

**Northport (Malaysia) Bhd Submission for:
International Association of Ports and Harbors
(IAPH) 2024 Sustainability Award**

**THE CIRCLE OF
LIFE COMMUNITY
GARDEN**

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01

Introduction & Background

PORT KLANG

Northport is strategically located at the Straits of Malacca and it is surrounded by natural islands which protect the port from natural disaster.

There are 3 Ports in Port Klang which are **Northport** and **Southpoint** (formerly known as Port Swettenham) which is managed by Northport (Malaysia) Bhd and **Westports** which is managed by Westports Holdings Berhad.

Port Klang Cruise Terminal (**PKCT**) is 50% owned by Northport through its subsidiary, Klang Port Management

Northport is proposing the development of the Carey Island Port and Special Economic Zone (CIPSEZ)



INTRODUCTION TO NORTHPORT

Northport (Malaysia) Bhd, situated at Port Klang, Malaysia is a member of MMC Group, Malaysia's leading utilities and infrastructure group with diversified businesses under three divisions: ports & logistics, energy & utilities and engineering & construction.



Established | 1901 | Capacity - Container | 5,600,000 TEUs | Capacity - Conventional | 12,000,000 FWT | Employees | 2,185 | Warehouses | 2,530,000 sq.ft | Yard Area | 11,739,680 sq.ft | Quay line | 5,400 m | Draft | 4.5 – 17m | Container Berths | 13 | Break Bulk Berths | 9 | Dry Bulk Berths | 2 | Liquid Bulk Berths | 4 | RORO | 158,000 units annual capacity | Quay Crane | 31 | RTG | 77 | E-RTG 24 | Prime Mover | 174 | Grab Crane | 04 | Luffing Crane | 02 | Reach Stacker | 13 | Empty Stacker | 10 | MOBICON | 04



HISTORY OF 123 YEARS



1901

Official opening of Port Swettenham Managed by Malayan Railway Administration (MRA).

1963 / 1964

Management of port handed over to Port Klang Authority (PKA) with the completion of 4 berths.

1973

The beginning of containerization at Northport. Maiden call by MV Tokyo Bay.

1986

Klang Container Terminal (KCT) became the first privatization exercise in Malaysia.

In 1992, the rest of Port Klang facilities were privatized to Klang Port Management (KPM).

2000

Restructuring exercise by PNB - the birth of Northport (Malaysia) Bhd under NCB Holdings through the merger of KCT & KPM.

2016

MMC completes takeover of NCB Holdings.



MMC Corporation Berhad is a leading utilities and infrastructure Group with diversified businesses under four divisions, namely **Ports & Logistics, Energy & Utilities, Engineering and Industrial Development.**

NORTHPORT OPERATIONS



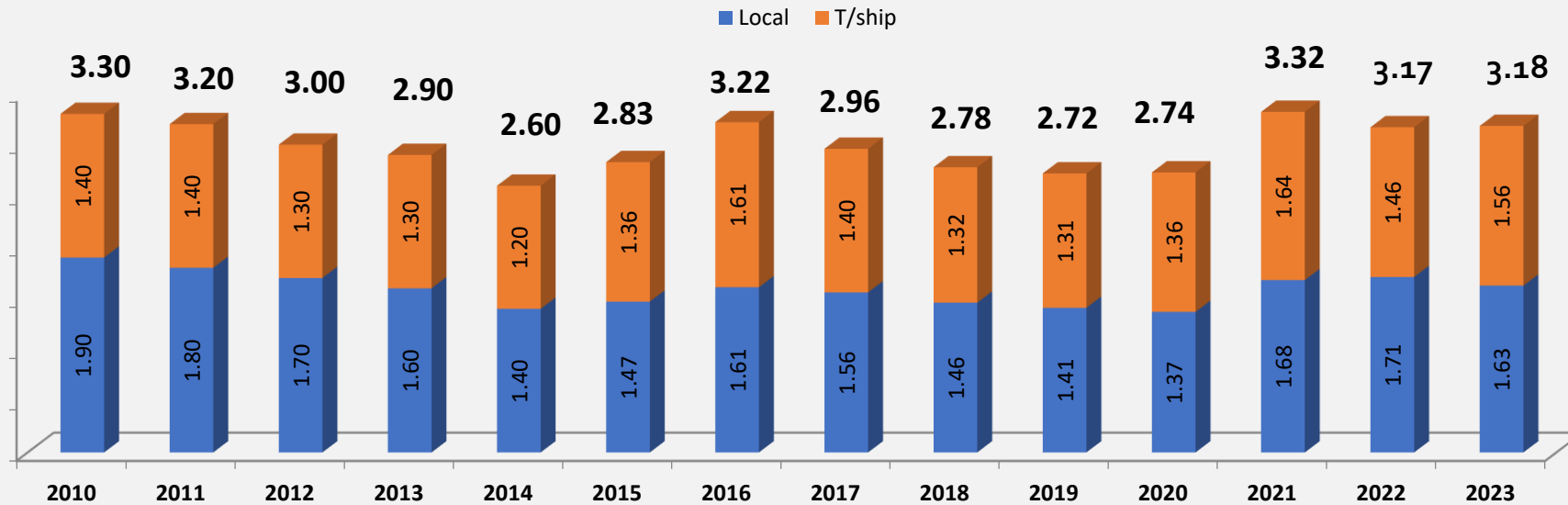
North Port (Established in 1963)



NORTHPORT OPERATIONAL PERFORMANCE



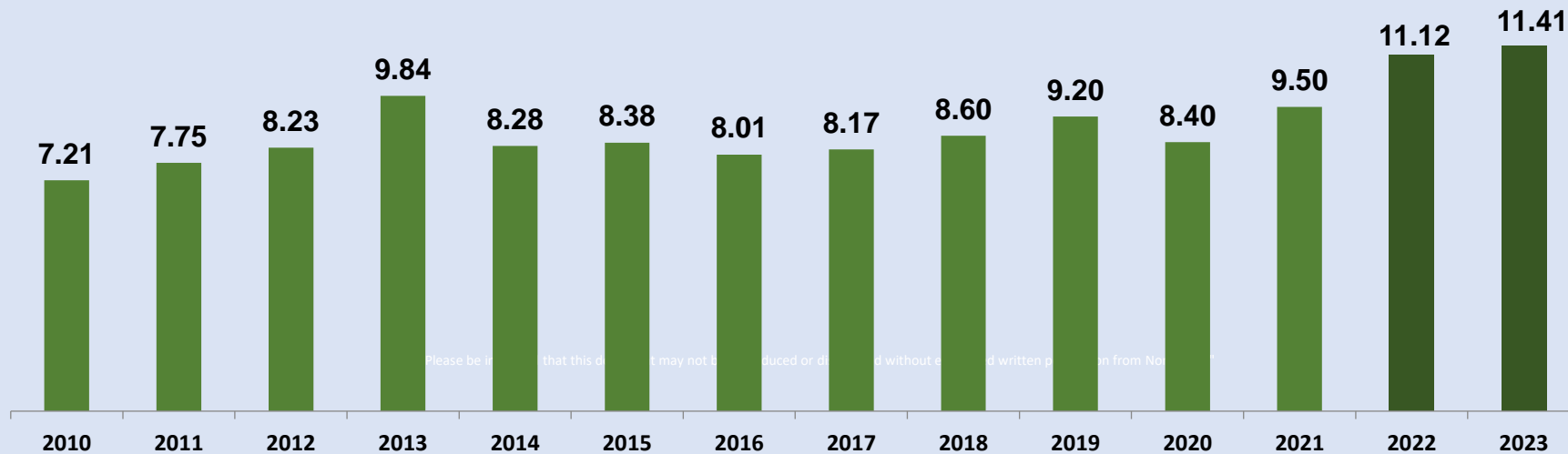
CONTAINER
TOTAL THROUGHPUT
(TEUs, millions)



Record-breaking year in 2021 for container cargo segment: **3.32 mil TEUs**



CONVENTIONAL
TOTAL THROUGHPUT
(FWTs, millions)



Record-breaking year in 2023 for conventional cargo segment: **11.41 mil FWTs**

Northport's Circle of Life

In 2023, Northport initiated a pioneering project: **Northport's Circle of Life (CoL) Community Garden Project** as part of its overall Environment, Social & Governance (ESG) policy initiatives. The CoL is a closed-loop and **circular economy concept** of sustainability that combines multiple ESG initiatives carried out in Northport that promotes port community building, sustainability and environmental preservation with the ultimate goal of achieving better and sustainable wellbeing of the community and environment. The following are the 7 pillars of Northport's CoL : -

1. **3R Recycling Program**
2. **Port Reception Facility**
3. **Rain Water Harvesting**
4. **Solar Panel**
5. **Landscaping Project**
6. **Aerobic Digestor**
7. **Vertical Farming (Incorporating CSR)**

Having implemented the above pillars, our current main focus is on large scale vertical farming towards **community building** and empowerment. Via thorough planning and research, our experts explored techniques such as hydroponics and aeroponics to grow crops in stacked layers. Advanced technology is used to generate fertilizer from food waste through aerobic digestion, to utilize the existing rain water harvesting system which in turn uses solar powered pumps to water the plants and hence providing the required nutrients for optimal growth.

The impact was not just about food security, it changed how Northport community viewed the environment. The project participants embraced "farm-to-table" practices, connecting with local growers and reducing their carbon footprint.

Looking forward, Northport plans to expand vertical farming, partnering with the local council and elevate this idea at a larger scale. It marks the start of a thriving ecosystem, blending sustainability and innovation for the benefit of Port Klang, the world's 12th busiest port.



02

The Needs Statement

Northport's Circle of Life

The Need Statements

Recognizing the Need

1 Northport recognized the importance of implementing a Circle of Life (COL) project when the company embarked on its ESG journey through 3R recycling campaign back in 2018.

Innovative Solution

2 Northport has employed creative and innovative solutions in its ESG initiatives to beautify and minimize the carbon footprint within the terminal. In addition to repurposing recycled materials for terminal landscaping, Northport has adopted vertical farming as an effective solution to address the port's limited land resources.

Closed-Loop System

3 Starting with modest resources, Northport developed its own vertical farming model by reusing resources collected from 3R campaign through the Port Reception Facility, integrating rainwater harvesting, solar power for irrigation, and an aerobic digester to convert food waste into bioorganic compost. This closed-loop system, known as Northport's Circle of Life, epitomizes sustainability.

Community Engagement

4 This initiative extended to community engagement through CSR programs with nearby schools, fostering education and involvement.

Broader Impact

5 Recognizing the potential for broader impact, Northport partnered with the Klang Royal City Council (KRCC) to promote sustainable urban agriculture through Circle of Life initiatives. Together, they identified and repurposed an abandoned piece of land into a Community Garden.

Stakeholder Support

6 This project embodies Northport's commitment to community welfare and enjoys support from various stakeholders including industries and NGOs.



03

The Concept of Northport's Circle of Life

Northport's Circle of Life

The Idea and Concept



The idea came during Northport's *Hari Raya* Open House (Eid al-Fitr Open House) on May 12, 2023, themed "Hijaukan Raya Anda" or "Green Your Eid." Approximately 3,000 guests, including staff, customers, authorities, partners, and port users, had a first hand look at Northport's ESG initiatives.



Booths featuring eco-friendly services and products were set up. With a zero-waste goal, organizers ensured all utensils and packaging were environmentally friendly, and any food waste was to be composted using aerobic digesters. The event achieved its objectives successfully.

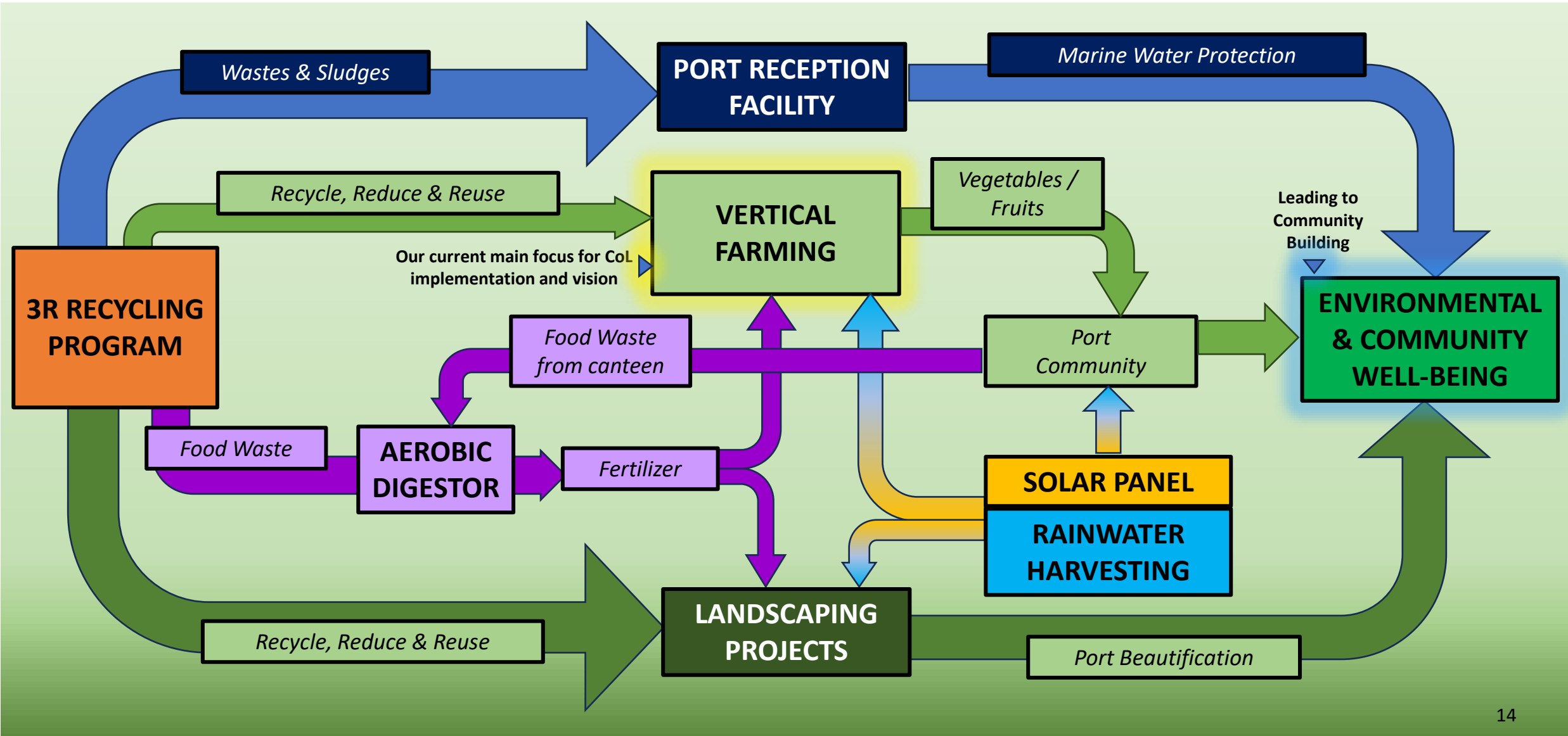


This Open House sparked the **"Circle of Life"** idea incorporating 3R initiatives, vertical farming, renewable energy, water conservation, aerobic digestion, recycling and giving back to the community.

Since then, Northport has been steadfastly working towards realizing this vision, and expanding it to a higher level.

Northport's Circle of Life

Integrating Community-Building and Circular Economy Concept



04

Program Objectives

Pioneering CoL for Sustainability

Objective 1

Community Building & Empowerment: Northport aims to foster community engagement and empowerment through its CoL initiative.

Objective 2

Environmental Stewardship: to promote environmental sustainability and stewardship.



Objective 5

Food Security: reliable supply of locally grown produce, reducing reliance on external sources

Objective 3

Employee Well-being: By providing employees access to fresh, nutritious produce.

Objective 4

Innovation and Collaboration: As a pioneer in vertical farming, Northport aims to drive innovation and knowledge sharing as well as attracting new partners in sustainable agriculture.

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Road Map & Key Deliverables

Northport's Circle of Life

Gantt Chart

| Circle of Life Element | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|-------------------------|------|------|------|------|------|------|---|---|
| 3R Recycling Program | ■ | ■ | ■ | ■ | ■ | ■ | Northport's Circle of Life Establishment | Beyond Northport Circle of Life - Schools |
| Port Reception Facility | | ■ | ■ | ■ | ■ | ■ | | |
| Rain Water Harvesting | | | ■ | ■ | ■ | ■ | | |
| Solar Panel | | | | ■ | ■ | ■ | | |
| Vertical Farming | | | | | ■ | ■ | | |
| Landscaping Project | | | | | ■ | ■ | | |
| Aerobic Digestor | | | | | | ■ | | |
| | | | | | | | | Beyond Northport Circle of Life -Community |

■ Project implemented

Road Map & Key Deliverables

**2018-
2023**

Initial
Stage
(Within
Northport)

- Assessment and Planning
- Pilot Project Launch
- Monitoring and Evaluation

2024

Beyond
Northport –
Schools

- Community Engagement and Empowering Educational Institutions

2025 >>>

Beyond
Northport -
Community
Building

- Focusing on Community Building at a Larger Scale



Road Map & Key Deliverables

**2018-
2023**

**Initial
Stage
(Within
Northport)**

• **Assessment and Planning**

- Conduct gap assessment and feasibility studies to identify suitable locations and potential areas for implementation.
- Assess existing infrastructure, resources, and regulatory requirements.
- Develop a comprehensive project plan, including budgeting, timeline, and key performance indicators (KPIs).

• **Pilot Project Launch**

- Select a pilot site and community partner.
- Design and set up vertical farming infrastructure, including hydroponic/aeroponic systems, lighting, and climate control.
- Train team members, including agricultural experts, technicians, and community liaisons.
- Launch the pilot with high-demand crops for employees and the local community.

• **Monitoring and Evaluation**

- Implement systems to monitor crop growth, resource usage, and community engagement.
- Collect data on yield, quality, and cost-effectiveness.
- Gather feedback from employees and community members.
- Regularly evaluate project performance against KPIs.

Road Map & Key Deliverables

**2018-
2023**

Initial
Stage
(Within
Northport)

2024

Beyond
Northport –
Schools

- **Community Engagement and Empowering Education Institutes**
 - Expand community outreach by engaging community and educational institutions such as schools and universities.
 - Leverage CSR program as a platform to empower community and educational institutions for the project such as students and teachers.
 - Ongoing collaborations with local schools to develop educational initiatives, workshops, and events especially for students to instil sustainability awareness and mindset.

Road Map & Key Deliverables

**2018-
2023**

**Initial
Stage
(Within
Northport)**

2024

**Beyond
Northport –
Schools**

2025 >>>

**Beyond
Northport -
Community
Building**

- **Focusing on Community Building at a Larger Scale**

- Fine-tune the operations based on data-driven insights and lessons learned for bigger project setup.
- Engaging city council as land owner and project co-champion, to identify suitable potential area for community-sized CoL project.
- Identifying resources and stakeholders needed for project implementation.
- Establishing project timeline and Terms of References (TOR) for project governance.
- Official launch of the community CoL project.
- Stakeholders to collaboratively maintain and sustain the CoL project

Sustainable Circle of Life Key Deliverables

Carbon Reduction

Employing methods to reduce greenhouse gas emissions associated with food production, transportation, and operation of vertical farming.

It can be achieved through optimizing space, water, cost to build and nutrients using 3R material to setup, using vertical space efficiently, minimizing land use, utilizing aerobic digester to create compost, and employing water recycling through rainwater harvesting to reduce water usage.

Renewable Energy Integration

Incorporating renewable energy sources such as solar panels or to power vertical farming operations reduces reliance on non-renewable energy sources and minimizes the carbon footprint.

Local Food Production

Providing fresh produce locally reduces carbon emissions from transportation and storage.

Vertical farms in Northport can supply fresh produce to the community, enhancing food security and lowering the environmental impact of long-distance transport.

Economic Viability

Demonstrating that CoL could generate sustainable income through a closed-loop ESG initiative system.

Sustainable vertical farming is economically viable in the long term by optimizing operational efficiency, reducing production costs through RE integration and aerobic digester.

Partnerships with local restaurants and retailers will give ample supply of food waste that eventually reduces the need of buying fertilizer to fertilize the farm and gardens.

Community Engagement

Fostering strong community engagement through the pillars of CoL that promote environmental stewardship and social responsibility.

These activities not only enhance the local environment but also build a sense of unity and purpose which reinforces the commitment to creating a positive, lasting impact and nurturing a collaborative spirit for a greener, more sustainable future.

06

Gap Assessment

Gap Assessment

GAP ASSESSMENT

A GAP assessment involves identifying the variance between the current state of a system or process and its desired state or best practices.

Assess current space use and explore vertical farming, while evaluating water and nutrient management for improvements.

Assess current renewable energy use in vertical farming and identify ways to increase and integrate it more effectively.

Evaluate waste management and identify opportunities for closed-loop systems and waste repurposing within farming or local collaborations.

Assess current water usage and irrigation practices, aiming to reduce consumption through more efficient techniques or water recycling systems.

Evaluate current community engagement efforts, aiming to expand through education programs, outreach events, or local partnerships.

07

Success Criteria Measures

Success Criteria Measures

Reduction in Environmental Impact

Quantify carbon footprint reduction and measure water usage decrease



1

Increase Community Engagement and Awareness

Measure involvement, assess awareness, and track participation.

2



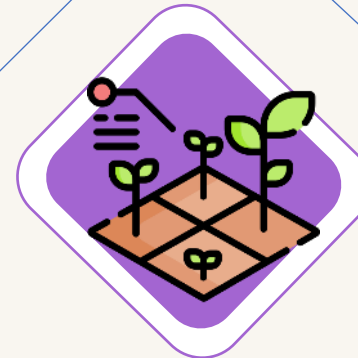
3

Enhance Food Security and Accessibility

Quantify access increase, measure food insecurity reduction, and monitor business involvement



4



Optimize Infrastructure and Technological Advancement

Measure production efficiency, assess technology integration, and track infrastructure maintenance.

5



Increase Collaboration and Partnerships

Quantify collaborative initiatives, assess partnership impact, and track community network strength.

08

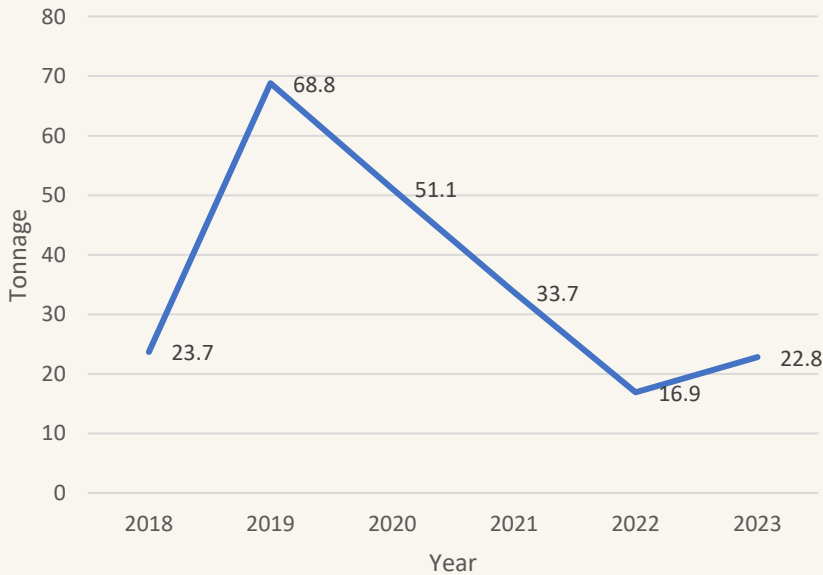
The Implementation

The CoL Implementation

3R Recycling Program

- Northport's annual 3R Recycling Program is a key sustainability initiative focusing on reducing, reusing, and recycling waste among all the Divisions and Departments in the port.
- The program has significantly reduced waste output and boosted recycling rates, reflecting the dedication of participants, driving towards a cleaner, greener, and more sustainable future.

Total Tonnage Waste Collected



14
Division / Dept
Participated Each Year

217
Tonnes Garbages
collected

RM 75k
Total 3R sales
proceeds collected

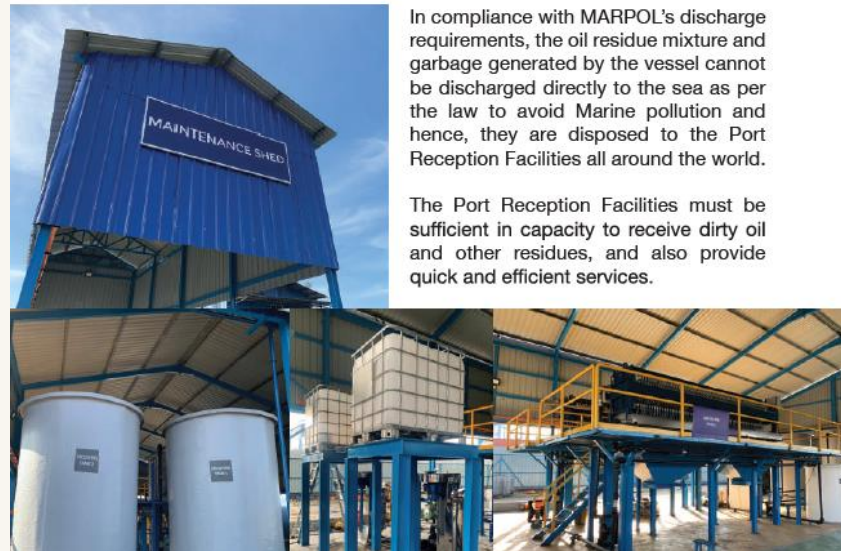


The Port Reception Facility

In December 2020, Northport and its Partner, Alam Flora Environmental Solutions Sdn. Bhd. (AFES) set a significant milestone with the establishment of the first integrated Port Reception Facilities (“PRF”) in Malaysia to manage scheduled and non-scheduled waste in compliance with the International Convention for the Prevention of Pollution from Ships (“MARPOL”) standard.

Port Reception Facilities (PRF) is one of the most important facilities that every marine port must provide to collect residues, oily mixtures, and garbage generated from seagoing vessels. The arrangements must be such that the receiving operation can be performed as fast as possible to avoid undue delay of the ship.

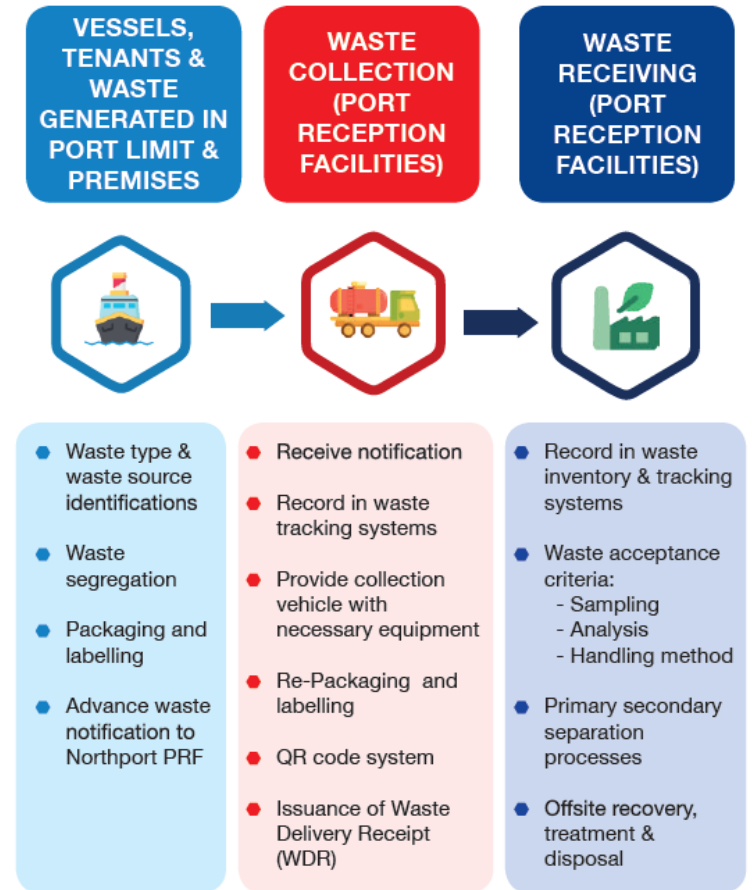
The merchant fleet of ships in the shipping industry is generally divided into two main categories - Dry ships, which carry dry cargo in bulk & Wet ships, which carries liquid cargo in bulk. Both types of ships generate oily residue mixture and garbage during their normal shipping and cargo carrying operation at ship and at port.



In compliance with MARPOL's discharge requirements, the oil residue mixture and garbage generated by the vessel cannot be discharged directly to the sea as per the law to avoid Marine pollution and hence, they are disposed to the Port Reception Facilities all around the world.

The Port Reception Facilities must be sufficient in capacity to receive dirty oil and other residues, and also provide quick and efficient services.

WASTE COLLECTION & TRANSPORT FLOW



The CoL Implementation

Rain Water Harvesting



Northport's Rainwater Harvesting Initiative focuses on water usage reduction within the office and warehouse facilities.

Northport has installed 3 rainwater collection systems at NDSB Warehouse D6, Operational office building Block A and B with a total capacity of 1050 gallons (4,000 litres).



Collected rainwater is utilized for landscaping, irrigation system for vertical farming, yard and containers cleaning, and other non-potable uses.

The CoL Implementation

Solar Panel Initiatives

In 2021, Northport emphasized its commitment towards sustainability and renewable energy by installing solar panels at NDSB Warehouses D6 and D7.

With a total area of 200,000sqft, and capacity of 1.8MWp, it can generate in total of 2GWh energy annually.

Solar panels are also used to power up the motor pump for the irrigation system of Northport's Vertical Farming initiatives.

These initiatives have successfully reduced the port's electric consumption by 10%.



The CoL Implementation

Landscaping Competition

- In 2021, Northport hosted a Landscaping Competition among its divisions and departments.
- Each division or department designed and implemented innovative garden and landscaping projects inside the port terminal, emphasizing the usage of 3Rs concept : Reduce, Reuse, and Recycle.
- Participants creatively used recycled materials and sustainable elements, including native plants, to enhance their gardens.
- The competition fostered teamwork, promoted green practices, and at the same time beautified the port facilities.
- Winners received recognition and prizes, reinforcing Northport's commitment to environmental stewardship and a vibrant, eco-friendly workplace.



Zero Waste Raya Celebration

- On the 12th of May 2023, Northport held its annual Hari Raya Open House under the theme "Hijaukan Syawal Anda" or "Green Your Eid". This event spotlighted the significance of ESG (Environmental, Social, and Governance) principles, showcasing a myriad of ESG initiatives from Northport.
- The ambitious goal of achieving Zero Waste at this event aimed not only to heighten awareness but also to promote the use of eco-friendly materials by all vendors, alongside the strategic placement of recycling bins. This effort underscores Northport's commitment to sustainability and community engagement.



The CoL Implementation

Composting Machine



- On 21st November 2023, the MAEKO Food Composting Machine was installed at Northport's Canteen.
- Canteen staff and HSE personnel received comprehensive training on operating and maintaining the machine.
- This initiative will help the canteen convert food waste into compost, thereby minimizing waste and supporting environmental sustainability efforts.



The CoL Implementation

Vertical Farming

- Northport installed its first Vertical Farming System made from recycled materials on 7th September 2023.
- This sustainable setup produces a variety of crops, including salad, water spinach, spinach, and leaf mustard, which are sold directly to Northport staff and Northport's canteen operators, promoting local consumption and reducing environmental impact.
- This initiative not only provides fresh produce but also supports environmental sustainability, community engagement, and economic value for Northport.
- To date a total of 24.0 kg vegetables have been harvested and sold to staff and canteen operators from this initiative. Northport has also given the vegetables as charity to port communities totaling 4.5 kg to date.



The CoL Implementation Vertical Farming

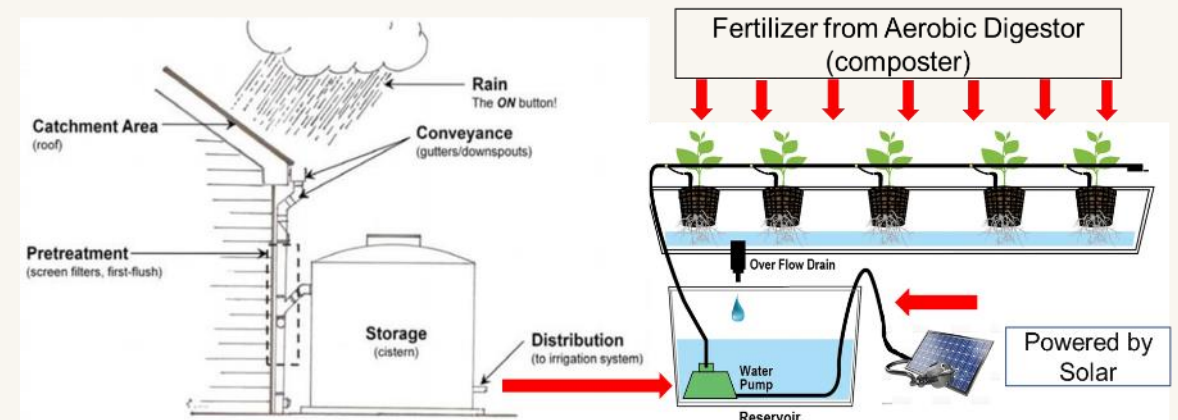
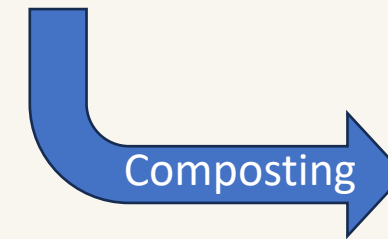
- Vertical Farming (VF) is a type of agriculture system where crops are grown in vertically stacked layers in a controlled environment.
- The concept allows farmers/operators to grow plants with less monitoring and little water usage (closed system with recycled water), and less land area required.
- The VF is flexible and can be placed anywhere including in busy, land-locked ports. It also can help to improve air in areas where smog and dusk are highly concentrated.

The implementation of the vertical farming will support to achieve several SDGs.



NORTHPORT VERTICAL FARMING CONCEPT

Food Waste from Canteen



Rainwater Harvesting + Vertical Farming + Aerobic Digester + Renewable Energy

Why Vertical Farming?

- According to research conducted by OneFarm based in the Netherlands, VF can potentially emit 70% less CO₂ compared to open field agriculture, with additional benefits of 95% less land used and 80 to 90% less water use.
- Moreover, vertical farming can substantially reduce the amount of food waste.

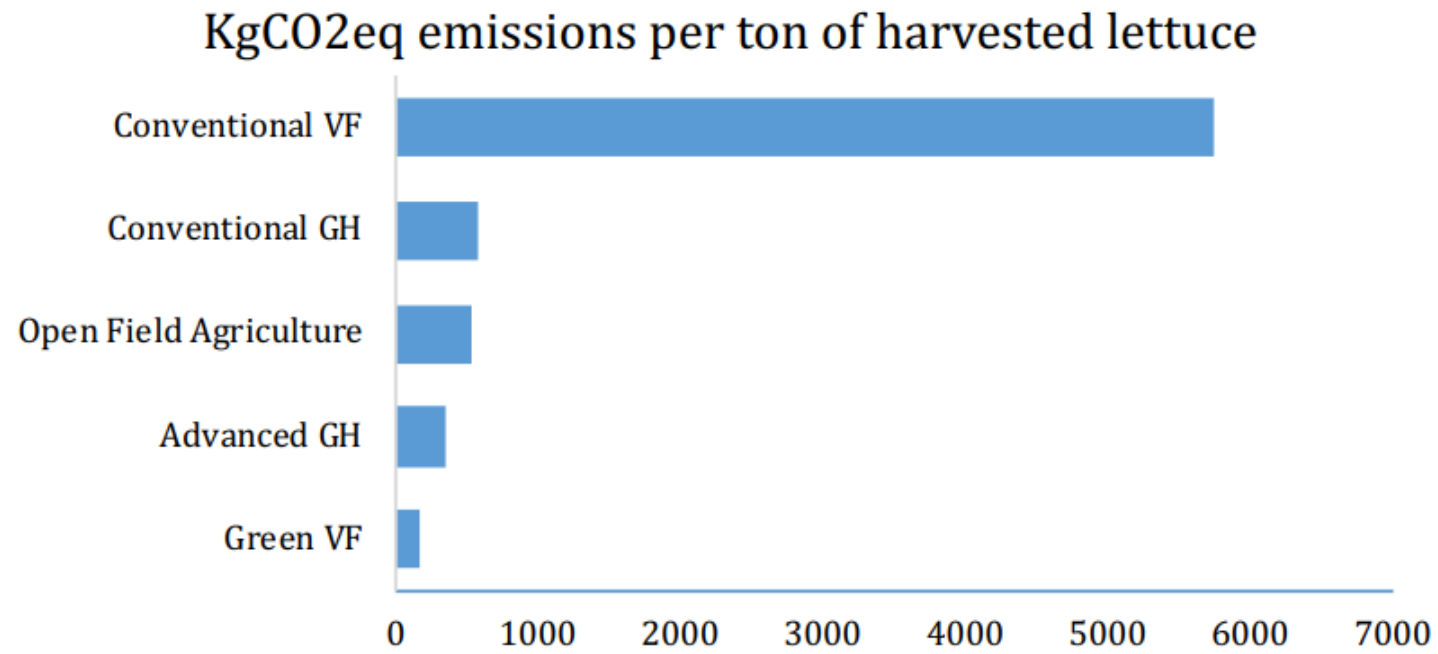


Figure 1: Mean CO₂ emissions per kg of lettuce for Green Vertical Farming, Conventional Vertical Farming, Advanced Greenhouse, Conventional Greenhouse and Open Field Agriculture.

Distribution of CO2 emissions in different agricultural systems per ton of lettuce

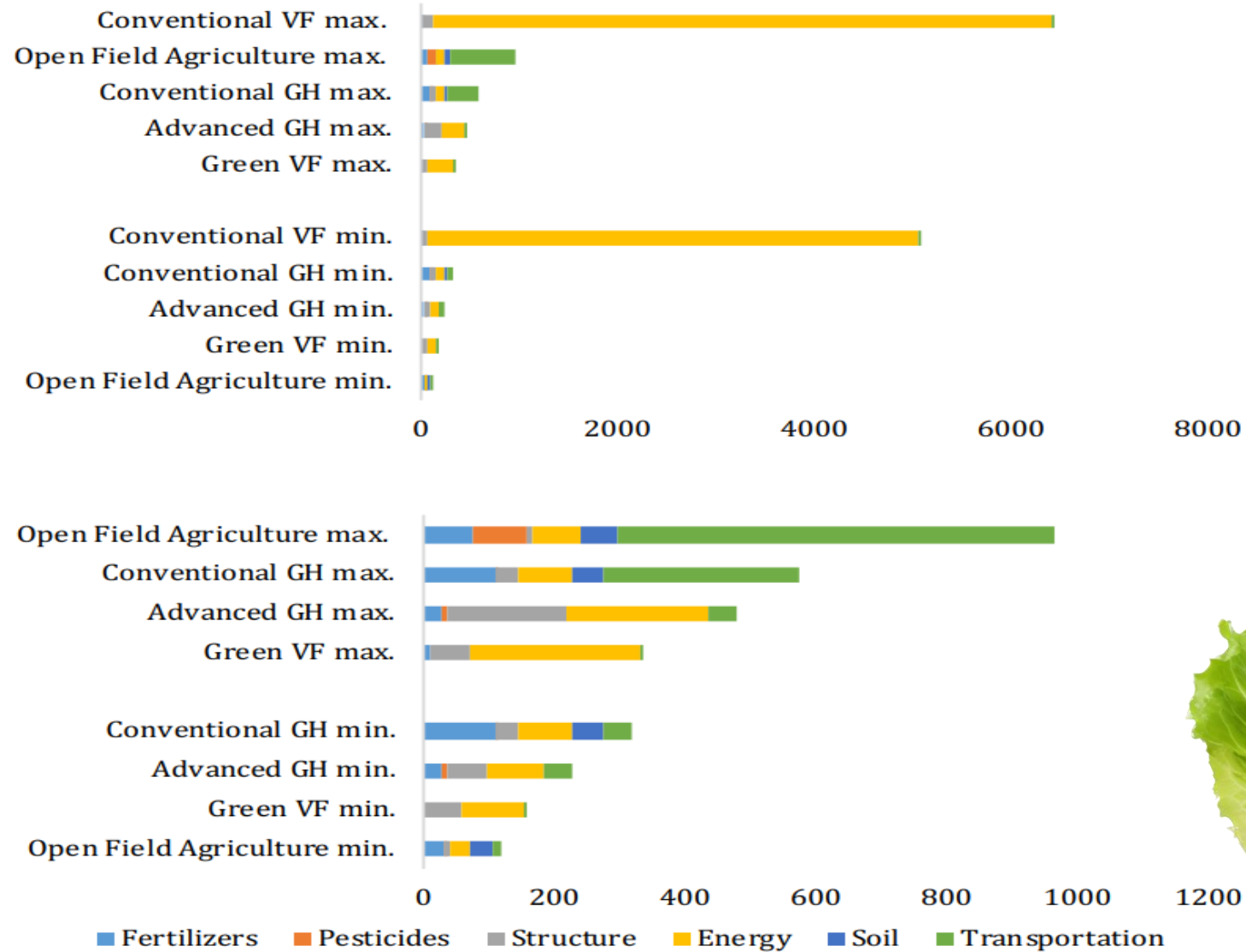


Figure 2: Distribution of CO2 emissions per ton of lettuce for Green Vertical Farming, Conventional Vertical Farming, Advanced Greenhouse, Conventional Greenhouse and Open Field Agriculture.



The CoL Implementation

Northport's Vertical Farming Market

- Northport held a **Vertical Farming Market** on 28th May 2024.
- A total of 19.5 kg (65 packs) of organic vegetables were sold at RM175.00 and 13.5 kg of organic compost were sold at RM216.00 to the port community.



CSR at School & Community

Northport held CSR programs with local schools prior to the Deepavali, Chinese New Year festivities, and Hari Raya Aidilfitri celebrations in 2023 and 2024. These initiatives introduced pillars of CoL which focusing on vertical hydroponic farming to students, fostering environmental awareness and sustainability. Through installations and educational sessions, Northport engaged students in hands-on experience, promoting responsible environmental practices aligned with the company's ESG framework.



CSR at Sekolah Jenis Kebangsaan (Tamil) Taman Sentosa, Klang on 7th November 2023



CSR at at Sekolah Jenis Kebangsaan (Cina) Pandamaran Jaya, Port Klang on 5th February 2024



CSR at at Sekolah Kebangsaan Rantau Panjang, Klang on 1st April 2024

09

The Vision

Northport's Circle of Life

The Vision : In a Nutshell

1 FROM... small-scale initiative i.e. Planting vegetables for canteen consumption using fertilizer from food waste using aerobic digester (circular economy concept)



2 TO... carrying out CSR programme with schools, contributing vertical farming equipment and teaching hydroponic farming to the students



- 1) SK Rantau Panjang
- 2) SJK (T) Taman Sentosa, Klang
- 3) SJK (C) Pandamaran A, Port Klang

3 AND ULTIMATELY...

Objective:

Community-Contribution Concept of Larger Scale of CoL:

Northport, Universiti Utara Malaysia and Klang Royal City Council (KRCC) together with industry players to come together in an effort to empower local community towards self-sufficiency in fruits and vegetables and landscape enhancement within Port Klang by utilizing "abandoned land/area" for this purpose.

Proposed land by KRCC in Bandar Sultan Suleiman (near Masjid As-Saadah, Bandar Sultan Suleiman) measuring approximately 1.8 acres as the large scale vertical farming project site (Circle of Life Community Garden)

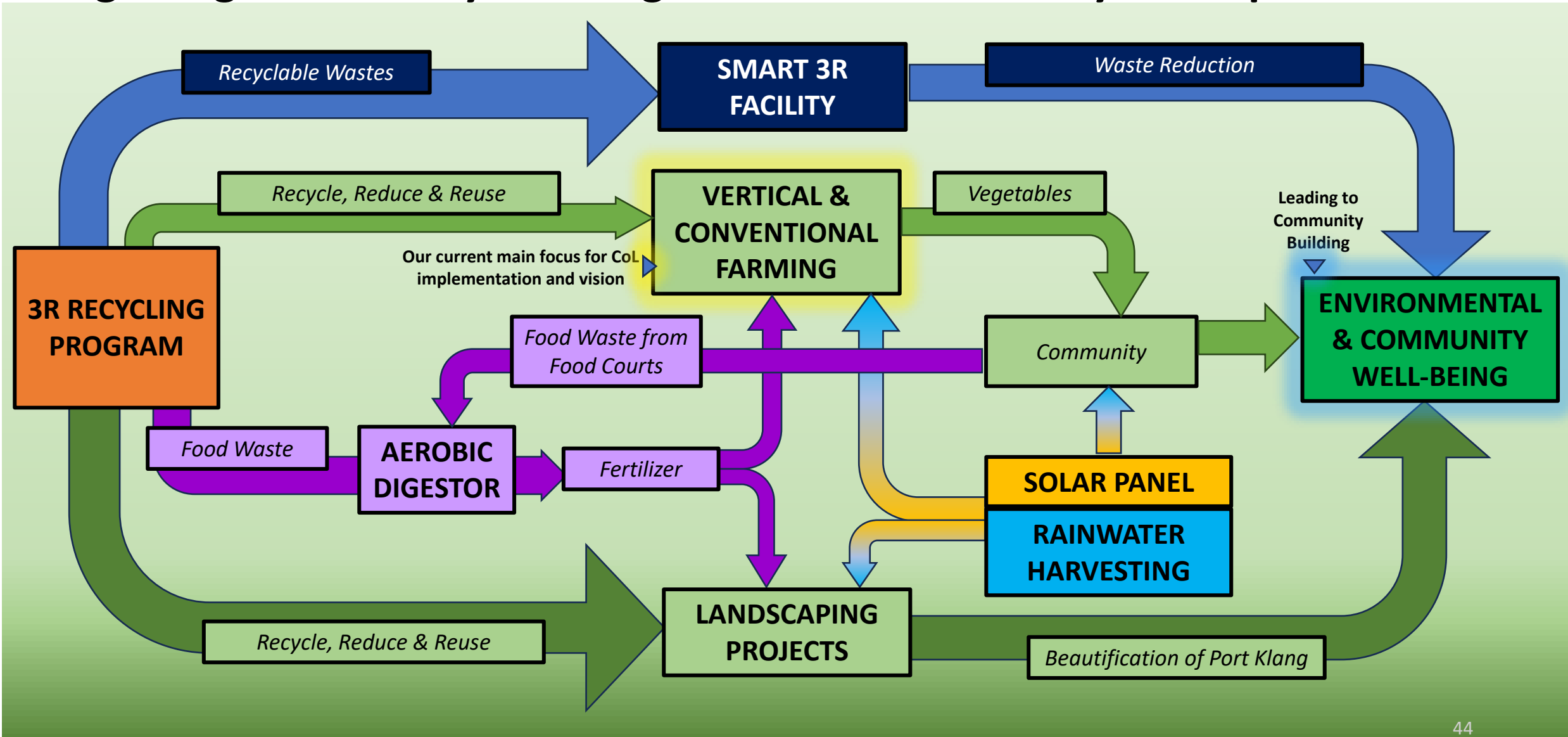


Benefits

- ✓ On KRCC land.
- ✓ Community Building and Empowerment.
- ✓ Circular Economy Concept.
- ✓ Industry Players' CSR contribution.
- ✓ Sustainability Driven (Circular Economy, Food Waste Reduction, Food Security, Carbon Emission Reduction, Sustainable City and Community, Climate Action)

Community Circle of Life

Integrating Community-Building and Circular Economy Concept



Vertical Farming In a Bigger Scale

To further elevate this initiative at a larger scale, Northport has collaborated with Klang Royal City Council (KRCC) to extend this ambitious CSR initiative focusing on vertical farming. This initiative aims to not only promote sustainable urban agriculture but also foster community engagement and integrate circular economy principles. A meeting was held on 17th May 2024 where the KRCC Mayor emphasized the significance of community involvement and sustainability in the maintenance of the proposed urban farm, suggesting a collaborative effort between various stakeholders including schools, mosques, and nearby housing areas. The meeting delved into location considerations, support from expertise, and the incorporation of recycling elements to enhance the project's impact.

A Letter of Intent (LOI) was signed on 28th May 2024 , whereby the focus of the collaboration are as follows:

- a) **Community-focused CSR Initiative:** The Mayor emphasized the importance of a community-centric approach to the CSR initiative, particularly highlighting the maintenance and sustainability of the "urban farm." It was proposed that interested community members, including schools, mosques, and nearby low-cost housing areas should be trusted for the upkeep of the vertical farm. Caretakers of the farm would maintain direct communication with Northport's Facilities team for support and guidance. To address concerns about potential challenges in accessing Subject Matter Experts, Northport assured that adequate support would be provided, drawing from past experiences in supporting schools under previous CSR programs. Additionally, the Mayor also suggested implementing an interview process for selecting caretakers.

Vertical Farming In a Bigger Scale

- b) **Mayor Support and Anticipation:** The Mayor expressed strong support and enthusiasm for the project, citing her prior involvement in similar urban farming projects in Subang. She noted her satisfaction with Northport's initiative in spearheading this project in Klang, where urban farming initiatives had not yet been explored.
- c) **Location Suggestion:** The Mayor proposed a 1.8-acre land near Bandar Sultan Sulaiman, Port Klang as a suitable location for the initiative. This location was chosen due to its proximity to low-cost housing areas, food stalls, shops, a community hall, and a mosque. Although initially planned for a morning market ('Pasar Pagi'), the land remained unused. The Mayor suggested repurposing it for both a morning and night market while integrating the circular economy concept. This would involve utilizing an aerobic digester, collecting food waste from nearby stalls/shops and selling vegetables to market merchants.
- d) **Greenery Replacement and Naming:** The Mayor stressed the importance of environmental sustainability by replacing existing trees/bushes with plants, specifically the vertical farm. Additionally, Northport was tasked with proposing a catchy name for this initiative.
- e) **Recycling Element Integration:** Northport proposed incorporating recycling elements (3R) into the project, such as reusing port waste such as interlocking blocks, used tires, and gutters for project development.
- f) **Collaboration with Industry Players:** The discussion also highlighted the importance of collaborating with industry players to enhance the project's impact and sustainability.

CoL Beyond Northport

Meeting with Mayor of KRCC

A meeting was held with KRCC to discuss project details and community involvement on 17th May 2024.



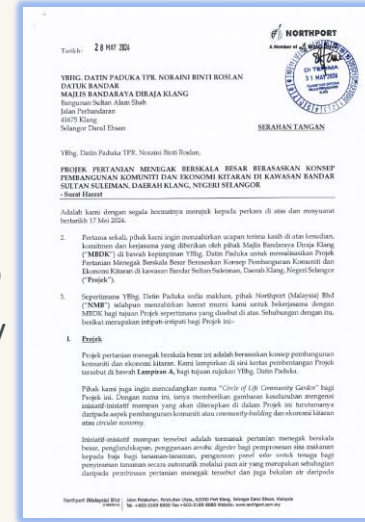
Land Allocation Finalized

A 1.8-acre site near *Masjid* Bandar Sultan Suleiman (Bandar Sultan Suleiman Suleiman Mosque) has been identified and finalized for the project, chosen for its strategic location near key community areas on 17th May 2024.



Letter of Intent (LOI)

Northport and KRCC has agreed on LOI to formalize the collaboration on 31st May 2024 (letter dated 28th May 2024).



Potential Sponsors and Collaborations

Discussions with identified potential potential sponsors and collaborations with industry players to enhance the project's impact.



CoL Beyond Northport

The Ultimate Goal : Sustainable Community Building

1 Morning/Night Market

Empowering local and small business owners.



2

Food Waste Collection

Reducing waste and promoting sustainability.



3

Industry Sponsorship

Securing support from local businesses.

4

Community Collaboration

Working with community leaders and resident associations.



Student Empowerment

Empower school students and small scale businesses and entrepreneurs.



Industry Partnerships

Partnership with industry players.



Community Building

Fostering a strong, supportive local community.

CoL Beyond Northport

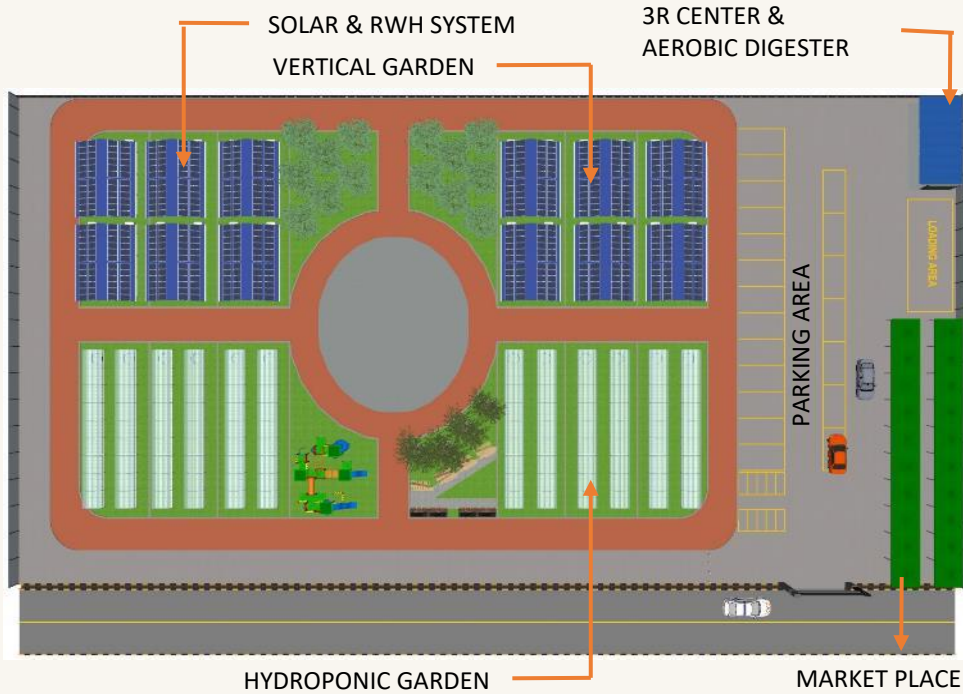
BSS Circle of Life Community Garden



CoL Beyond Northport

BSS Circle of Life Community Garden

Artistic impression



CoL In a Bigger Scale

Expected Outcomes

Current State:

Northport CoL - Vertical Farming Project & CSR Programme

As of now, in total, Northport vertical farming including the CSR programme for schools has utilised a total of 1,200 pots. This has resulted in

300 packs

of harvested crops (per season is approximately 1 month).



With that, to convert in terms of revenue¹, per season is

RM600.00

at RM2.00/pack



At estimation, 20 kg of valuable compost per season (every 1 month) produced by aerobic digester (converted from about 100 kg of food waste). Hence, preventing ~1,200 kg of food waste from ending up in landfill per year. This is

equivalent to **2,280 kgCO₂-e emissions** avoided (source: Food Waste Greenhouse Gas calculator by watchmywaste.com.au).



Notes 1: the actual total collection is RM175.00 for vegetables and RM216.00 for compost as of now due to the CSR programme and distribution as part of charity.

Notes 2 :

- 42,000 pots is based on 1 set requires 75 sq.ft and 1 acre is 43,560 sq.ft.
- At estimated 65% usage, it is 28,314 sq.ft.
- 28,314 sq.ft/75 sq.ft = 350 sets. 350 sets x 120 pots = 42,000 pots. 1 set is 120 pots.



Future State:

Large Scale CoL of Vertical Farming Project

At ~1 acre, 42,000 pots² would result in **10,500 packs** of harvested crops.

With that, to convert in terms of "revenue"¹, per season is

RM21,000.00

at RM2.00/pack


At estimation, 150 kg of valuable compost per season (every 1 month) produced by aerobic digester (converted from about 750 kg of food waste). Hence, preventing ~9,000 kg of food waste from ending up in landfill per year. This is equivalent to **17,100 kgCO₂-e emissions** avoided (source: Food Waste Greenhouse Gas calculator by watchmywaste.com.au)

CoL Beyond Northport Media Coverage

The Malaysian Reserve

KOSMO

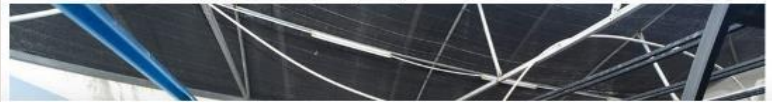
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The Malaysian Reserve
Wednesday, May 29th, 2024

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Northport, MBDK utilise vertical farming for Circle of Life Community Garden project



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Northport and MBDK will work hand-in-hand with schools, mosque and nearby housing area residents to ensure the Klang community is at the heart of the initiative – pic credit: Northport

Wednesday, May 29th, 2024 at Corporate Malaysia | News

by **ZAHIN ZAILANI**

NORTHPORT (M) Bhd and the Klang Royal City Council (MBDK) will collaborate on an initiative to foster sustainable urban agriculture through a large-scale vertical farming project.

The "Circle of Life Community Garden" project is set to increase urban farming in Klang, assisting community engagement and integrating principles of the circular economy.



KAKITANGAN Northport dan murid sekolah berkongsi pengalaman berkaitan pertanian di Klang baru-baru ini.

Northport, MBDK laksana projek pertanian bandar



PETALING JAYA – Northport (Malaysia) Bhd. (Northport), ahli Kumpulan MMC dan Majlis Bandaraya Diraja Klang (MBDK) mengumumkan inisiatif kerjasama bagi memupuk pertanian bandar melalui projek pertanian menegak (vertical farming) berskala besar.

Inisiatif dinamakan Taman Komuniti Kitaran Kehidupan (Circle of Life Community Garden) bertujuan mengembangkan konsep pertanian bandar di Klang, menggalakkan penglibatan masyarakat dan menyepadukan prinsip ekonomi pekeliling.

Ketua Pegawai Eksekutif Northport, Datuk Azman Shah Mohd. Yusof berkata, pihaknya menjalankan projek pertanian

menegak di premis mereka bertuam Ogos tahun lalu yang kemudiannya diperluaskan di sekolah sekitar Klang sebagai sebahagian daripada program tanggungjawab sosial korporat (CSR).

"Ya bertujuan meningkatkan kesedaran tentang kepentingan kelestarian alam sekitar dalam kalangan murid sambil menggalakkan pembangunan masyarakat setempat," katanya dalam satu kenyataan semalam.

Tambah Azman Shah, fasa seterusnya adalah kerjasama dengan majlis bandar yang merupakan projek berskala besar serta memberi tumpuan kepada pembangunan komuniti setempat dengan bantuan pemain-pemain industri pelabuhan dan logistik.



Sinar Harian NASIONAL 9
SINAR HARIAN • Rabu 29 Mei 2024

Northport-MBDK jalin kerjasama pertanian bandar

Meningkatkan kesedaran tentang kepentingan kelestarian alam sekitar

Oleh **FARHANA ABD KADIR SHAH ALAM**



Northport dan MBDK berhasrat untuk mengembangkan inisiatif ini dengan melibatkan lebih ramai rakan kongsi komuniti dan pihak berkepentingan.

"Projek inovatif yang dimulakan oleh Northport ini merupakan inisiatif yang sangat baik kerana ia meningkatkan kesedaran alam sekitar dan penglibatan komuniti bagi membangunkan ekosistem, khususnya di Klang.

"Kami merasakan adalah menjadi tanggungjawab kami untuk menyokong inisiatif ini dan kami telah memperuntukkan sebidang tanah di Pasirbandar Klang untuk projek itu.

"MBDK berharap lebih banyak organisasi akan tampil dan mengambil bahagian dalam inisiatif ini kerana ia menyumbang kepada kesejahteraan masyarakat setempat," katanya.

Sebagai sebahagian program CSR syarikat, kakitangan Northport berkongsi pengetahuan berkaitan pertanian menegak dengan murid-murid sekolah di Klang.

Noraini (tengah) bersama pegawai-pegawai Northport semasa perbincangan inisiatif kerjasama 'Circle of Life Community Garden'.

Indicative Project Timeline



| High-level Timeline | Agenda |
|-------------------------------|---|
| May 2024 | Signing of LOI and announcement of Circle of Life Community Garden project |
| Early July 2024 | Engagement with stakeholders |
| Mid July to Mid September | Establishment of land to be used |
| Mid September to Mid November | Resource gathering, sourcing, preparation (land clearing, technology, equipment, manpower etc.) |
| End of December | Installation of equipment |
| January 2025 | Official launch of the BSS COL Community Garden |

CoL Beyond Northport Benchmark & Project Reference



City Rooftop Farm at Central i-City. CityFarm Malaysia transformed the roof space of Central i-City into an urban farm, which houses the first rooftop premium melon farming as core cultivation.

The Star Kebun-Kebun Bangsar now a model community garden under LA21 project, says DBKL

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Kebun-Kebun Bangsar now a model community garden under LA21 project, says DBKL

By GRACE CHEN


METRO NEWS
Thursday, 14 Jul 2022
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THE Kuala Lumpur City Hall (DBKL) has lauded Kebun-Kebun Bangsar (KKB) as a good example of an urban farm and should be emulated by other neighbourhoods.

In a statement, DBKL said that the urban farm had received a lot of support from the media as well as the public for conducting agricultural educational activities to visitors. It has also received various grants from Khazanah Nasional and ThinkCity as a good "placemaking" initiative.

Kebun-kebun Bangsar's "urban farm" a model community garden. The farm has received more than 100,000 visitors over the past five years.

Food courts tested on green technology

By GRACE CHEN

METRO NEWS
Saturday, 11 Nov 2017
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The anaerobic digester system installed beside the Daigilil Food Court

BIODEGRADABLE packaging, bins for separate trash, and a waste management system designed to recycle discarded food scraps are paving the way for greener and cleaner food courts run by local councils.

Expanding 3R uptake


By JADE CHAN

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(From left) MBSA Corporate and Public Relations head Mohd Azhar Mohd Sharif, Cheremi, Ng Aranolis, Nestle (Malaysia) Group Corporate Affairs executive director Datuk Ashan Pawanteh, group Sustainability and Government Relations head Michelle Woon, Mohd Azmi, MBSA councillors Muhammad Shakir Ameer Mohideen and Mandy Ooi, and Lee with a recycling truck.

10

The End Game

Moving Forward

01

Stakeholder Engagement Strategy:

Engage stakeholders, including schools and religious centers, in the garden maintenance. Set up communication channels for ongoing support from Northport team.

02

Site Evaluation and Acquisition:

Assess the land near BSS Mosque for soil quality, accessibility, and compliance. Initiate dialogue with authorities and community leaders for necessary project approvals.

03

Specialized Expertise Integration:

Collaborate with the “garden engineer” of urban garden project for expertise in urban farming infrastructure. Partner with industry experts and research institutions to innovate and enhance sustainability practices.

04

Sustainable Development Framework:

Develop a sustainability framework with eco-friendly practices and explore circular economy initiatives to minimize impact and enhance resilience.

05

Strategic Partnerships and Communication Strategy:

Formalized through a Letter of Intent (LOI) to KRCC or *Majlis Bandaraya Diraja Klang (MBDK)* which was signed on the 28th May 2024, while cultivating relationships with stakeholders and influencers for project visibility.



The End Game

The Circle of Life project aims to achieve its end goal which is transforming Port Klang into a greener, more sustainable port city.

1

Circle of Life Community Gardens

By having this community garden, it will be a one stop center that incorporates all ESG elements in one place which can be replicated throughout the city.

2

Green Spaces

Green spaces in place of abandoned lands to offer residents and communities a break from the hectic urban life.

3

Sustainable Development

The project's success will not only revitalize Port Klang but also set an example for sustainable development, demonstrating how cities can balance industrial growth with environmental stewardship.



Thank You



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