivering real, measurable change across every part of its operations. Progress toward 2030 targets is on track. This momentum has earned the company national recognition as one of only five semi-finalists in the 2024 LowCarbonSG Award—an affirmation of its role as a rising leader in Singapore's low-carbon transition.

4. Transferrable Technologies and Practices

New Toyo Aluminium's approach offers a practical set of technologies and operational methods that other organisations can easily adopt to reduce emissions and improve resource efficiency.

Product redesign. This shows how material substitution—whether removing unnecessary layers or switching to lower-impact materials—can cut carbon intensity across industries such as packaging, consumer goods, pharmaceuticals, and electronics. Any sector that relies on multi-layered or coated materials can apply similar redesign principles to simplify production and reduce waste.

Production order management. This method is highly relevant to industries with batch-based or continuous production—such as textiles, automotive parts, printing, and pharmaceuticals—where smarter scheduling can significantly improve efficiency without requiring new equipment.

Process efficiency improvement. New Toyo also demonstrates how process efficiency can be improved for specialised or repetitive production. By adopting a process which requires only one time-setting adjustment, the company has reduced electricity consumption and minimised raw material loss. Industries with high-volume or repetitive production—such as printing, textiles, plastics, and electronics—can benefit from similar process-streamlining technologies.

Loss analysis is another powerful tool that other organisations can adopt. By examining where energy, water, and materials are being wasted, the company can pinpoint inefficiencies and prioritise upgrades to lighting, air-conditioning, machinery, and office equipment. This approach is widely applicable across retail, hospitality, healthcare, education, and industrial facilities, where lighting and cooling typically account for a significant share of energy use.

Water-saving technologies are another area where New Toyo provides a simple, replicable model. The measures adopted by New Toyo are suitable for hotels, restaurants, offices, schools, hospitals, and manufacturing plants. They show how small, low-cost changes can add up to meaningful reductions in water use.

People's contribution. Beyond technology, New Toyo emphasises the importance of zero-loss mindset. This behavioural approach is universally relevant and shows that sustainability is not only about equipment upgrades but also about culture and habits.

Finally, New Toyo's **collaboration with suppliers and customers** offers a strong model for industries with complex supply chains. The company works closely with partners to reduce emissions, redesign products, and support biodegradable or recyclable options. This collaborative approach is especially useful for sectors like automotive, electronics, apparel, and food manufacturing, where upstream and downstream decisions significantly influence overall emissions.

5. Challenges, Actions Taken and Conclusion

A critical challenge New Toyo Aluminium faced in its decarbonisation efforts was data quality and visibility, which ultimately led the company to explore and invest in a digital emissions platform. The team recognised that data is the foundation of any credible decarbonisation journey, yet found that—particularly for Scope 3—information was often fragmented across multiple functions and heavily reliant on manual effort. This made it difficult to build a clear, reliable picture of the company's emissions profile.

Investing in a digital platform became a key enabler in addressing these gaps. The system allowed for a more structured approach to data collection, improved auditability, and better visibility of emissions performance to support decision-making. While the platform has strengthened the company's data foundation, the journey remains ongoing. New Toyo continues embedding data ownership across functions so that the information collected is consistently translated into actionable decarbonisation outcomes.

Despite the challenges, the company's experience shows that meaningful carbon reduction does not always require complex or expensive solutions. New Toyo Aluminium has demonstrated that practical, everyday improvements can deliver real impact. By redesigning products, improving production planning, analysing losses, upgrading equipment, saving water, and engaging employees and partners, the company has built a practical and effective low-carbon model. These approaches are simple enough for many other organisations to adopt, yet powerful enough to deliver measurable results.

New Toyo's progress illustrates how technology, thoughtful design, and everyday operational habits can work together to drive emissions reductions. The company's efforts show that when data visibility improves, operational teams are empowered, and sustainability is integrated into routine decision-making, decarbonisation becomes both achievable and scalable.

In conclusion, New Toyo Aluminium's journey highlights the value of combining stronger data systems with practical operational improvements. The company's experience demonstrates that credible decarbonisation is built on reliable information, steady implementation, and a willingness to refine processes over time. Its progress offers a grounded and transferable example for other organisations—showing that meaningful climate action does not always begin with large-scale investments, but often with consistent, thoughtful choices made across the business.

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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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