News Release

10 March 2025

PRESIDENT THARMAN UNVEILS TWO SUSTAINABILITY INNOVATIONS FOR THE COMMUNITY AT CITY SQUARE MALL – THE CDL ECOTRAIN AND A "COOLING" MICROFOREST

- **Singapore's first decommissioned SMRT train cabin repurposed into a solar-powered climate education platform**
- **A regenerative tropical MicroForest designed to mitigate urban heat and enhance climate resilience was also launched**
- **Both sustainability initiatives were officially opened by President Tharman Shanmugaratnam**
- **Aligned with CDL's focus on 3P collaboration for climate and nature action**

The decommissioned SMRT train cabin has been repurposed into a zero-energy CDL EcoTrain. The cabin is designed with colours and messages inspired by the 17 United Nations Sustainable Development Goals (UN SDGs).

City Developments Limited (CDL) has unveiled the CDL EcoTrain, Singapore's first decommissioned SMRT train cabin repurposed and transformed into a vibrant hub for sustainability education. Powered by solar energy, this zero-energy train cabin features interactive displays, hands-on exhibits and workshops co-created with Just Keep Thinking (JKT), Singapore's largest science and sustainability social media platform. Designed to spark environmental awareness among children and youths, the CDL EcoTrain, located at City Green, the urban park at Singapore's first eco-mall City Square Mall, is a creative approach to community engagement and climate education.

Guest-of-Honour President Tharman Shanmugaratnam, CDL's senior management team and management representatives from LTA, SMRT, NParks, and JKT, at the launch of the CDL EcoTrain.

The CDL MicroForest, a 2,800 square feet (sq ft) regenerative tropical microforest, developed in collaboration with experts in ecology and biological sciences from the National University of Singapore (NUS), and with inputs from the National Parks Board (NParks), was also launched today. This pioneering nature-based solution for cooling through greening aims to combat urban heat and biodiversity loss in high-density urban landscapes, serving as a living laboratory to study how microforests can lower temperatures, boost biodiversity and enhance ecological resilience.

The event was graced by President Tharman Shanmugaratnam, who participated in a tree-planting ceremony alongside representatives from CDL, NParks, NUS, as well as young eco-champions. This symbolic event underscores the strength of the 3P (Public, Private and People) partnership model in advancing urban sustainability and biodiversity conservation.

Mr Sherman Kwek, CDL's Group Chief Executive Officer, said, "Climate action thrives on the power of 3P collaboration and innovation. We created the CDL EcoTrain and MicroForest as sustainable showcases to complement our ongoing revamp of City Square Mall. Since its opening in 2009, City Square Mall has established itself as Singapore's first eco-mall, home to innovative community spaces for sustainability events and education, such as the Singapore Sustainability Academy. The timely launch of the EcoTrain and MicroForest enhances the Mall's unique position as a family-friendly eco-hub with exciting programmes to nurture future eco-champions and promote sustainable living."

Tree Planting Ceremony at the CDL MicroForest led by President Tharman Shanmugaratnam, along with CDL's senior management team, representatives from NUS, NParks, and JKT, as well as young eco-champions from CDL's "We Love Our Planet" storytelling contest.

The CDL EcoTrain, part of the Land Transport Authority's (LTA) upcycling initiative which repurposes decommissioned SMRT cabins, is the first public-facing repurposed train located at a retail mall.

Mr Ng Lang, LTA's Chief Executive, said, "The donation of a train cabin to CDL is a meaningful step in advancing our sustainability and upcycling efforts. It reflects our commitment to work with community partners to spread the message of care for our environment that is core to the values of public transport. We look forward to exploring more such collaborations to give our decommissioned trains a new lease of life."

Mr Lam Sheau Kai, SMRT Trains' President, said, "We are pleased to collaborate with CDL on this meaningful initiative to repurpose a decommissioned train cabin into an Eco-Train for the community. As the first of its kind, the Eco-Train aims to inspire the community to adopt greener lifestyles while deepening awareness of sustainability. Guided by our core belief in 'Do Right, Do Good, Do Well,' SMRT Trains remains fully committed to promoting public transportation as a key pillar in building a greener and more sustainable future for all."

The creation of the MicroForest is an extension of CDL's long-standing commitment to sustainability and integrating nature in the built environment. Since 2010, CDL has also been voluntarily conducting biodiversity impact assessments (BIAs) on greenfield sites located within or adjacent to natural habitats before construction. Environmental mitigation measures are also undertaken where necessary.

Ms Hwang Yu-Ning, NParks' Chief Executive Officer, shared, "CDL has partnered with NParks on several initiatives that contribute to climate resilience over the years. This includes climate-related exhibitions at the CDL Green Gallery at the Singapore Botanic Gardens and fundraising activities under the Garden City Fund, NParks' registered charity and IPC. We are happy to offer NParks' expertise on the planting palette for their latest initiative. This innovative project provides public with the opportunity to experience a tropical forest in the midst of an urban shopping space. We hope this initiative will encourage greater interest in the natural environment and enhance public awareness of the diverse tree species found in our forests."

The CDL EcoTrain will be open to the public from 15 March 2025, from 11.00 am to 7.00 pm (on weekdays) and 11.00 am to 8.00 pm (on weekends). For more information on entry during the opening weekends, please visit https://tinyurl.com/CDLEcoTrainTickets.

For more information on the sustainability features, please refer to:

- Annex A – Fact Sheet on CDL EcoTrain
- Annex B – Fact Sheet on CDL MicroForest

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ANNEX A

Fact Sheet on CDL EcoTrain

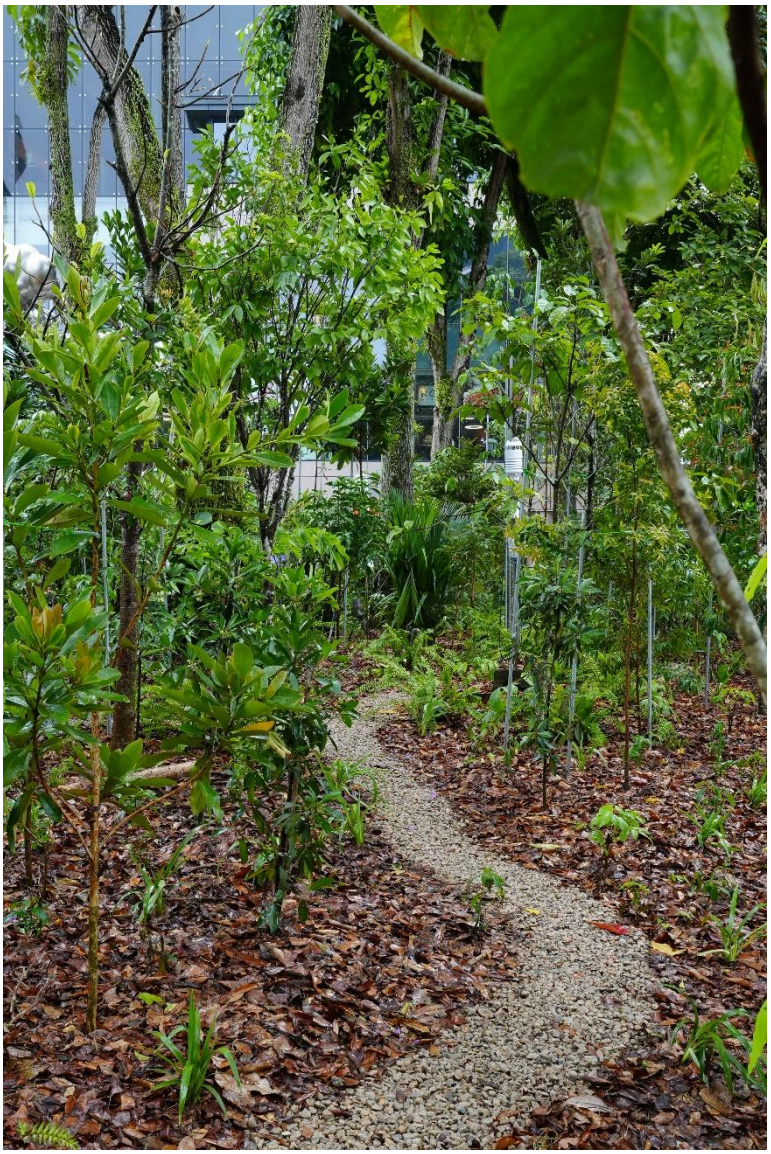
Created by CDL and designed with architectural input from Ta.Le Architects, the CDL EcoTrain is Singapore's first decommissioned SMRT train cabin repurposed and transformed into a vibrant hub for sustainability education.

Designed for Environmental Sustainability and Net-zero Operations

Solar Powered	The roof has 24 14 kWp photovoltaic (PV) panels that generate about 8,700 kWh of renewable energy annually, enough to power two 4-room HDB flats in Singapore for a year.
Energy Efficient	Designed for energy-efficient, it is fitted with: • A 5-tick air conditioning system • Smart LED lighting • Real-time energy tracking via the Energy Monitoring System (EMS) for insights on usage, helping to reduce energy spikes and promote sustainability.
Advanced Green Technologies	• **Unistrate** A zero-glue wood board made from 100% natural fibres used in the ceiling and external signages. • **Rubber flooring** Internal flooring is sourced from sustainably managed forests while the ramps and external flooring are covered with recycled rubber from tennis balls. • **Low-carbon materials** Selected materials prioritise emission reduction and incorporate renewable energy, wherever feasible.
Eco-friendly exterior with solar-reflective technology	The exterior is coated with HydroPro Solar Enamel Paint, a water-based, formaldehyde-free, ultra-low VOC (volatile organic compounds) solution. It features special hollow glass beads that reflect sunlight, reducing the need for air conditioning.

ANNEX B

Fact Sheet on CDL MicroForest



The CDL MicroForest is the first research-driven regenerative tropical microforest in a retail mall within Singapore's high-density city centre.

Located at City Green, the urban park adjacent to City Square Mall, this approximately 2,800 sq ft MicroForest was created to study how microforests can reduce urban temperatures, boost biodiversity and enhance ecological resilience.

In 2024, Singapore experienced its fourth consecutive year of record-high temperatures within a decade, and one of its heaviest rainfall since 1980, highlighting issues like flash floods, infrastructure strain, soil instability and biodiversity due to urbanisation. In response, the CDL MicroForest was developed as a nature-based solution to mitigate urban heat and enhance biodiversity.

This initiative exemplifies a unique collaboration among the private sector and academia, uniting the expertise of CDL as the developer and manager of City Square Mall, and experts from National University of Singapore (NUS), who specialise in urban nature-based solutions.

Guided by the principle of 'cooling by greening', this pilot serves as a living laboratory, collecting critical data on how regenerative microforests can reduce urban heat, improve air quality, restore biodiversity and enhance liveability. By incorporating a diverse range of plant species, the CDL MicroForest mimics a

tropical forest, lowering temperatures and providing refuge for Singapore's wildlife, including native pollinators and dispersers.

This project is a scalable model for integrating regenerative tropical microforests into dense urban areas, supporting ecological connectivity and reinforcing Singapore's vision of a City in Nature. Through research and measurable outcomes, this collaboration aims to promote nature-based solutions, laying the groundwork for sustainable, ecologically resilient urban environments that will thrive for generations to come.

Benefits of a regenerative tropical microforest:

- **Cooling by Greening**: Enhances thermal comfort by reducing urban heat through natural shade and evapotranspiration.
- **Reduces Flooding & Helps with Flash Floods**: Improves water absorption and drainage, reducing surface runoff and flood risks.
- **Enhances Biodiversity**: Supports a rich variety of plant and animal species, creating a thriving ecosystem.
- **Improves Air Quality**: Absorbs pollutants and releases oxygen, contributing to cleaner air.
- **Sequesters Carbon**: Captures and stores carbon dioxide, helping to mitigate climate change.
- **Reduces Mosquito Populations**: Creates a balanced ecosystem with natural predators to control mosquito breeding.
- **Reduces Noise Pollution**: Acts as a natural sound barrier, minimising urban noise.
- **Supports Mental Well-being**: Provides green spaces that promote relaxation and reduce stress.
- **Boosts Soil Health**: Enhances soil fertility and prevents erosion through deep-rooted vegetation.

The MicroForest initiative is a joint effort between CDL and the following experts from NUS –

Professor Veera Sekaran Office of the President, NUS Joint-Appointments: NUS College NUS Cities - College of Design & Engineering (CDE) Engineering Design & Innovation Centre (EDIC-CDE) Director, Regenerative Agritech Centre, Biological Sciences, Faculty of Science	**Associate Professor Adrian Loo** Deputy Director, Centre for Nature-based Climate Solutions, NUS