附属資料 A

ケソン市脱炭素都市形成の実現に向けた局長級政策対話

1　日　時：2024（令和６）年７月９日（火）　10時30分～12時

2　場　所：大阪市役所本庁舎　大応接室

3　共　催：大阪市、ケソン市

4　出席者：（大阪市）　環境局　堀井局長、井原理事、河合環境施策部長、金子環境管理部長
川辺都市間協力担当課長
（ケソン市）気候変動・環境サスティナビリティ局　アンドレア局長、
〃　カール環境管理士
小企業協同組合開発推進局　モナ局長
（㈱オリエンタルコンサルタンツ）海外事業部　藤井副主幹ほか

5　言　語：日英逐次通訳

6　次　第：

10：30

あいさつ（各５分）　大阪市　堀井局長
ケソン市　アンドレア局長

10：40

大阪市発表（20分）　脱炭素都市形成に向けたケソン市との都市間協力について

11：00

ケソン市発表（20分）　2024年大阪市との都市間連携事業における協力可能分野

11：20

ｵﾘｴﾝﾀﾙｺﾝｻﾙﾀﾝﾂ発表（20分）　カーボン・ニュートラル社会の実現に向けたケソン市のゼロ・カーボン開発

11：40

意見交換（15分）

11：55

記念撮影・記念品贈呈（５分）

12:00

閉会　（歓迎昼食会へ移動）

Policy Dialogue on decarbonization between Quezon City and Osaka City

City to City collaboration project with Quezon City

Shunsuke KAWABE
Manager for International Cooperation,
Environmental Policy Division,
Environment Bureau
Osaka City

July 9, 2024

The highlight projects of Osaka ～Expo 2025 Osaka, Kansai, Japan～

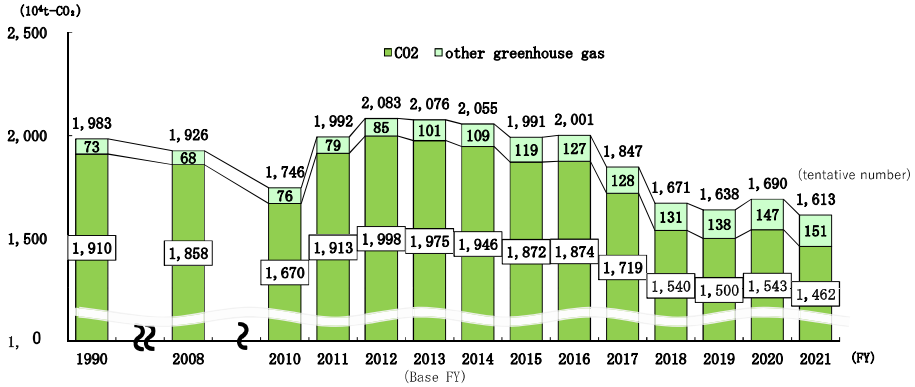
- Theme : " Designing Future Society for Our Lives "
- Sub-themes : " Saving Lives "
  " Empowering Lives "
  " Connecting Lives "
- Concept : " People's Living Lab."
- Event Period : April 13 – October 13, (6 months)
- Projected visitors : Approx. 28.2 million



Provided By: Japan Association for the 2025 World Exposition

Framework of Osaka City Action Plan on Global Warming

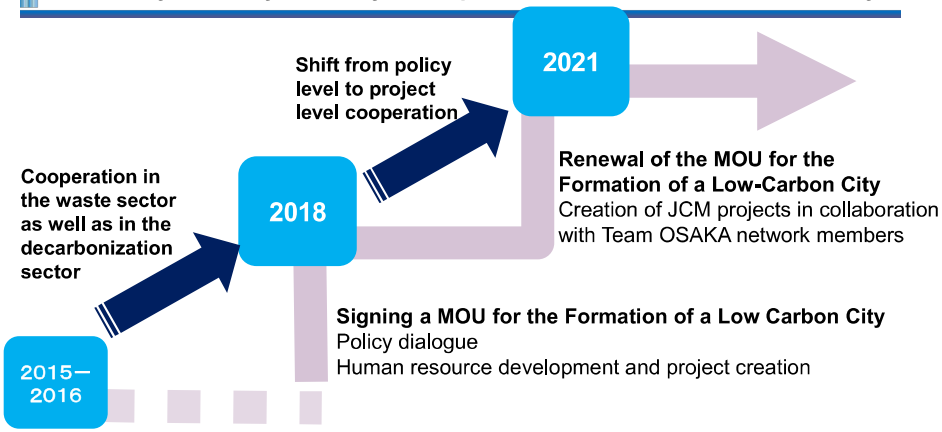
Changes in greenhouse gas emissions in Osaka City area



- GHGs emissions were high from FY2011 to FY2016 and have decreased since 2017.
- GHGs emissions in FY2021 were 16,130,000t-CO2, a reduction of approximately 22% from the base year of FY2013.

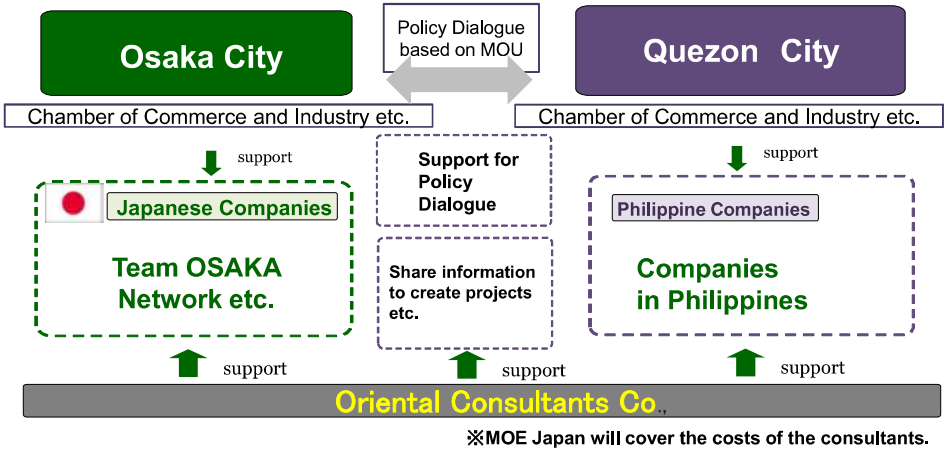
Midterm goal	Long term goal
50% cut from 2013 levels by 2030	Net zero emission of GHG (carbon-neutral) by 2050.

History of city to city cooperation with Quezon City



Research projects in the field of waste-to-energy.
Cooperation through local workshops and human resource development.

City to City Collaboration scheme



※MOE Japan will cover the costs of the consultants.

- The private sector plays a very important role in this scheme.
- Following the scheme, JCM subsidy scheme could further encourage the private sector's participation.

Team OSAKA Network

Osaka City Government has own business network called "Team OSAKA Network" and cooperate with 161 companies for overseas environmental projects.

Members：161 companies

Main companies

- OSAKA GAS CO.,LTD (Energy supply)
- Hitachi Zosen Corporation ("Kanadevia Corporation" from October 2024) (Waste to Energy Plants Hydrogen Generation Systems)
- Daikin Industries, Ltd. (Air Conditioning and Refrigeration Business)
- Kubota Corporation (Farm & Industrial Machinery Water & Environment)
- ENDO Lighting Corporation (Lighting)
- HORIBA, Ltd (Environment monitoring and analytical instruments)
- ORIENTAL CONSULTANTS Co., Ltd (Consulting)

etc.

Target Area for JCM project formulation in 2024

Target area

Building
Promotion of renewable energy, EMS, etc.

- Roof-mounted Solar PV with EMS（Energy Management System）
  Target ：PEZA owned industrial parks (factories)
  Schools in Quezon City

- Wastewater heat recovery and Ground source heat pump system
  Target ：Food factories
  Quezon City Hospital

Forming JCM projects in these areas with high CO_2 emissions in Quezon City will contribute to Quezon City's decarbonization and reduction goals.

Towards the JCM Project formulation

- Formulation of JCM projects through city-to-city collaboration projects
- JCM projects can receive financial subsidies for energy-saving equipment that reduces CO_2 emissions and for equipment needed to introduce renewable energy. (up to 50%)
- JCM Project formation process
  - Selection of target facilities and enterprises
  - Identification of needs for equipment renewal and introduction of new equipment
  - Calculation of introduction costs, CO_2 reduction effects, etc.
  - Application for JCM subsidy → Adoption → Implementation

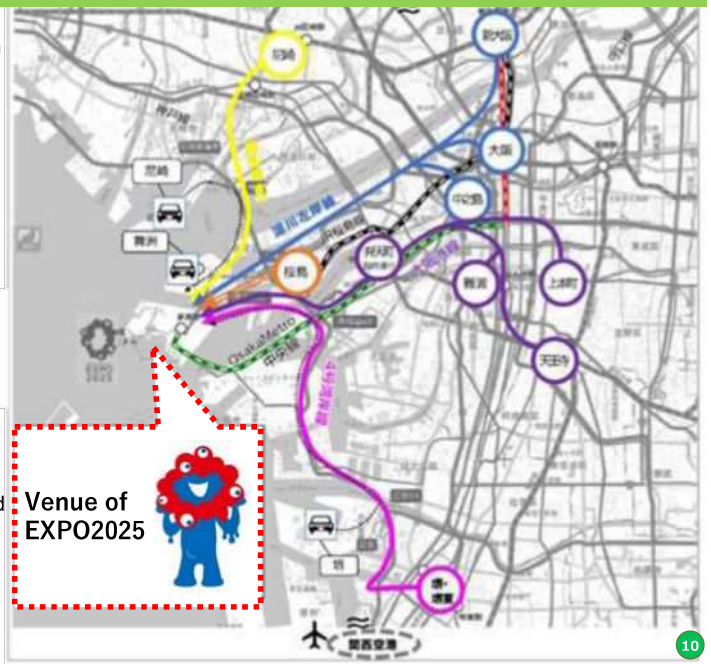
Contribution to the goal of the Enhanced QC-LCCAP

Various Initiatives
in the Osaka City Action Plan on Global Warming

Expo2025 as a catalyst for decarbonization

Over the three years from FY2022 – 2024, about 100 EV/FC buses are to be introduced as shuttle buses between the nearest stations and the Venue of Expo2025.

In addition to the national subsidy scheme, the Osaka Prefectural and the City Government subsidize part of the necessary costs to promote the introduction of EV buses.



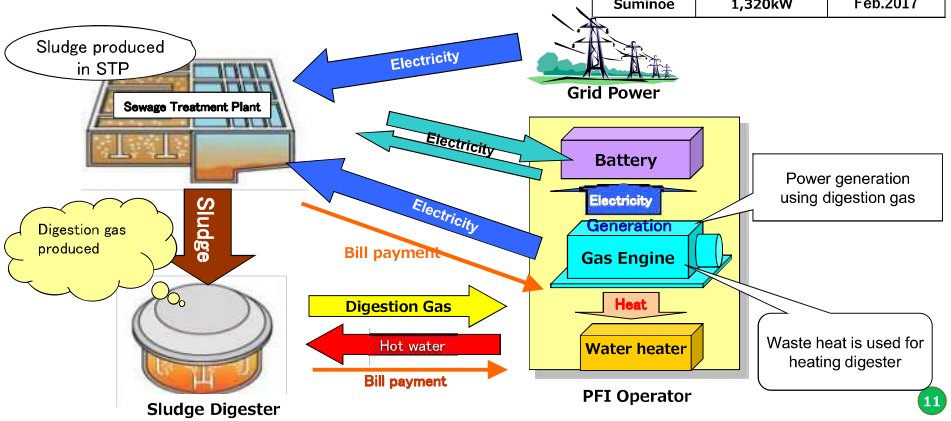
Harnessing biomass energy

Biomass power generation using digestion gas at STP （sewage treatment plants）

The digestion gas produced during the sludge treatment process is used as a fuel to generate electricity, making beneficial use of unused energy at wastewater treatment plants.

Track record

STP	Capacity	Start of operation
Nakahama	1,200kW	Apr.1995
Tsumori	2,819kW	Sep.2007
O-no	750kW	Aug.2016
Ebi-e	750kW	Nov.2016
Hanaten	1,320kW	Apr.2017
Suminoe	1,320kW	Feb.2017

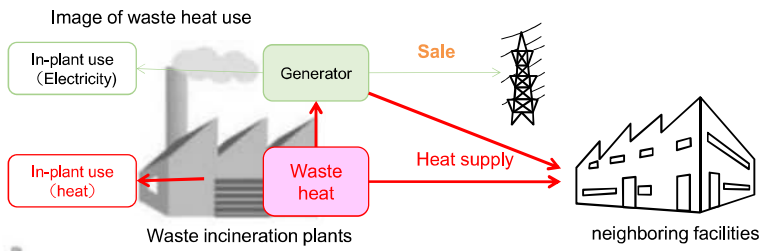


Waste to Energy

Power generation and residual heat utilization at waste incineration plants

All 6 waste incineration plants in Osaka City generate electricity, and 3 plants supply steam to neighboring facilities.
The amount of electricity generated is approximately 470 million kWh/year.
Of this, the amount of electricity supplied to the Electric Power Company, excluding that consumed within the plants, is approximately 300 million kWh/year.

Image of waste heat use



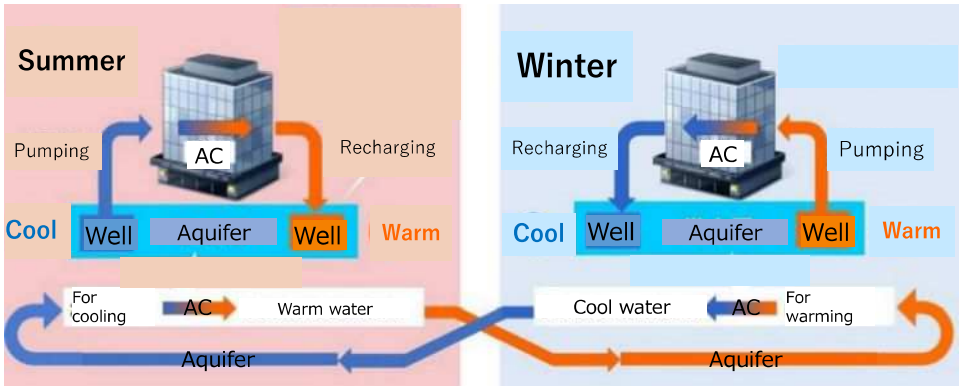
Higasiyodo waste incineration plants

Plant	Capacity	Power Generation	Destination of Steam
Nishiyodo	300t/d 2 unit	14,500kW	swimming pool
Yao	300t/d 2 unit	12,800kW	sanitary treatment plant swimming pool
Maishima	450t/d 2 unit	32,000kW	Swage treatment plant
Hirano	450t/d 2 unit	27,400kW	-
Higasiyodo	200t/d 2 unit	10,000kW	-
Suminoe	200t/d 2 unit	11,300kW	-

Harnessing unexploited energy

Use of underground heat (aquifer heat storage)

・Osaka City, where many buildings with high heat demand are located, is working to exploit its rich underground aquifers and harness the heat stored in the aquifers.



Energy-saving air conditioning and reduction of CO_2 emissions
(42% reduction compared to conventional systems)

13

Various approach for decarbonization Leading Area

Decarbonization of electricity in commercial sector

Thorough energy saving

① ZEB conversion, Upgrade to high efficiency air conditioning and LED lighting, etc.

Maximize RE(renewable energy) use

② On-site photovoltaics

Urban (building material-integrated) solar PV

③ Off-site photovoltaics(PPA)

④ Waste power generation (Electricity wheeling for self-use)

⑤ Various RE source options for target user

Decarbonization of electricity in non-commercial sector

❶ Transforming streets into human-centered spaces
・Pedestrianization of side roads,
・Introduction of ZEVs.

❷ Effective Area Energy Use
・Introduction of cogeneration to new buildings and energy supply to the existing buildings
・Decarbonization of city gas
・Use of groundwater heat for air conditioning

❸ Greening of building rooftops and roadsides

❹ Creation of liveliness

(a) Home VPP in the city
Install PV and "Ene Farm" in houses in the city and utilize surplus electricity

(b) Existing sources in the city
・Solar power generation at primary and secondary schools
・Digestion gas power generation at sewage treatment plants.
・Biomass power generation using prunings from Mido-suji Street.

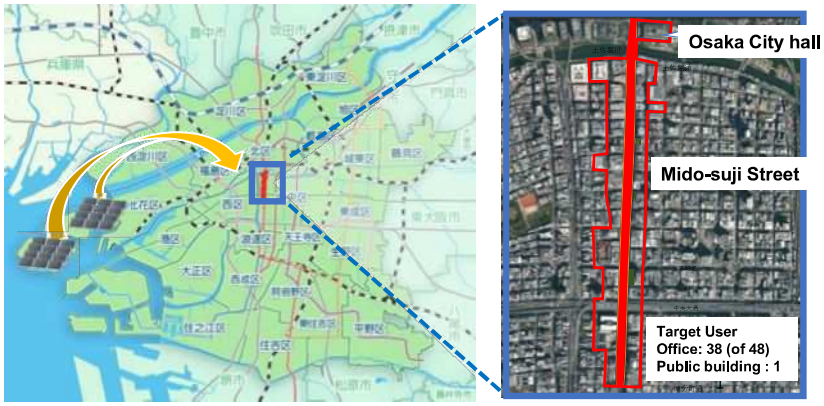
(c) Interregional collaboration
Support for region suitable for renewable energy production

15

Decarbonization Leading Area

The area around Mido-suji Street, the symbolic street running north-south through the center of Osaka city、is a historic business district that has contributed to the development of modern Osaka and now Osaka's most business-intensive district.

In this area, we aim to achieve net-zero CO2 emissions from electricity consumption in business sectors by FY2030. (selected as the national project in Nov.2023.)



14

Waste separation and collection

Ordinary waste

Twice a week

Recyclable waste

Once a week

Plastic containers and packaging

Once a week

used paper and clothes

Once a week

Bulky waste

At the request of a resident

16

Collection of plastic containers and packaging

- Separate collection of "plastic containers and packaging," which had previously been discharged as general waste, has been implemented throughout the city since 2005 to simultaneously reduce waste and effectively use resources.

Subject items

Excluded items

Discharged as ordinary garbage

17

Collect product plastics and packaging plastics together

- In April 2022, the "Act on Promotion of Sorted Collection and Recycling of Plastics" was enacted. This law allows for the collection and recycling of product plastics, which were previously incinerated as regular waste, together with packaging plastics.
- Currently, Osaka City Government is considering initiatives to collect product plastics and packaging plastics together starting in April 2025.

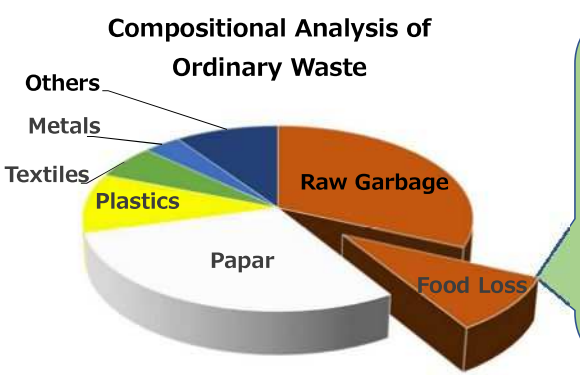
Plastic containers and packaging

product plastics

18

Food Loss and Waste Reduction

Compositional Analysis of Ordinary Waste



Approx. 41,000 tons

1. **Promotion of "use-up of food ingredients," "eating up of dishes," and "watering down of food wastes"**
2. **Promotion of the "30/10 Campaign**
3. **Promotion of correct understanding of "best-before" date and Expiration date**

19

Food Loss and Waste Reduction

Food Drive

Activities to collect preservable food items (rice, canned foods, retort pouch foods, seasonings, etc.) at home and donate them to needy support groups, individuals, and children's homes in need.

Take surplus food from home to a food drive facility → Hand it over to partnering businesses and organizations → Donate it for free to welfare organizations and people in need → Reduce food loss !

98 facilities in 24districts

20

Thank you for your attention

Osaka City will continue its partnership with Quezon City to achieve a decarbonized society.

Climate Change & Environmental Sustainability Department

Climate Change and Environmental Sustainability Department

Strategic Goals


City with better air quality


City with clean rivers and waterways


Quezon City as the learning and information hub for sustainable energy and energy efficiency practices


City that transitions to sustainable transport


City with mainstreamed circular economy initiatives across all sectors


Well-prepared city amidst increasing water resource pressures


City with adequate green spaces for QCitizens as nature-based solution to climate change


Well-informed QCitizens on healthy and sustainable food consumption


Well-informed QCitizens on Climate Change and Sustainability


City with highly capable and equipped office dedicated for climate action

Goal: City with better air quality

Air Quality Management

Key Accomplishments

- Creation of Air Quality Technical Working Group (EO 4, S-2023)
- Established the Air Quality Monitoring Network
- Deployment of air quality monitoring equipment
- Established air quality baseline and consolidated annual data

1 of 3

PM 2.5 Annual Averages (2021 - 2023)		
2021	2022	2023
[illegible]	[illegible]	[illegible]
Good	Good	Good
World Health Organization (WHO) Standard		
15 ug/m³		

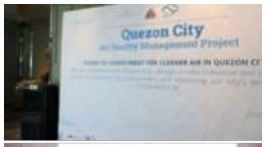
Goal: City with better air quality

Air Quality Management

Key Accomplishments

- Developed the QC Air Quality Management Plan (AQMP)
- Developed a Strategic Communication Plan
- Provided air quality information to the public
- Established QC Advocates for Cleaner Air

2 of 3



Goal: City with better air quality

Air Quality Management

Key Accomplishments

- Targets and priority projects determined in the AQMP
- Air quality management phase II
- Commission on Audit (COA) positive observation

3 of 3






Goal: City with clean rivers and waterways

Water Quality Management

Key Accomplishments

- Development of a Water Quality Management Plan
  - Baseline assessment and water quality analysis
  - Capacity building of CCESD personnel
  - KAP survey for communities & business establishments
  - Communication planning
- Seal of Good Local Governance Requirement






Goal: City with mainstreamed circular economy initiatives across all sectors

Circular Economy

Key Accomplishments

- Trash to Cashback Program
  - 367,185.66 kg recyclables recovered, equivalent to 1,184,846.73 Environmental Points
- Biodigesters and Food Rescue
  - 31 biodigesters (5 fully functional), 1,656 kg food waste processed into 66.35L soil conditioner
- Tarpcycling Program with Spark! Philippines & Quezon City Jail - Female Dormitory
  - 148,841 kg tarpaulin upcycled
- Kuha sa Tingi Program
  - 1,000 sari-sari stores activated as refill hubs
  - 700,000 sachets avoided in 4 months
- Kilo/s Kyusi
  - 1 million in sales towards Learning Recovery Trust Fund during the launch event
  - Store in City Hall earned >Php500K in less than 1 month







Goal: City with adequate green spaces for QCitizens as nature-based solution to climate change

Urban Biodiversity Management

Key Accomplishments

- Development of the Urban Biodiversity Sustainability Action Plan
  - Philippine Biodiversity Strategy Action Plan: QC to increase green spaces by 5% by 2028
  - Urban Nature Accelerator: Green & permeable spaces must increase by 30-40% by 2030
- Flora and fauna assessment
  - Major recommendations: focus on urban landscape planning, increasing forest cover, adopt sustainable land management practices, enrichment in planting in identified areas
- City Biodiversity Index (67/100)
- Tree inventory activities
  - D1 & D2 parks completed, D3 & D4 parks to be completed this year
- Luntiang Kyusi (One Million Trees Initiative)
  - 1,425 trees planted





Goal: Well-prepared city amidst increasing water resource pressures

El Niño Task Force

Key Accomplishments

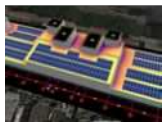
- Task Force created to enforce measures to mitigate and address the impacts of El Niño
- MOU Signing with Maynilad Water to reuse treated wastewater for watering plants, firefighting, and street cleaning
- Organized a site visit to SM Novaliches to study graywater reuse systems for potential city-wide application
- Close monitoring of updates PAG-ASA on El Niño and La Niña.

Goal: Quezon City as the learning and information hub for sustainable energy and energy efficiency practices

Renewable energy & energy efficiency

Key Accomplishments

- Installation of energy efficient lighting
  - 3,680 LED light installed
- EE&C orientations & distribution of LED bulbs
  - 334 total participants, 608 bulbs distributed (D1, D3, D4, D5)
  - Orientations for D2 and D6 to be conducted this year
- Solar energy project for city-owned buildings and facilities
  - City Hall: Main, Legislative, and Treasury buildings
  - Underway: Civic D, E, F, 3 city-owned hospitals, 5 schools
  - IGES, Asian Gateway, and Oriental Consultants interested in solarizing a total of 100 more schools
  - Tripartite agreement with ERC & Meralco being finalized
- Local Energy Efficiency and Conservation Program (LEECP)
  - CCESD, CPDD, & GSD designated as Energy Conservation Officers



Goal: City with mainstreamed circular economy initiatives across all sectors

Implementation of Plastic Ordinances

Key Accomplishments

- Conduct of inspections and issuance of OVR:
  - # of inspected retailers: 311
  - Compliant: 236 (76%)
  - Received OVR: 38 (12%)
  - Received warning: 37 (12%)
- Deployment of 1,200 Eco Warriors
- Series of orientations
- EO on plastic bags and SUP usage in city government for approval
  - Components:
    - Plastic bags and styro packaging are not allowed in city-owned facilities
    - All supplier deliveries should minimize plastic packaging, use eco-friendly materials for food items, and transition to glass bottles or water dispensers.
    - Employees are encouraged to use reusable bags, containers and cutleries.
    - City-organized events (meetings, activities, etc.) should be promoted as plastic-free

Goal: City with mainstreamed circular economy initiatives across all sectors

Green Public Procurement Program

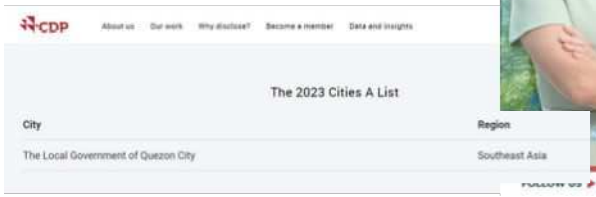
Key Accomplishments

- Series of meetings were conducted for GPP TWG (CA, Procurement, GSD, CED, CArD, CCESD) to finalize IRR
- Initial implementation will cover: 1) events; 2) food packaging; 3) computers and laptops; 4) motor vehicles and; 5) infrastructure
  - at least 1 criteria must be used and reflected in TOR, PPMPs, technical specifications, Program of Work, and other necessary procurement documents
- Environmental Criteria Guidebook will be developed to include environmental criteria for other goods and services aside from the ones specified
- Environmental criteria should be used in 2024 PPAs for the 4 priority goods and services and infrastructure

Awards

Key Accomplishments

- Carbon Disclosure Project (CDP) Annual Reporting
  - 2023 Overall Score: "**A**" or Leadership Level; QC part of the 119 A-list cities globally (13% out of 939)
- UN Champion of the Earth
  - UN's highest environmental honor for individuals and organizations
  - Mayor Joy Belmonte - Policy Leadership on plastic waste reduction
  - Other awardees: Ellen Macarthur Foundation, Blue Circle and Jose Manuel Moller, Csir


CDP

About us Our work Why disclose? Become a member Data and insights

The 2023 Cities A List

City	Region
The Local Government of Quezon City	Southeast Asia

Thank you!

City-to-City Collaboration for Zero Carbon Society

Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Oriental Consultants Co., Ltd.

Oriental Consultants Co., Ltd.

As a leading comprehensive consulting firm in Japan, we aim to be a company that continues to respond to new social values in order to bring about a society that is safe, secure, comfortable, vibrant, appealing and sustainable based on our high-quality technologies.

- Establishment: December 24, 1957
- Head OfficeSumitomo Fudosan Nishi-Shinjuku Building No. 6, 3-12-1 Honmachi, Shibuya City, Tokyo
- Capital: 500,950,000 yen
- President: Hidenori Nozaki
- Employees: 1,296 (as of Sept., 2022)

Overview of City-to-City Collaboration Program for Zero Carbon Society

City-to-City Collaboration Program

This program supports the transfer of Japanese cities' experience and know-how in creating decarbonized cities to overseas cities, based on memorandums of understanding for environmental cooperation and sister city agreements between Japanese and overseas local governments.

C3P City-to-City Collaboration Program

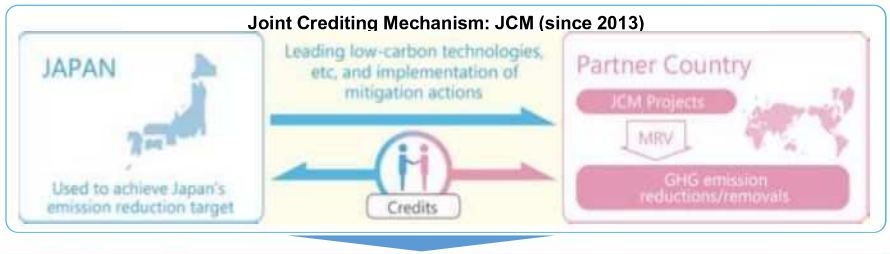
a. Formation of basic systems to promote zero carbon societies
b. Building the capacity of municipal staff in partner cities
c. Forming effective zero carbon projects

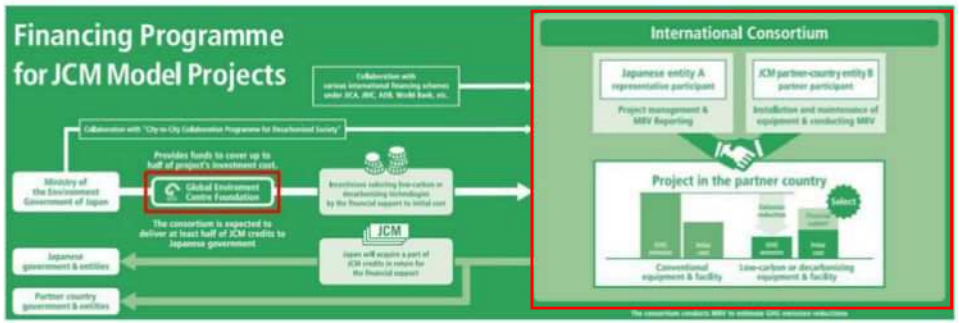
Transfer of **successful cases in Japan** to other **cities and fields**
(Utilizing projects such as JCM equipment subsidy projects)

49 cities/regions in 13 countries,
20 local governments in Japan participating

Overview of City-to-City Collaboration Program for Zero Carbon Society

Joint Crediting Mechanism: JCM (since 2013)

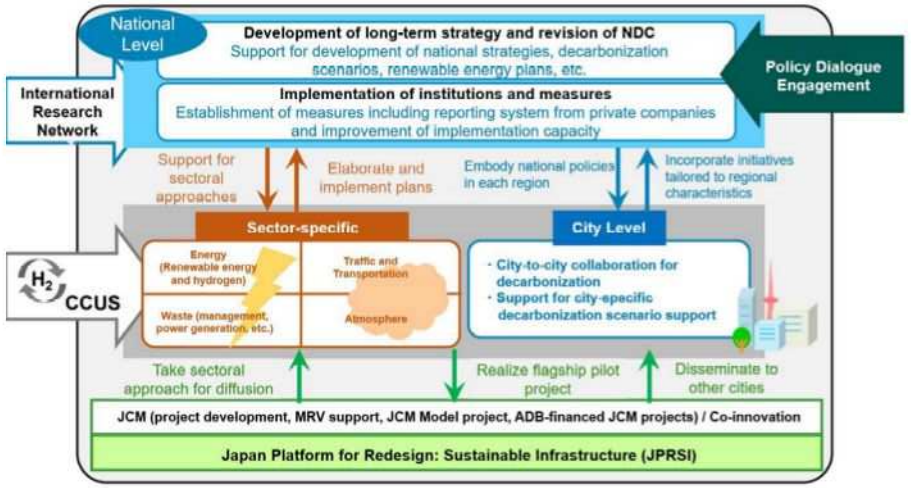




Source: GEC

Overview of City-to-City Collaboration Program for Zero Carbon Society

Infrastructure Export Support Package to Facilitate Decarbonization Transition Policies

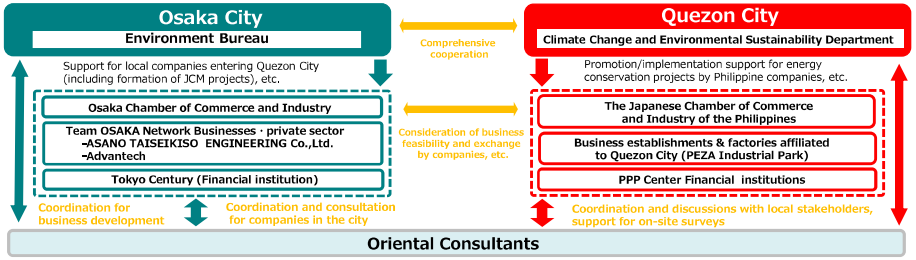


Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Contributing to the achievement of carbon neutrality by 2050

1. Promote renewable energy, EMS, etc. in the building sector, and to form a JCM business model by Japanese companies in Quezon City and beyond, thereby demonstrating the way forward for the introduction of practical JCM projects within Quezon City.
   - Study on roadmap to introduce roof-mounted Solar PV with EMS to Quezon City-related enterprises (factories)
   - Study on developing Wastewater heat recovery and Ground source heat pump system targeting food factories in addition to Quezon City.
2. Provide business development opportunities (business matching seminars organized by Osaka Chamber of Commerce) to promote the participation of Japanese companies in JCM schemes.
3. Promoting environmental infrastructure by both cities through policy dialogue and site visit in Osaka city

*1 In line with the Enhanced Local Climate Change Action Plan 2021-2050 and Local Climate Change Action Plan developed by Quezon City as a member of the C40.
*2 Identified as a major GHG emitter in the Plan



Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Promotion of renewable energy, EMS, etc. in the building sector

Project overview
・Study on roadmap to introduce roof-mounted Solar PV with EMS to Quezon City-related enterprises (factories, etc.).
・Review of the formation of JCM model projects in Metro Manila and other neighbor cities in advance that will apply Quezon city's Solar PV implementation plan to JCM.

Target site
・PEZA owned industrial parks (factories)
・Schools in Quezon City (top 10 schools with the highest electricity consumption excluding those already studied by C40)

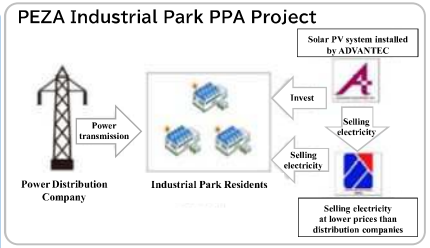
Survey implementation(Sept. - Nov. 2024)
・Site survey by ADVANTEC.
・Survey items: roof structure, location of power panels, number of inverters required, etc.
・Negotiation with Stakeholder: Oct. 2024 (Green Mission)

Business feasibility assessment(Dec. 2024 - Jan. 2025)
・Sustainability assessment which includes economic evaluation, financial plan, bidding conditions, and JCM application conditions
・Stakeholder Consultation : Jan. 2025 (Philippine Environment Week)

Business Development (from Apr. 2025)
・Tender for the project and apply for JCM

Future Development
・Development of the Solar PV initiatives as a public-work project utilizing JCM scheme
・Development as a Smart city based on the advanced efforts and examples in Japan

PEZA Industrial Park PPA Project



Smart city with 100% renewable energy

Commercial Facilities
50% net zero energy

Hotel
First 100% net zero energy facility in Japan

※Energy backup system support for up to 72 hours of power supply in case of emergency

Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Promotion of renewable energy, EMS, etc. in the building sector

ADVANTEC PHILIPPINES PPA (Power Purchase Agreement) Proposal

◆ **Back Ground**
To achieve a decarbonized society in the Philippines and a renewable energy ratio of 75% in the Paris Agreement

◆ **Project Scope**
ADVANTEC PHILIPPINES invests to Solar Power System to public facilities in Quezon City with its own investment and supply Clean Solar Energy with cheaper rate to each public facilities.

◆ **Benefits**
✓ No initial investment cost
✓ No maintenance cost
✓ Saving Co2 Emission
✓ Saving Electricity bills

◆ **Terms and Conditions**
i. 20 years contract *After 20 years, assent will be transferred to each facilities with free of charge.
ii. Fixed Electricity Rate * Fixed rate and escalation fee will be negotiated

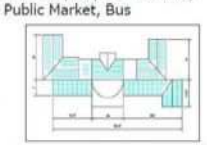
◆ **Ongoing PPA Projects**

1.	PEZA Pampanga Economic Zone	409kW	Power Supply to PEZA locators
2.	Kidapawan City Davao Del Del Sur	256kW	6 Public facilities including City Hall, Public Hospital, Bus Termina;
3.	Digos City s Davao Del Sur	800kW	7 Public facilitates including City Hall, Public Market, Bus


MOU Signing Ceremony with PEZA


PEZA Pampanga Economic Zone


Kidapawan City Hall


Solar System Layout Digos City Hall

Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Promotion of renewable energy, EMS, etc. in the building sector

Project overview
・Study on deployment of Wastewater heat recovery and Ground source heat pump system for Food factories in Quezon City and Metro Manila

Target site
・Wastewater heat : Food factories in Metro Manila
・Ground source heat pump system: Quezon City Hospital

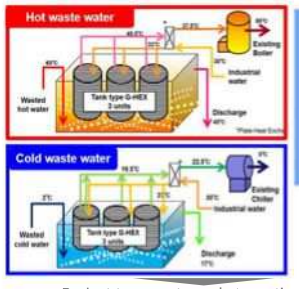
Survey implementation(Sept. - Nov. 2024)
・Site survey by ASANO TAISEIKISO ENG.
・Survey items: Wastewater situation, operation hours, etc.
・Negotiation with Stakeholder: Oct. 2024(Green Mission)

Business feasibility assessment(Dec. 2024-Jan. 2025)
・Sustainability assessment which includes economic evaluation, financial plan, bidding conditions, and JCM application conditions
・Stakeholder Consultation: Jan. 2025(Philippine Environment Week)

Business Development (from Apr. 2025)
・Apply for JCM

Future Development
・Development of a system utilizing the knowledge from the demonstration project in Vietnam
・Development of a system that combines Wastewater heat recovery and Ground source heat pump system
・Promote utilization of wastewater heat and geothermal heat in Metro Manila.

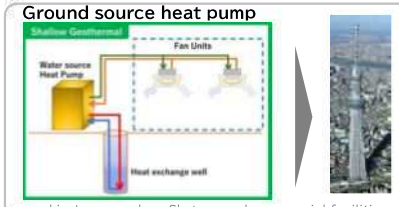
Wastewater heat



G-HEX

Project to promote market creation with low-carbon technology utilizing JCM(Vietnam、ho chi minh)

Ground source heat pump



used in Japan such as Skytree and commercial facilities

Thank you for your kind attention

Zero Carbon Development in Quezon City for the Realization of Carbon Neutral Society

Promotion of environmental infrastructure by both cities through policy dialogue and site visit in Osaka City

Promote the use of JCM projects by Japanese companies

Osaka Chamber of Commerce and Industry Green Mission

Future Plans and collaborations — Green Tech

<Green Mission in Philippine>
Outline: Business matching with local companies, promoting green technologies from Osaka, and visiting local Japanese-affiliated businesses.
Period: 3 days between October 21st and 25th (including "50th PBC&E" Session), 2024
Location: Manila Metropolitan and its suburbs, Philippines
Participants: 10-15 people from Japan and Manila

Details(Tentative):

Date (Tentative)	Program
10/21(Mon) Day 1	Site Visit (Inspection of Precedent Cases, e.g. Eco-friendly factories or products)
10/22(Tue) Day 2	Site Visit of Precedent Cases (Inspection of Precedent Cases, e.g. Eco-friendly factories or products)
10/23(Wed) Day 3	[AM] Philippine-Japan Green B to B matching (1)Introduction of needs from Philippine companies (2)Presentation from Japanese companies (3)Free discussion(business matching) [PM] Participation of "50th PBC&E"

SAVE THE DATE

Utilization of JCM projects by Japanese companies

Ministry of the Environment Philippine Environment Week (Jan. 2025)

附属資料 B

フィリピン(ケソン市)グリーン投資促進セミナー

主催：大阪市、ケソン市、株式会社オリエンタルコンサルタンツ
共催：大阪商工会議所
協力：一般財団法人貿易・産業協力振興財団（ITIC）
日時：2024年7月9日(火) 15:00～16:30
場所：大阪商工会議所5階 502号会議室
※本事業はITIC 令和6年度 振興事業費助成を受けて実施するものです

次　第

15：00～15：05 開会挨拶
・大阪市環境局長 堀井 久司

15：05～15：30 ケソン市におけるグリーンビジネスの動向について（気候変動対策にまつわるニーズ発表を含む）
・フィリピン国ケソン市 小企業協同組合 開発推進局長
モナ・セリーヌ・マリ・V・ヤップ（Ms. Mona Celine Marie V. Yap）

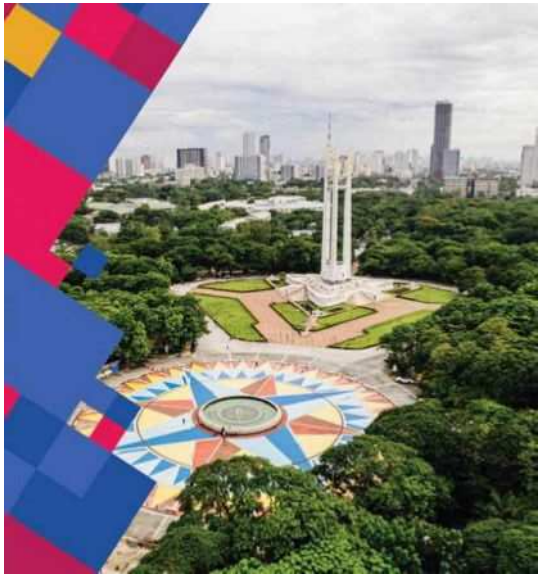
15：30～15：50 フィリピン企業による発表（1）
・Lithos Manufacturing（カテゴリ：水処理技術）
※オンラインにて発表

15：50～16：10 フィリピン企業による発表（2）
・PAMMÉ Fashion Innovation（カテゴリ：リサイクル）
※オンラインにて発表

16：10～16：20 「フィリピン・グリーンミッション」概要説明
＊10月21～23日に開催（マニラ現地集合・現地解散）。
現地政府機関や進出日系企業の訪問、
フィリピン企業とのビジネスマッチングなどを予定
・大阪商工会議所 国際部 副主任 牧 遼明

16：20～16：30 質疑応答

以 上



Quezon City

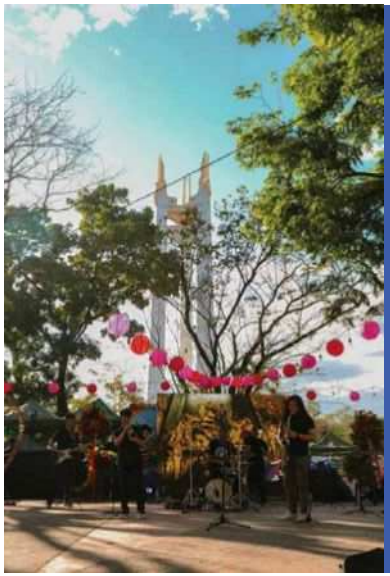
Green Business Trends

Presented by:
Mona Celine Yap
July 9, 2024
Osaka, Japan

MONA CELINE MARIE V. YAP

- Head of the Quezon City Small Business Cooperatives Development and Promotions Office.
- Facilitates programs and services to Quezon City's micro-entrepreneurs, small enterprises, and cooperatives for their sustainable growth and success.
- Prior to working for the QC Government and serving as its youngest department head, she served as a legislative staff officer for former Senator Paolo Benigno "Bam" Aquino IV at the Senate of the Philippines .
- Committed to fostering economic growth, driving entrepreneurship, and creating impactful community programs.

Quezon City: Green Business Trends



Quezon City: Green Business Trends

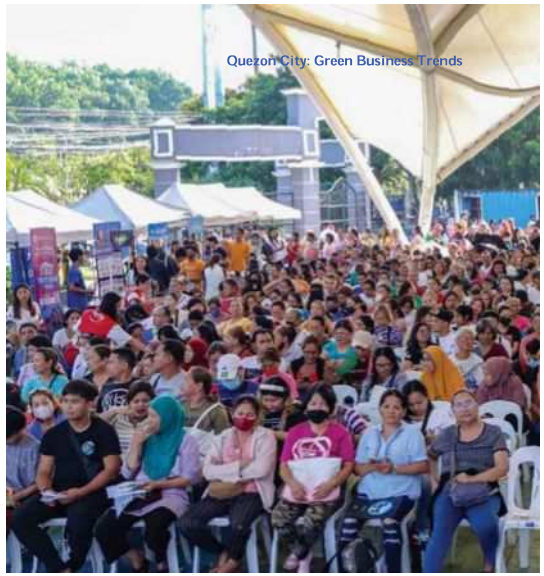
PRESENTATION OUTLINE

I. ABOUT QUEZON CITY
II. THE QUEZON CITY GOVERNMENT'S 14-POINT AGENDA
IIII. BUSINESS TRENDS IN QUEZON CITY
IV. CHALLENGES OF MSMES IN ADOPTING TO GREEN PRACTICES
V. THE ROLE OF QC-SBCDPO
VI. EMERGING ENTERPRISES IN QC AND OPPORTUNITIES

QUEZON CITY QUICK FACTS

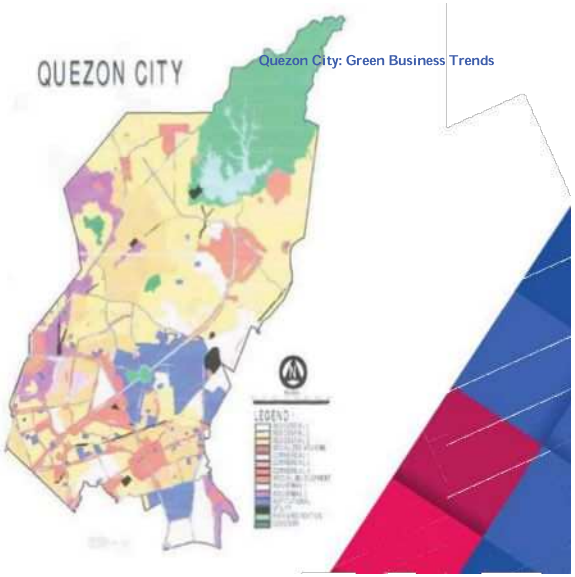
- Population: 3,278,274
- Land Area: 166.2 km²
- Districts: 6
- Barangays: 142
- Over 1/3 of Metro Manila's Population
- 28 - population median age
- 65 PEZA Accredited Zones
- 2.18M people contributed to the national labor force

Quezon City: Green Business Trends



LAND USE PROFILE

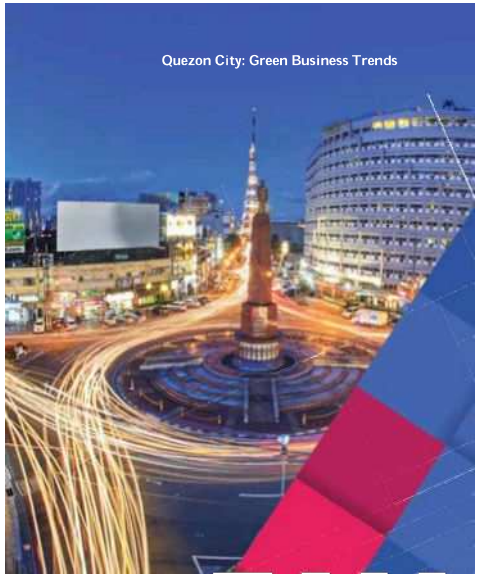
- 15.13% RESERVOIR
- 14.2% ROADS AND HIGHWAYS
- 7.76% VACANT SPACES
- 7.27% COMMERCIAL
- 7.19% RESIDENTIAL
- 4.17% INDUSTRIAL
- 1.41% OPEN SPACES
- 0.35% WATERWAYS



ECONOMIC DYNAMISM

- 67,096 REGISTERED BUSINESS ESTABLISHMENTS
- 12,107 NEW BUSINESSES

- MANUFACTURING
- WHOLESALE AND RETAIL BUSINESS
- MEDICAL RELATED BUSINESSES
- RESTAURANTS
- HOTELS
- SCHOOLS
- IT, BUSINESS PROCESS OUTSOURCING FIRMS



14 POINT AGENDA

- **HUMAN AND SOCIAL SERVICES**
  - DELIVER RESPONSIVE, EFFICIENT AND COST-EFFECTIVE SOCIAL SERVICES
  - BUILD MORE HOMES
  - PROVIDE BETTER HEALTHCARE
  - ENSURE HIGH-QUALITY EDUCATION
  - EMPOWER CITIZENS OF EVERY GENDER AND SOCIAL CLASS
  - BUILD A SAFER AND MORE RESILIENT CITY
- **ECONOMIC DEVELOPMENT**
  - **MAKE QUEZON CITY THE PREFERRED DESTINATION FOR BUSINESSES**
  - **CREATE NEW JOBS ACROSS MORE BUSINESSES**
  - **DEVELOP GROWTH HUBS**

14 POINT AGENDA

- **ENVIRONMENT AND CLIMATE CHANGE**
  - **BUILD A LIVABLE, GREEN AND SUSTAINABLE CITY**
- **INFRASTRUCTURE**
  - BUILD ESSENTIAL INFRASTRUCTURE
- **INSTITUTIONAL DEVELOPMENT**
  - BE A MODEL OF GOOD GOVERNANCE
  - PROFESSIONALIZE AND STRENGTHEN THE QUEZON CITY WORKFORCE
  - LISTEN TO OUR CITIZENS AND UNDERSTAND WHAT THEY NEED

BUSINESS TRENDS IN QUEZON CITY

- **Micro, Small, and Medium Enterprises (MSMEs) Dominance**

MSMEs play a crucial role in Quezon City's economy, accounting for a significant portion of the registered businesses. These enterprises are predominantly involved in retail, food services, and various professional services. The city government has implemented numerous programs to support MSMEs, including the "PANGKABUHAYANG QC" which provides financial and technical assistance to small businesses.

- **Technology and Innovation**

The technology sector is experiencing substantial growth, with numerous startups and tech firms setting up operations in the city. The local government has been proactive in fostering an innovation-friendly environment, evident from initiatives like the QC Startup Business Acceleration Program which aims to support tech entrepreneurs.

BUSINESS TRENDS IN QUEZON CITY

- **Health and Wellness**

The health and wellness industry has seen a significant uptick, driven by increased consumer awareness and demand for healthier lifestyles. This includes businesses in fitness, organic products, and mental health services. The city has been encouraging this trend through health and wellness fairs and support for related businesses.

- **Real Estate and Construction**

With ongoing urban development and infrastructure projects, the real estate and construction sectors remain robust. Residential and commercial developments are on the rise, supported by policies that streamline building permits and foster a conducive environment for construction activities.

BUSINESS TRENDS IN QUEZON CITY

- **Food and Beverage Industry**

The food and beverage sector continues to thrive, with a growing number of restaurants, cafes, and food stalls catering to diverse culinary preferences. Quezon City has become a gastronomic destination, supported by local food festivals and events that promote culinary tourism.

- **E-Commerce**

The pandemic accelerated the adoption of e-commerce, and this trend shows no signs of slowing down. Many businesses in Quezon City have transitioned to online platforms, leveraging social media and e-commerce websites to reach a broader customer base.
vices.

BUSINESS TRENDS IN QUEZON CITY

- **Sustainability and Green Business**

There is a growing emphasis on sustainability, with businesses adopting eco-friendly practices. The city supports green initiatives, such as promoting renewable energy usage and waste reduction programs. This trend is also reflected in the rise of businesses offering sustainable products and services.

CHALLENGES OF MSMES IN ADOPTING TO GREEN PRACTICES

- HIGHER COSTS ASSOCIATED WITH ADAPTING TO GREEN PRACTICES
- LIMITED ACCESS TO EFFICIENT AND SUSTAINABLE TECHNOLOGIES
- INADEQUATE SYSTEMS FOR WASTE DISPOSAL AND RECYCLING.
- LACK OF KNOWLEDGE ABOUT SUSTAINABLE WASTE MANAGEMENT PRACTICES.

THE ROLE OF QC-SBCDPO

As the office representing small businesses and cooperatives in Quezon City, it is the role of the SBCDPO to provide training, capital assistance, marketing, and livelihood opportunities to QCitizens for the growth and sustainable development of the city's micro and small enterprises and cooperatives.

MISSION
To promote, support, strengthen, and encourage the establishing, continuing viability, and sustainable growth and development of innovative micro and small enterprises and cooperatives.

VISION
Micro/Small Enterprises and Cooperatives (MSECs) as key drivers in Quezon City's inclusive economic growth

EMERGING GREEN ENTERPRISES IN QUEZON CITY

HUSAY PINAY

Husay Pinay was born from the efforts of the Samahan ng Kababaihan ng Batasan Hills to equip their female members with the ability to earn through the idea of 'trash-to-cash' and turning scrap materials into beautiful bags and other accessories.

Utilizing a grant from the Quezon City Government back in 2009, Husay Pinay founder Adela Gaton, a capable skills trainer herself, began capacitating the women from nearby indigent communities to be able to produce their eco-friendly products.

Through the gentle hands of mothers, sisters and other female members of their group, Husay Pinay transforms various materials such as used modules, magazines, brochures, among others into handcrafted bags and other products which echo the rich Filipino weaving tradition and cultural heritage.

CHALLENGES:

- MARKET FOR UPCYCLED MATERIALS IS SCARCE
- OVERSUPPLY OF PAPER BUT LIMITED DESIGNS (ALL ARE HANDMADE)
- LACK IDEAS ON WHAT OTHER PRODUCTS TO MAKE

INVESTMENT OPPORTUNITIES:

- MARKET LINKAGE TO LARGER COMPANIES
- SEWING MACHINES
- COLLABORATIONS WITH DESIGNERS
- POTENTIAL TO EXPORT/SELL INTERNATIONALLY

KAMAY KRAFTS MULTIPURPOSE COOPERATIVE

Kamay Krafts is a green enterprise operated by a women's cooperative, dedicated to environmental sustainability and social empowerment. They creatively upcycle old shampoo sachets and Tetra Pak juice cartons into stylish, functional bags and accessories. By transforming waste into valuable products, Kamay Krafts not only reduces environmental impact but also provides economic opportunities for women in the community, fostering empowerment and sustainable development.

Quezon City: Green Business Trends

Quezon City: Green Business Trends

Challenges:

- The pandemic closed the doors on exports, meaning fewer countries and companies would get their products because of the restrictions.
- Consumers aren't familiar with the concept of upcycling.
- Price restrictions on products because they are upcycled.

Investment opportunities:

- Partner with big companies that use Tetra Pak or sachet for the circular economy.
- Sublimation machines for personalized printing (usually requested by companies that order upcycled bags).

BACK TO BASICS ECO STORE

Back to Basics Ecostore is an alternative grocery store that prioritizes sustainability by providing a wide selection of environmentally-friendly products, including those produced by women-led community-based social enterprises.

BtB Ecostore encourages customers to reduce waste by offering refill stations for essential household items and promoting the reuse of containers. This eco-conscious approach helps reduce the use of single-use plastics and other waste, which ultimately benefits the pocket, the people and the planet.

At Back to Basics Ecostore, shoppers can make informed decisions about their purchases, knowing that they are supporting a more sustainable future.

Quezon City: Green Business Trends

Challenges:

- Lack of capital to expand
- Lack of suppliers located close to the store
- Higher costs in shipping

Investment opportunities:

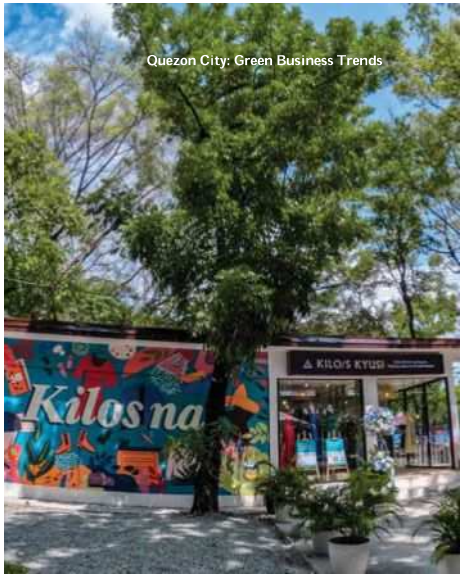
- Create a mobile refilling station with the use of an electric vehicle
- Open smaller refill hubs across key locations in the city (residential areas, public markets)

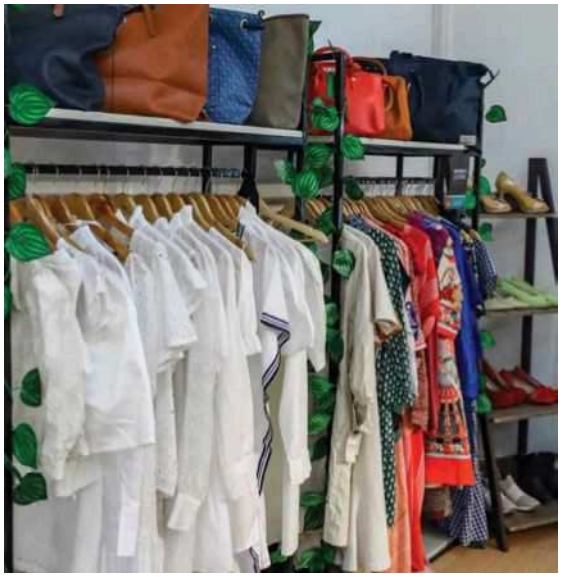
KILOS KYUSI: KILO STORE

The "Kilos Kyusi: Kilo Store ng Bayan Tulong para sa Kinabukasan" offers a wide array of pre-loved and never-been-used merchandise that will be up for sale to city hall employees and the public.

It features items sold in two categories: by the kilo, in which the price is determined based on the total weight of the pre-loved items, and by individual price, which includes items that have never been used and are still in excellent condition.

It aims to raise funding for Quezon City's learning recovery initiatives, which include a tutoring program to reduce non-readers and non-numerates children by providing them additional academic assistance.





Challenges:

- Products rely on donations
- Inconsistent supply
- Oversupply of clothes that are not sellable

Investment opportunities:

- International clothing donations
- Machines that can convert textile waste

CHALLENGES

- LACK OF SHARED SERVICE FACILITIES THAT CAN ACCOMMODATE MSMES IN THE DEVELOPMENT OF THEIR PRODUCTS.
- EXISTING FACILITIES LACK IN EQUIPMENT AND CAPACITY TO RUN INNOVATION HUBS/ SIMILAR CREATIVE SPACES.

PARTNERSHIP OPPORTUNITIES

- SBCDPO TRAININGS
- QUEZON CITY INVESTOR SUMMIT
- PHILIPPINE CHAMBER OF COMMERCE AND INDUSTRY- QUEZON CITY
- BECOME A LOCAL GOVERNMENT UNIT PARTNER THROUGH PROGRAMS
- PUBLIC PRIVATE PARTNERSHIP

Quezon City: Green Business Trends

PARTNERSHIP OPPORTUNITIES

- KNOWLEDGE EXCHANGE AND CAPACITY BUILDING
- MARKET EXPANSION AND TRADE OPPORTUNITIES
- TECHNOLOGY AND INNOVATION TRANSFER
- SUSTAINABILITY TRAINING FOR MSMEs
- GREEN PARTNERSHIPS

Quezon City: Green Business Trends

Q&A

LITHOS MANUFACTURING
"We clean the inviable"

Manly PLASTICS, INC.
One Stop Plastic Products Specialist

ML Foldable Water Tank with ZERAMIC FILTER

A foldable rooftop rainwater harvesting system for remote communities

SCARCITY AND LACK OF ACCESSIBILITY TO CLEAN WATER SOURCES

RAINWATER AS AN ABUNDANT, CLEAN AND EASILY ACCESSIBLE WATER SOURCE

2,400 *mm of **average rainfall** per year*

10 *Top 10 **most rain-abundant** countries in Asia (2020)*

2 ***years supply** of drinking water per person*

Water Situation in Remote Schools

85,000+

remote elementary schools in the PH

WATER SOURCE

Elementary schools rely on water from:
- ❑ ground water sources
- ❑ spring water, and
- ❑ river water

WATER USE

For non-potable use such as:
- ❑ washing hands
- ❑ cleaning toilets
- ❑ watering of garden plants
- ❑ irrigation

WATER PROBLEM

But are:
- ❑ far away
- ❑ contaminated
- ❑ depleting
- ❑ resource-intensive

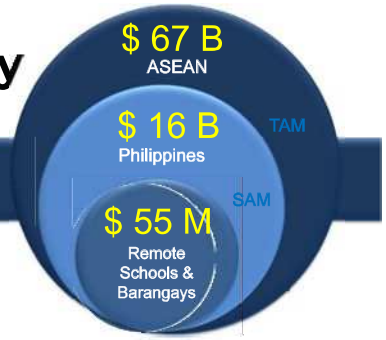
Electricity is used in pumping groundwater sources, rivers are far from the schools, mineral spring has to be piped in, groundwater sources are too deep and has to be excavated with high costs.

Market Opportunity

Rainwater Harvesting Systems

Precipitation

Volume of rain falling from clouds as liquid or solid



Country (Top 5)	Precipitation (mm/year)	Number of household	Market in USD
MALAYSIA	2875	7,176,812	4.6 B
BRUNEI	2722	750,000	0.5 B
INDONESIA	2702	69,855,344	45 B
SINGAPORE	2497	1,727,455	1.1B
PHILIPPINES	2348	25,893,157	16 B

DOST

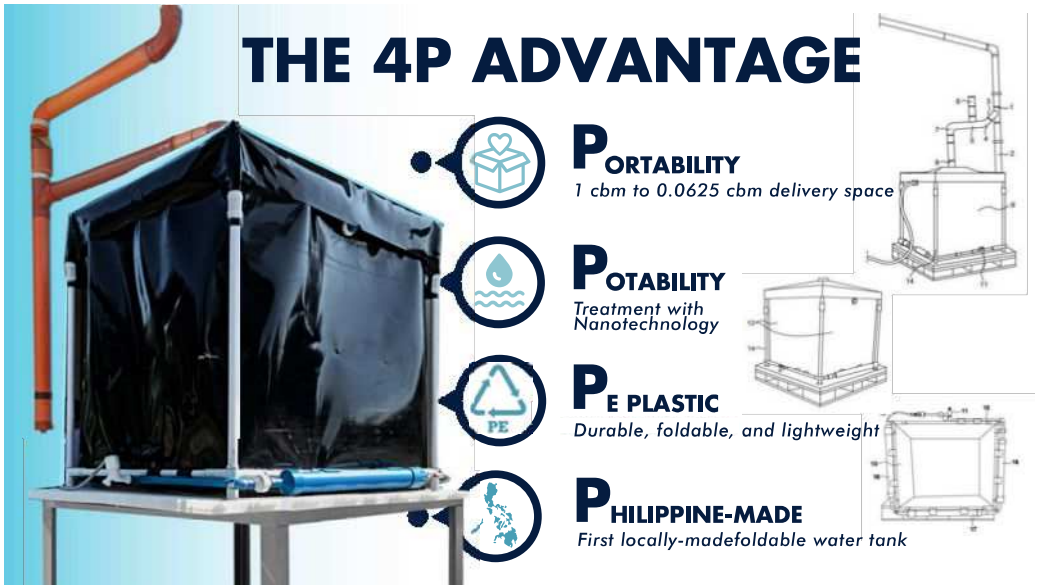
LITHOS MANUFACTURING "We clean the invisible"

Manly PLASTICS, INC. One Stop Plastic Products Specialist

THE WATER SOLUTION

ML Foldable Water Tank with ZERAMIC FILTER

A modular and foldable rainwater harvesting system that provides clean water from the rain, when it rains



THE 4P ADVANTAGE

PORTABILITY
1 cbm to 0.0625 cbm delivery space

POTABILITY
Treatment with Nanotechnology

PE PLASTIC
Durable, foldable, and lightweight

PHILIPPINE-MADE
First locally-madefoldable water tank

HOW DOES IT WORK?

Collect — Rain falls from the roof top to gutter and downspout

Convey — Contains an overhead filter and convey rainwater to storage

Store — 1,000 liter capacity PE foldable tank with cage (1,000 L) with an expandable pillow (200 L)

Treat — 3-stage ZERAMIC FILTER

neutralizes acidity, adsorbs heavy metals and treats organics and improves taste and odor

Competitive Advantage

Cost efficiency in logistics

note: $ in USD

	BARRELS	IBC TANKS	$ 650.00 /unit ML Foldable Water Tank with ZERAMIC FILTER
FIT IN 20 FCL	72 units	20 units	450 units
STORAGE CAPACITY	14,000 li	20,000 li	450,000 li
LOGISTICS COST EFFICIENCY	$ 65/cbm $ 265/cbm	$ 46/cbm $ 246/ cbm	$ 2/cbm $ 122/cbm
FOLDABILITY & MODULARITY	✗	✗	✓
WATER TREATMENT	✗	✗	✓
CONVEYANCE	✗	✗	✓

Business Model

LITHOS MANUFACTURING "We clean the invisible"

B2B

NGOs

water.org · USAID · World Vision · Rotary · ANGAT BUHAY

Gov't

- LGUs
- Barangays
- CENRO
- DRRMO
- EMB/DENR

Revenue Streams

LITHOS MANUFACTURING "We clean the invisible"

Rainwater harvesting system and kits

- Foldable water tank
- Zeramic, GAC, calcium carbonate
- Consumable Supplies
- Leaf catcher
- Accessories
- Conveyance System
- PE liners
- Testers

Water conser-vation and water manage-ment

- Rainwater
- Greywater
- Design and build
- Erosion control
- Flood control
- Stormwater
- Drainage Control

Consul-tancy

- Homeowners
- Contractors
- Architects
- Designers
- Landscapers
- Schools
- Institutions
- Green energy
- Training on plastic welding

R&D

- Water quality
- Minerals for filters
- Sustainability
- Reuse process

Target Market

ML Foldable Water Tank with ZERAMIC FILTER

 # REMOTE AND LOGISTICALLY CHALLENGED WATER STRESSED COMMUNITIES

 # PLACES OF DISASTER/CALAMITIES AND RELIEF OPERATIONS

Earthquake	Volcanic Areas	Landslide	Fire	Chemical breakout
				

Target Market

Foldable Water Tank with ZERAMIC FILTER

ESTABLISHMENTS AND ENTERPRISES SUPPORTING SUSTAINABLE COMMUNITIES

Remote Schools

Evacuation Centers

Barangay Halls

Basketball Courts

Target Market

Foldable Water Tank with ZERAMIC FILTER

CORPORATIONS AND ENTERPRISES

PE Sheets

Wastewater containment and impounding liner * Concrete Decorative Pond liner * Waterproofing membrane in cisterns and water cooling stations

CSR

Schools * LGU * Baranggay

PE Sheets (gas and soil)

* Gas collection cover * Biogas holding tank * * Hydrophonics liner * Greenhouses

4 Intellectual Property Protection

INTELLECTUAL PROPERTY RIGHTS ASSISTANCE PROGRAM (IPRAP)

UM: "Foldable Tank with Filtration Assembly"

ID: "Foldable Tank with Filtration Assembly"

UM: "THREE STAGE FILTER WITH MINERALS (CALCIUM CARBONATE, GRANULATED ACTIVATED CARBON)

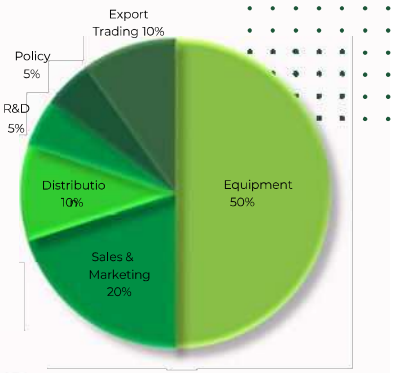
UM : "PROCESS OF FILTERING STORED WATER USING THREE STAGE FILTER WITH MINERALS (CALCIUM, ZEOLITE, GRANULATED ACTIVATED CARBON)"

TechMatch

BARANDA & ASSOCIATES

Fund Raise: 1,000,000 USD

- Serve Visayas and Mindanao Elementary Schools (2024): 24,000 units
- Production Capacity: 2,000 units/month
- Export Market: 2 x 20FCL/month



"Under the Adopt-a-School Program, the adopting private entity which/who engages in providing assistance and services to the public schools shall be entitled to tax incentives of up to 150% arising from the total amount incurred in the donation made within the taxable year."
Republic Act No 8525 (1998)

"New and existing developments in Metro Manila (>1,500 sqm) must allocate 3% of the total area for rainwater harvesting to reduce flooding, mitigate effects of typhoons, conserve water and engage in flood mitigating measures"
House Bill No. 2752 (July 2022)

- **Policy Makers and LGUs:** Water efficiency rebates and property tax incentives as credits for the adoption of Rainwater Collection Systems by residents and enterprises.

THE ASK!

WE SEEK HELP AND ASSISTANCE

LITHOS MANUFACTURING

Power of clay nanotechnology for a more sustainable future

1 **Technical and R&D support**

in the modification of the mineral filters (calcium carbonate, natural zeolite and activated carbon) in filtering and improving the quality of rainwater for drinking standards. Installation of sensors and accessories.

Filters | **Sensors** | **Accessories**

- Modification of local mineral filters
- Potability tests
- Auto-dosing of chlorine in the tank
- Life cycle analysis

- To detect the volume of rainwater collected and used real time
- To detect the quality of water filtered (pH, turbidity, organics)

- Development of new accessories needed aligned with rainwater harvesting system (cisterns, conveyance system, rain crates, cooling towers, etc)

Together, we can drive sustainable growth, empower local industries, and pave the way for a greener, more prosperous future.

THE ASK!

WE SEEK HELP AND ASSISTANCE

LITHOS MANUFACTURING

Power of clay nanotechnology for a more sustainable future

2 **Local government support**

in deploying rainwater harvesting solutions in communities, establishments and homes and providing realty tax incentives to users

3 **Private communities and NGOs with CSR initiative support**

"Our Rain, Our Gain", Adopt-a-School Program, wherein our rainwater harvesting solution will entitle adopting private entities a tax incentive of 150% from the total cost of the donation made within the taxable year. **Republic Act No 8525 (1998)**

4 **Grants, Marketing and Export support**

Financial grants in scaling our production operations (with purchase orders) to serve local orders and export expansion in the south east Asian regions.

with this support LITHOS could overcome its current challenges and position itself for long-term success in the water management industry supporting sustainability.

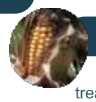
LITHOS MANUFACTURING

Clay Nanotechnology Markets

PRODUCT MILESTONES AND KEY METRICS

Our clients switched to localized supply

Animal Feeds
72,000 Mt treated commercial feeds



Veterinary
9,000 Mt treated animal feeds in farms

Aquaculture
300 hectares treated for ammonia preventing fishkill

Home Care
111,100 sqm room space of air toxins adsorbed

Wastewater
236,000 liters of wastewater

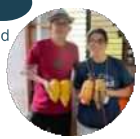
NET ZERO GOALS

CLIMATE CHANGE ACTION: WATER & FOOD SECURITY

GHG, AMMONIA, ODOUR, CO_2 CAPTURE, TOXINS

ML Foldable Tank Zeramic Filter
Water security in remote and isolated communities

BioCoat-Z and CropZhield
Cacao protection from Mirid bug/Cacao pod borer



ML Foldable Tank

- Won, 1st place in the US Aid Safewater Project 2023 Philippine Water Challenge
- Won 2nd in the Shell Livewire 2023 Accelerator Program
- Grantee of the IPRAP Program 2023, DOST TAPI for the four (4) Intellectual Property assistance for 3- utility models and 1 industrial design
- Grantee of the GALING Program 2023, DOST TAPI for technical validation of the product
- 3rd Place, winner of the Socially Relevant Technology (SRT) by IPOPHIL , November 2023
- Won Gold and Silver Award in KIWIE, Korea International Women Inventors and Exposition, June 2024.
- Supports RA 8525 (1998) Adopt a School Program with tax incentives and House Bill 2753 (2022) Rainwater Collection System in urban cities. Supports SDG 6, 8,9 11, 12,13, 17
- **Entry for the 2024 Startup QC**

EGGs-Ethylene Gas Grabber

- Grantee of the IPRAP Program 2022, DOST TAPI for the two (2) Intellectual Property assistance for 3- utility models and 1 industrial design
- Won Bronze Award in KIWIE, Korea International Women Inventors and Exposition, June 2024.
- Supports SDG 7, 9, 12, 13, 17
- **A company in Osaka, Japan interested to market in Japan**

Honey comb

BioCoatZ

Controlling Insect Damage on Cacao using Particle Film Technology

- Grand winner, Leave A Nest Philippines.
- Won a special award in the Leave A Nest Finals in Tokyo Japan (2023)
- Special award Regenerative Technology in Pest Management Council of the Philippines by Bayer Philippines, June 2024
- Supports SDG 1, 2, 9, 13, 17
- **A company in Singapore and Japan interested to market in Japan**

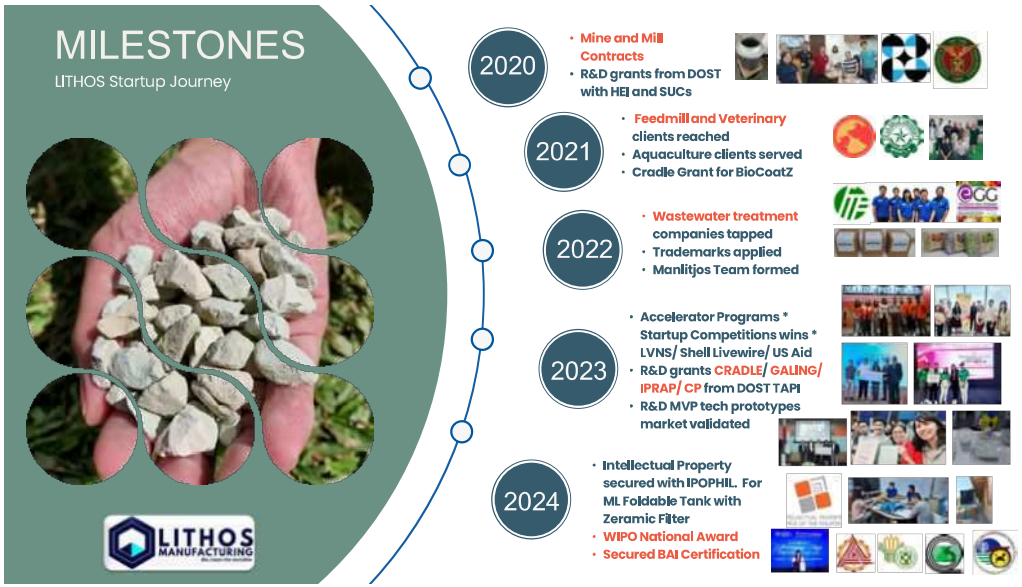
OUR TEAM

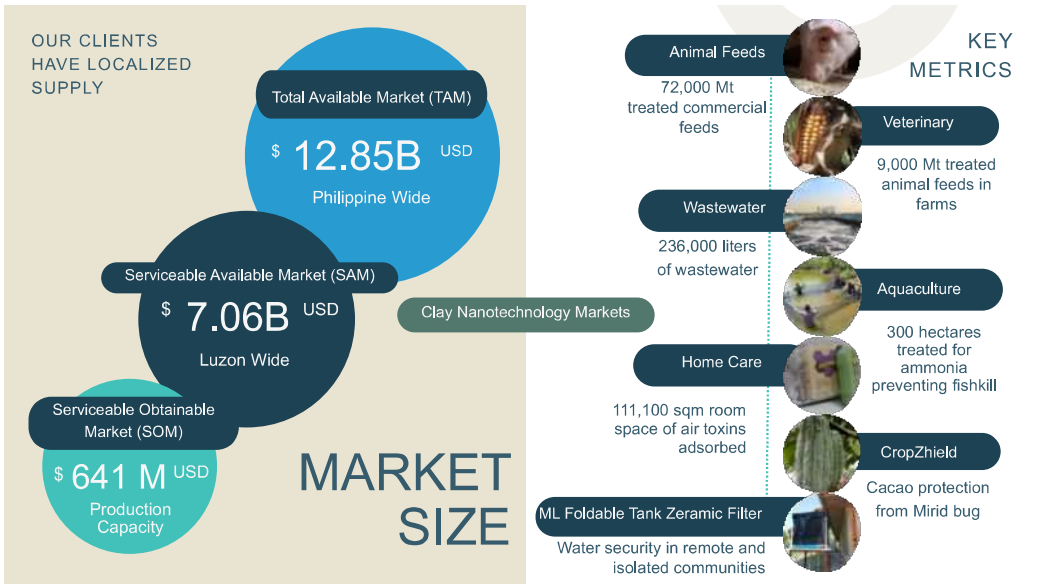
LITHOS MANUFACTURING "We clean the invisible"

Manly PLASTICS, INC. One Stop Plastic Products Specialist


ML
Foldable
Water Tank
with ZERAMIC FILTER
JOIN US!
Bridging storage solutions with nanotechnology in harvesting rain when it pours and where it pours!


OUR CONSULTANTS
QUEENIE CUNANAN
Adviser
10 years
Water Sustainability, Rainwater Harvesting
JOSEPH PARAISO
Brand Strategy Head
3 years
Business Innovation, Branding, Design
LITHOS MANUFACTURING
"We clean the invisible"
Manly PLASTICS, INC.
One Stop Plastic Products Specialist


MILESTONES
LITHOS Startup Journey
LITHOS MANUFACTURING
2020
Mine and Mill Contracts
R&D grants from DOST with HEI and SUCs
2021
Feedmill and Veterinary clients reached
Aquaculture clients served
Cradle Grant for BioCoatZ
2022
Wastewater treatment companies tapped
Trademarks applied
Manlitjos Team formed
2023
Accelerator Programs * Startup Competitions wins * LVNS/ Shell Livewire/ US Aid
R&D grants CRADLE/ GALING/ IPRAP/ CP from DOST TAPI
R&D MVP tech prototypes market validated
2024
Intellectual Property secured with IPOPHIL. For ML Foldable Tank with Zeramic Filter
WIPO National Award
Secured BAI Certification


OUR CLIENTS HAVE LOCALIZED SUPPLY
Total Available Market (TAM)
$ 12.85B USD
Philippine Wide
Serviceable Available Market (SAM)
$ 7.06B USD
Luzon Wide
Serviceable Obtainable Market (SOM)
$ 641 M USD
Production Capacity
MARKET SIZE
Clay Nanotechnology Markets
KEY METRICS
Animal Feeds
72,000 Mt treated commercial feeds
Veterinary
9,000 Mt treated animal feeds in farms
Wastewater
236,000 liters of wastewater
Aquaculture
300 hectares treated for ammonia preventing fishkill
Home Care
111,100 sqm room space of air toxins adsorbed
CropZhield
Cacao protection from Mirid bug
ML Foldable Tank Zeramic Filter
Water security in remote and isolated communities


plastic


PAMMÉ

The **Philippines**
is among the
top plastic polluters
globally.

PAMMÉ

We transform **plastic wastes** into new fashion raw materials and new fashion products

from **plastic wastes**

to **shredded plastics**

to **recycled beads**

to **beaded bags**

We transform the vibrant & colorful plastic wastes, into fashion statements.

pammé

is the pioneer in offering these recycled beaded bags

The Materials

Each bead is made from 0.5 gram of recycled plastic waste.

Each bag can be composed of 500 grams to 600 grams of recycled plastic.

The inner lining is cut from authentic vintage Japanese Kimonos

Triple Bottom Line

For the planet

For the people

For profit

for the planet

Turn Waste into higher-valued products that improves the quality of life without compromising the environment

UN Sustainable Development Goal 12 (Responsible Consumption) & Goal 13 (Climate Change)

for the people

BJMP QC FEMALE INMATES

The Female PDLs (Persons Deprived of Liberty) of the Quezon City Female Jail are the master makers of our beaded bags.

S ocial entrepreneurship
T raining for
I nmates
T owards
C ircular economy &
H olistic Development

for the people

JOB OPPORTUNITIES

- Informal Trash Collectors of Pasig City
- Unemployed Women of our Barangay

UN Sustainable Development Goal 8 (Decent Work and Economic Growth)

for profit

Be **financially sustainable** to achieve our environmental and social goals.

Online Platform

E-COMMERCE WEBSITE
INSTAGRAM
FACEBOOK

Offline Platform

POP-UP STORES IN
MANILA:
MAARTE FAIR
ARTEFINO
HABI FAIR
MANILA FAME

TARGET MARKET

3S

- *SHOP - SMALL BIZ, ONLINE SHOPS, SUSTAINABLE BRANDS
- *SOCIALLY ACTIVE & SOCIALLY AWARE
- *SAVE THE WORLD

MILESTONES

Market traction
(SOLD OUT
Launch Collection
August 2023)

Artefino 2023 Launch Revenue
PHP 455,000

Organic Support
from influencers and celebrities

WORLD DESIGN ASSEMBLY
TOKYO 2023
DESIGN BEYOND

Jakarta & Tokyo
October 2023

Won the Coca-Cola's Reimagine Recycling Awards

Jan 2024

ABS-CBN's My Puhunan:
February 2024

Vogue Feature Article
March 2024

Presented PAMMÉ products
at the **World Youth Festival 2024 Russia**

MARCH 2024

British Embassy Manila

Chevening Awards Philippines

1 of 5 Outstanding Alumni Awardee

Creative Industry & Culture

MARCH 2024

PHILIPPINES
It starts with *malasakit.*

Finalist For the Good Design Awards Philippines 2024

Object Making Category

APRIL 2024

UK GOVERNMENT

Chevening Alumni of the Year Award 2024

Innovation & Entrepreneurship

JUNE 2024

United Kingdom Government Awards Received in 2024

3rd Place Winner: ARISE PLUS YE! Accelerator Program 3 funded by the European Union
JUNE 2024

Our goals for 2024

PAMMÉ

INTERNATIONALIZATION

Japan

Export potential	**$121 mn**
Actual exports	$30 mn
Unrealized potential remaining	**$91 mn**

JAPAN is the NUMBER ONE market with greatest potential for Philippines'exports of Bags, cases of plastic/textile. (Export Potential Map, International Trade Center)

ASK

PHP 5,720,040
¥15,450,00

Smooth Operations for the next 12 months
1 Additional Recycling Site: Quezon City
4 additional staff
4 new machines
6 new moulds

your
PHP 5,720,040 or ¥15,450,000
investment on us

20
artisan-
women prisoners

your
PHP 5,720,040 or ¥15,450,000
investment on us

20
artisan-
women prisoners

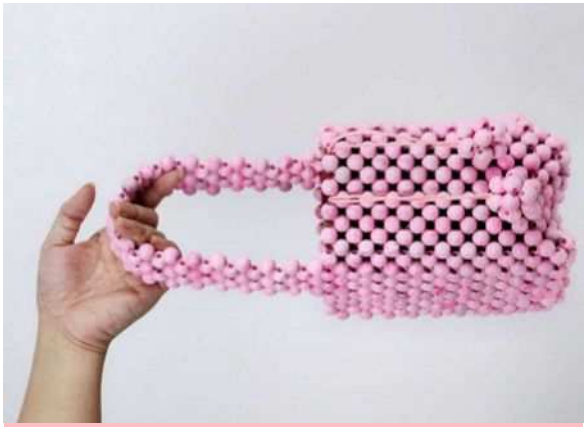
20
informal trash
collectors

your
PHP 5,720,040 or ¥15,450,000
investment on us

20
artisan-
women prisoners

20
informal trash
collectors

¥ 21,800,000
Projected Sales Revenue



INNOVATION

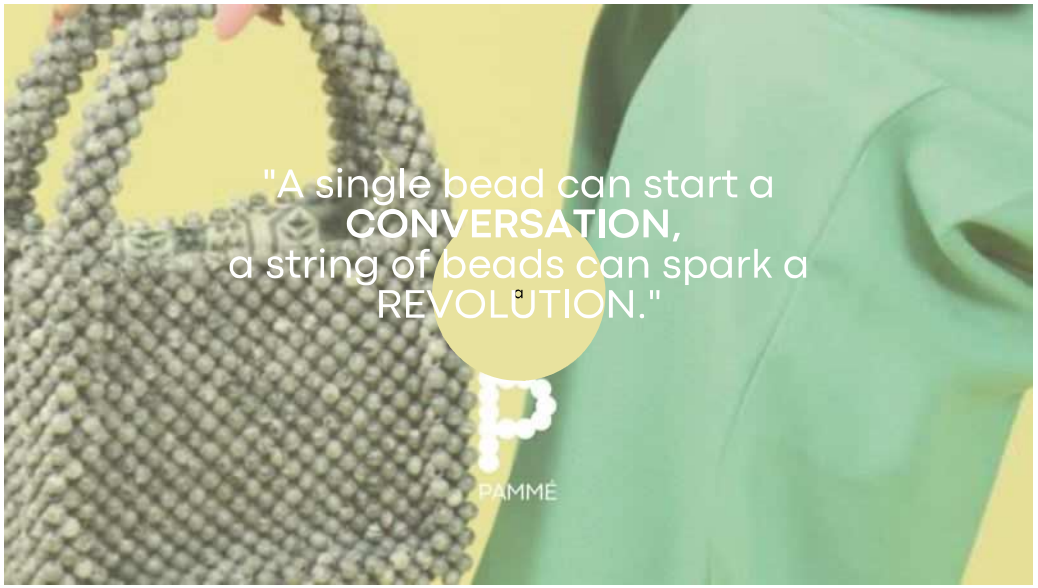
PAMMÉ: meet the team

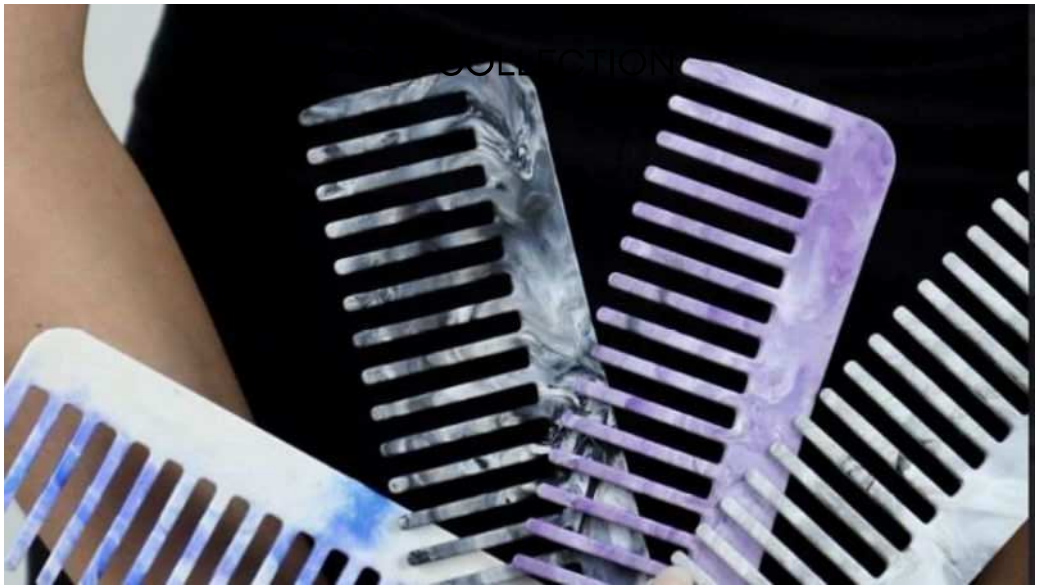
PAMELA MEJIA
FOUNDER, DESIGN HEAD
BS CLOTHING TECHNOLOGY, UNIVERSITY OF THE PHILIPPINES
MA FASHION ENTREPRENEURSHIP & INNOVATION, LCF UK

CAROLINE NACIONAL
OPERATIONS HEAD
MA INTERNATIONAL SECURITY, OXFORD BROOKES UK

NICOLE NAMUCO
COMMUNITY and COMMUNICATIONS HEAD
MA DEVELOPMENT COMMUNICATION, UNIVERSITY OF SUSSEX

ALLYNA VELASCO
CREATIVES AND SOCIAL MEDIA HEAD
BS FASHION DESIGN AND MERCHANDISING, DLSU-CSB





pammé

We strive to create a positive impact on the environment and society, one upcycled fashionable product at a time

附属資料 C

Philippine Green Mission

As worldwide decarbonization efforts ramp up, **the Philippines has committed to 75% reduction of GHG emissions (CO_2) by 2030 under the Paris Agreement and is drawing attention as a market for the overseas expansion of green business.**

This mission focuses on green and environmental fields and includes **visits to JETRO Manila, the Philippine Board of Investments (BOI), businesses in the Manila area involved in decarbonization, and Lima Technology Center. Through collaboration with the City of Quezon and the Philippine Chamber of Commerce and Industry, business matching will also be held with local companies.**

Through this program, participants will be able to learn about the track records of green businesses and needs in the Philippines over a short period of time. Please take advantage of this great opportunity!

Three days of learning about green business in the Philippines!
Including networking opportunities with local companies!

Features of this Mission

- ✓ Easy to join due to meeting/wrap up on site!
- ✓ Partial participation is also possible!
- ✓ Opportunities to connect with local companies!

Overview

Dates: Monday, October 21, 2024 – Wednesday, October 23, 2024
※ Meet/wrap up on site (at a hotel in Manila)
※ Feel free to contact us about partial participation!

Cost: Osaka Chamber of Commerce Members = 40,000 yen (tax inclusive) per person
Non-members=80,000 yen (tax inclusive) per person
※ Not including airfare or accommodations, etc.
※ Prices based on the case of 10 participants. Based on the actual number of participants, prices may vary.

Capacity : 15 participants (first come, first served)
Organizer : Osaka Chamber of Commerce and Industry
Co-organizer: Osaka Chamber of Commerce and Industry's SDGs/ESG Business Platform
Sponsor : ASEAN-Japan Centre (planned)
Co-operators: Foundation for International Trade and Industrial Co-operation (ITIC), City of Osaka, Oriental Consultants Co., Ltd.

Program

Day 1: Mon., Oct. 21 (lunch and dinner included)
Meet at specified hotel and visit the following organizations and companies:
AM ●JETRO Manila
●Philippine Board of Investments (BOI)
PM ●Business located in the Manila area involved in decarbonization (TBA)
19:00 ●Networking dinner (near the hotel)

Day 2: Tues., Oct. 22 (lunch included)
Meet at hotel and visit the following companies:
AM ●Business located in the Manila area involved in decarbonization (TBA)
PM ●Lima Technology Center
Evening Free time after returning to hotel

Day 3: Wed., Oct. 23 (lunch included)
Meet at hotel
AM ●Business matching with companies in Quezon
・Presentations on needs of Philippine companies
・Presentations introducing Japanese companies (for those who wish to do so)
・Free networking*
*Interpretation may not be available
PM ●Networking meeting with Philippine Chamber of Commerce and Industry (PCCI)
・Free networking with Philippine companies
・Once finished, it is planned to view one of the PCCI events
※We will ask participants which environmental fields and companies are of interest in advance and will share this information with local entities
Evening Program is concluded / dismissal at hotel

Additional Information

※Language: Japanese (including consecutive interpretation)
※Meals during the program: 3 lunches and 1 dinner
※This program is held with the financial support of 2024 Subsidy for Promotion Projects from the Foundation for International Trade and Industrial Co-operation

Registration

・Apply using the QR code on the right (Deadline: Friday, September 30, 2024)
※Please feel free to contact us if you are considering applying but may not meet the deadline.
・For cancellations 20 days or less before the program begins (October 1, 2024 or later), the following cancellation fees will be applied and collected at a later date.
From 20 days in advance (10/1) until the day prior: 50% of cost
The day of (or in the case of cancellation without notice: 100% of the cost
・We request that participants cooperate with questionnaires and follow-up after the program.
・Please note that we will request that you add your flight number, hotel address, and contact information in Manila about a month in advance.
・Participants will be registered with the Osaka Chamber of Commerce's SDGs/ESG Business Platform and AJB Platform. (Registration is free of charge.)

Contact Information

International Division, Osaka Chamber of Commerce and Industry (attn: Maki or Obama)
TEL: 06-6944-6400 / Email: intl@osaka.cci.or.jp

プログラム

Philippine Green Mission Business Matching

■Date/Time：October 23, 2024 9:00 a.m.-12:00 p.m.

■Venue: AURA BALLROOM, Golden Phoenix Hotel Manila

■Moderator：Oriental Consultants Co., Ltd.

■Language: Japanese and English (Japanese-English consecutive interpretation)

■Program

#	Time [min]	Program	Presenter
1	9:00-9:05 [5]	Opening Remarks	Quezon City
2	9:00-9:10 [5]	Photo Session	All participants
3	9:10-9:20 [10]	Introduction of the JCM scheme and other schemes offered by Japan	OC
4	9:20-10:20 [60]	Presentations by Philippine companies (15 minutes per company x 3 companies and Q&A session)	(1) Maynilad (2) St. Luke's Medical Center (3) Seda Hotel
5	10:20-10:30 [10]	Break	
6	10:30-11:10 [40]	PR by Japanese Companies (10 minutes per company × 3 companies)	Introduction: Greetings from the City of Osaka (1) Enebloom Inc. and Enebloom Philippines Inc. (2) Mando Engineering Co., Ltd (3) Think Stone Corporation
7	11:10-12:00 [60]	Networking session	

MAYNILAD

PATH TO CARBON NEUTRALITY

Initiatives and Challenges

Roel S. Espiritu
Chief Sustainability Officer

MAYNILAD

ABOUT OF OUR COMPANY

Largest water concessionaire in the Philippines, based on the number of customers.

Owned and operated by Metro Pacific Investments Corp., DMCI Holdings Inc. and Marubeni Corp.

MAYNILAD

OPERATIONAL SNAPSHOT

Assets	Water System	Wastewater System
Service Area	540 square kilometers	
Treatment Facilities	8	23
Combined Treatment Capacity	2,877 MLD	68.981 MILLION LITERS in 2023
Pipelines (in Km)	7,287	643
Pumping/Lift Station	39	129
Reservoir	39	-

Operationalizing Sustainability

SAFE

AFFORDABLE

MAYNILAD

SUSTAINABLE

CARBON-FREE INITIATIVES

1 RENEWABLE ENERGY INTEGRATION
- Solar energy installations at treatment plants
- Partnership with local renewable energy providers

2 ENERGY EFFICIENCY PROGRAMS
- ISO 50001:2018 (EnMS)
- Upgrading to energy-efficient equipment
- Shift to e-vehicles

3 CARBON OFFSET PROGRAMS
- Reforestation projects

MAYNILAD

WATER TREATMENT INNOVATIONS

1. RECYCLING AND REUSE OF WATER
2. BIO-BRICKS PRODUCTION FROM SLUDGE
3. ENERGY EFFICIENT PROCESSES

MAYNILAD

CHALLENGES

FINANCIAL CONSTRAINTS
- High investment cost for renewable carbon emission technologies
- Willingness of customers to pay

REGULATORY HURDLES
- Lack of incentives for users
- Lack of clear framework on carbon credits

MARKET DIVERSITY
- Few suppliers/ providers

MAYNILAD

FUTURE DIRECTIONS

GOAL FOR THE NEXT 5 YEARS
- Expand water reuse capacities
- Expand scope of energy management system
- Invest in carbon credits

LONG TERM VISION
- Achieve carbon neutrality by 2037
  - 35% renewable energy mix
  - 50% electric vehicles
  - 2,615 ha of land reforested

MAYNILAD

MAGINHAWANG ARAW!

MAYNILAD

CARBON FREE INITIATIVES AND CHALLENGES

ST. LUKE'S MEDICAL CENTER

Presented By

Engr. Noel L. Pabilona, PEE

customer.qc@stlukes.com.ph +63-2-8723-0101

COMPANY PROFILE

St. Luke's Medical Center is a premier healthcare institution in the Philippines, with facilities in Quezon City and Global City, Taguig, that meet international standards of excellence.

Notably, St. Luke's - Quezon City was the first hospital in the country to receive accreditation from the Joint Commission International (JCI) in 2003, making it the second hospital in Asia to achieve this status.

In 2016, it further distinguished itself by becoming the first hospital in the Philippines accredited by JCI as an Academic Medical Center Hospital. Meanwhile, St. Luke's - Global City secured its JCI accreditation in 2012, just two years after opening. Both hospitals are recognized for their commitment to quality care, having also received JCI accreditation for their Primary Stroke Program through the Clinical Care Program Certification (CCPC).

COMPANY PROFILE

St. Luke's Medical Center (SLMC) is dedicated to continuously improving and redefining excellence in medical and patient services. This commitment is grounded in core principles: achieving positive clinical outcomes, ensuring patient safety, fostering education and research, enhancing the patient experience, and maintaining financial viability.

Both St. Luke's Quezon City and Global City hospitals collectively offer 1,146 well-appointed rooms, ensuring ample accommodations for all patients. Each room is equipped with state-of-the-art medical technology tailored to patient needs. The facilities also offer bespoke services, such as selective dining options, private butler assistance, and advanced living amenities.

SLMC prioritizes comfort and a positive experience, recognizing their importance in the healing and recovery process, and its patient rooms are thoughtfully designed to support this philosophy.

SMART & GREEN FACILITY COMPLEX

Implementation of Smart & Green initiatives to old hospital complex and to the new hospital building:

- Equipment Industrialization
- BMS and Enterprise Asset Management (CMMS) installation.
- Design for Utility System Efficiency & Resiliency
- Achieve Financial Viability & Carbon Footprint Reduction
- Higher Renewable Energy Utilization

WHY GO GREEN & SMART?

Green buildings : Efficient utility systems, equipment lifecycle monitoring (Non-MERP) with consideration to efficiency and building performance, and end goal of carbon footprint reduction.

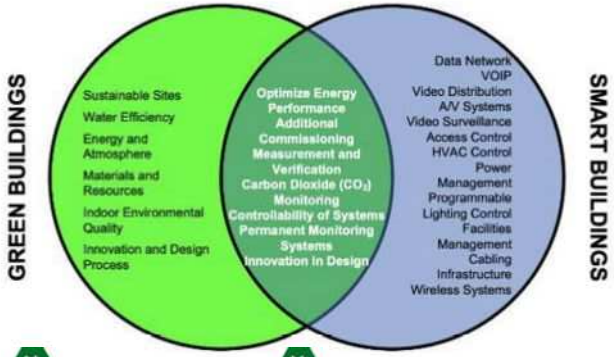
Smart buildings : Facility Operations core is integrated with the building's technology systems, Construction and operational efficiencies benchmarked, with enhanced management and occupant controllability functions.

Benefits of Strategies:

- Competitive Edge
- Regulatory Compliance
- Increased Brand Loyalty
- Cost Savings

STRATEGIES OVERVIEW

THE COMMONALITY OF SMART AND GREEN BUILDINGS



- Energy Efficiency
- Product Design
- Waste Reduction
- Renewable Energy Use

ENERGY EFFICIENCY

Invest in Energy-Efficient Equipment

LED Lighting,
Efficient HVAC systems

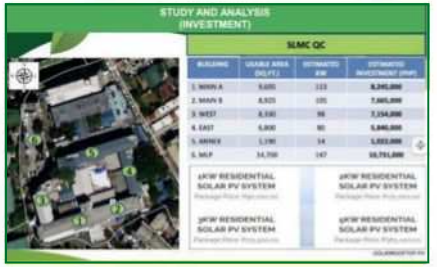
Optimize Operations

Smart Energy Management systems

Employee Engagement

Encourage energy-saving habits among staff (ENERCON/WATERCON/ MATERCON)

RENEWABLE ENERGY USE



Adopt Solar Energy

Proposed Solar PV System
Potential Power = 500kW

Carbon Credits

Total of 537.78 Carbon Credits for Year 2023 up top April 2024 (QC)

SUSTAINABLE SUPPLY CHAIN

- Ethical Sourcing
- Local Sourcing
- Fair Trade Practices
- Supplier Audits

ECO FRIENDLY PRODUCT DESIGN

- Use Sustainable Materials
- Product Lifecycle Thinking
- Eco-Label Certifications

Oxo-biodegradable Plastic

TRAININGS/CONVENTIONS

WASTE REDUCTION

Sustainable Packaging

The City Ordinance 2868-2019, which forbids the use of plastic bags throughout the entire city, was fully implemented by the Quezon City government in 2021. The city also prohibition on the sale of single-use plastics and disposable items in hotels and restaurants.

Zero Waste Initiatives

In support of the Quezon City LGU and DENR-EMB through their goal towards a circular economy, SLMC promoted the recycling of hazardous waste.

Treated ULAB and WEEE recycling

Treated Infectious waste to hollow blocks

General Waste Recycling

A proposed project of Reverse Vending Machine- is a device which accepts bar coded plastic bottles and tin cans and returns redeemable coupons/points.

RECOGNITIONS

WORLD WATER DAY

Waste "LEAD" to Cashback

WEEE Cashback

RECOGNITIONS

1st QUEZON CITY AWARDS FOR HOSPITALS WITH INNOVATIVE HEALTH CARE WASTE MANAGEMENT SYSTEMS

THE BENEFITS OF CARBON FREE INITIATIVES

- Cost Savings
- Increased Revenue
- Regulatory Benefits
- Market Differentiation

THE CHALLENGES OF CARBON FREE INITIATIVES

- Availability of equipment
- Initial Investment
- Implementation of laws/regulations
- Acceptance/ support

STEPS TO IMPLEMENT GREEN & SMART STRATEGIES

1. Conduct a Sustainability Audit
2. Set Measurable Goals
3. Engage Employees
4. Partner with Sustainable Suppliers
5. Monitor Progress

FACILITIES MANAGEMENT AND ENGINEERING - ST. LUKE'S MEDICAL CENTER

2023 SLMC ENVIRONMENTAL SUSTAINABILITY PERFORMANCE

2023 Environmental Sustainability Performance

UTILITIES	BUDGET	ACTUAL	SAVINGS
ENERGY (kW-Hr)	20,196,531.60	15,924,079.00	4,272,452.60
WATER (Cubic Meters)	425,477.98	361,353	64,124.98

Total Energy Avoided = 4,272,452.60 KW - Hr
Carbon Dioxide (CO_2) = 2,985 Metric Tons equivalent

Equivalent To
- 710 gasoline-powered passenger vehicles driven for one year
- 335,849 gallons of gasoline consumed
- 389 homes' energy use for one year

Total Water Conserved : 64,124.98 cu. meters

Equivalent To
- 154 households' water use for one year

Reference: US EPA: 300 Gallons (1.136 cu. Meters) per day per household

Major Contributors:

1. Conversion to LED lights (Electrical)
2. Power factor correction (Electrical)
3. Correction of leak at Ground Floor Main Building A (Water)
4. Recycling of treated water from STP (Water)

On going Projects for 2024

1. Continuous conversion to LED lights (Electrical)
2. Power factor correction (Electrical)
3. Continuous identification and correction of leaks
4. Expand utilization of recycled treated water from STP

FUTURE TRENDS IN CARBON-FREE BUSINESS

Circular Economy

Focusing on reusing and recycling materials in a closed-loop system is essential for promoting sustainability and minimizing waste.

Green Technology

Innovations in renewable energy, electric vehicles, etc.

Consumer Activism

Increasing demand for ethical and eco-friendly brands

Government Policies

Strict regulations and incentives for sustainability

CONCLUSION

- "What we can not measure, can not be managed". SLMC QC needs to have this in place to provide way to monitor and manage critical areas and utilities (air conditioning, power management, medical gas, central station for command and control). Plan as aligned with the new building.
- Use of Non-Medical Equipment Replacement Program for timely upgrade of Facility equipment and systems.
- Increase Renewable Energy mix by 100% from 15% to 30% by Year 2027.
- The zero waste approach is a comprehensive strategy aimed at creating a circular economy by maximizing recycling, minimizing waste, and reducing consumption.

THANK YOU

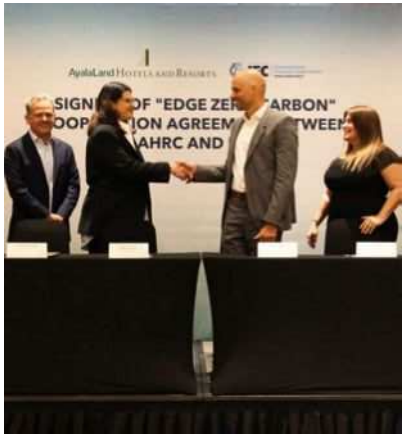
https://www.stlukes.com.ph

Introduction

Seda Hotels maintains a strong commitment to balancing its responsibilities to stakeholders with initiatives that positively impact society and the environment. This commitment is evident from building design to daily operations of our hotels.

NET-ZERO CARBON COMMITMENT

Our hotel group, as part of AyalaLand Hotels and Resorts Corp (AHRC), signed an agreement with the International Finance Corporation (IFC) signifying our commitment to achieve EDGE Zero Carbon certification for 2,826 rooms in our hotel portfolio by 2026, a first for a hotel group in the Philippines.



What is EDGE?

EDGE Zero Carbon is a globally recognized net zero building certification and the highest of three levels of certification for EDGE.

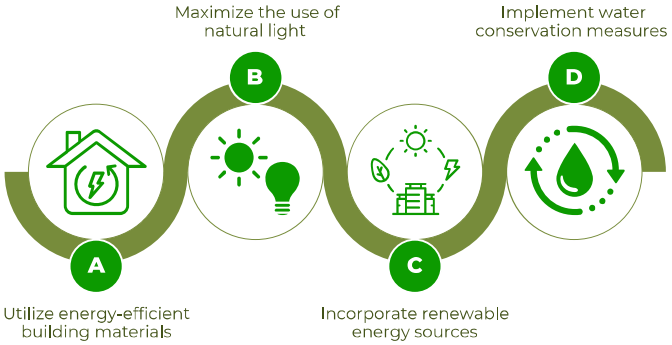
E xcellence in
D esign for
G reater
E fficiencies

What is EDGE?

- EDGE is created by IFC to promote resource-efficient, low-carbon buildings.
- It requires 20% improvement in energy use, water use, and embodied carbon in materials compared to base case.
- EDGE Zero Carbon goes further with:
  - 40% energy savings via onsite measures.
  - Carbon neutrality achieved through renewable energy, carbon offsets, or both.

SUSTAINABLE BUILDING DESIGN

How we minimize our environmental footprint in the design and construction of our properties



Environmentally-Friendly Operations

We continue to prioritize environmental stewardship in the ongoing operations of our hotels. We do this through:

- Robust recycling and waste management programs to minimize waste sent to landfills
- Utilization of smart building automation systems to optimize energy consumption and reduce waste
- Sourcing products and services such as sustainable materials and eco-friendly cleaning products
- Reduction of single-use plastics in favor of reusable alternatives
- Use of organic contents in bathroom amenities

SEDA NCR CLUSTER

SEDA VERTIS NORTH

Use of Variable Frequency Drives	Vegetables and Herbs Gardening	LEED Certified Building	Scholars of Sustenance Donation
			SCHOLARS OF SUSTENANCE FEEDING THE MIND

SEDA NCR CLUSTER

SEDA NUVALI

7kW & 22kW EV Charging Stations (59 vehicles charged since March 2024)

Recycling Segregation and Storage (6t. upcycled through Green Antz since 2022)

Installation of Variable Frequency Drives

SEDA NCR CLUSTER

SEDA NUVALI

Bokashi Composting

Rainwater Catch Basin System for maintenance of landscaping

Iraya Mangyan Booth (P356K generated sales since Dec. 2022)

SEDA NCR CLUSTER

SEDA NUVALI

LEED Certified Building

ASEAN Green Hotel 2024-2026

Zero Carbon Resorts: Anahaw Philippine Sustainble Tourism Level 3

SEDA NCR CLUSTER

SEDA BGC

Non-chemical Water Solutions

ORCA Food Waste Digester

SEDA CEBU CLUSTER

Conversion of plastic and solid waste to fluff fuels

Seda Ayala Center Cebu

Water bottling station

Seda Ayala Center Cebu

53 kWp Solar Panels - first hotel in Cebu

Seda Central Bloc Cebu

SEDA WESTERN VISAYAS CLUSTER

SEDA ATRIA

Recyclable Glass Bottles

Urban Garden

22 kW electric vehicle charging station

SEDA MINDANAO CLUSTER

Herb Garden

Seda Abreeza

Yellow Drum Project

Seda Abreeza

Motion Sensor Switches

Seda Centrio

SEDA LIO

DIRECT PV SOLAR PANELS - BATTERY LESS OFF GRID SYSTEM

- Capacity:220kW
- ROI: 2.9 years
- Total savings: Php 7,067,506
- Useful life: 25 years


Thank You!
www.sedahotels.com

Realizing SDGs through the fusion of knowledge

About Us
About Products

Connecting Southeast Asia and Japan through the Energy of Thoughts

Enebloom

Concept 1

Corporate Philosophy

With Japan's advanced technology at its core, while strengthening relations with Southeast Asia, the the world will be a better place.

We believe that Southeast Asia can be much more developed than it is now because it has ample room for development.
There is a lot of energy and people's passion in Southeast Asian countries.
These countries will further improve if they are supported by developed countries.

Southeast Asian countries can develop greatly with the help of Japan, which is a technologically advanced country.
Japan can help them with advanced technology, and in turn can be helped by human resources provided from these countries.
The world will be a better place if we build such a relationship.

We should not consider Southeast Asian countries as dealing counterparts.
Instead, we should think of them as our partners with whom we can be happy together.

In Southeast Asia, not only large companies but also small and medium-sized companies seek Japanese technology.
Therefore, Japanese companies need to respond to small-scale needs in Southeast Asia.

Japanese companies must understand exactly what Southeast Asian countries truly want,
and must respond to their needs from a unique perspective.
And some Japanese company among others must play that role.
And it' s us, Enebloom, who can fulfill that role.

Concept 2

Project Design

There are two core components to our business. Through these two businesses, we will contribute to the creation of affluent lifestyles in Japan and Southeast Asia.

Connecting Southeast Asia and Japan through the Energy of Thoughts

Enebloom

Export of industrial products

Promote industrial equipment in high demand in Southeast Asia, especially Japanese products that excel in terms of SDGs.

Import of intellectual properties

Introduce knowledge and manpower from Southeast Asia to Japan to contribute to mutual development.

I was born and raised in Japan. When I was halfway through my life, I took a new job in Southeast Asia. Until then, I had been working in production and sales at one of Japan's leading industrial equipment companies listed on the first section of the Tokyo Stock Exchange. Working in Southeast Asia shows that many countries in the region have a passion for development. It is a passion of people to improve their lands, which Japan had long forgotten. Production facilities in Southeast Asian countries are still fragile and often lack environmental impact consideration. Many machines and equipment do not meet the high quality demanded by producers. It is especially true for small and medium-sized companies. "I want to do something about it! I want to respond to not only large enterprises but also to small and medium-sized businesses! There still is ample room for development in this country!" These thoughts led me to establish Enebloom.

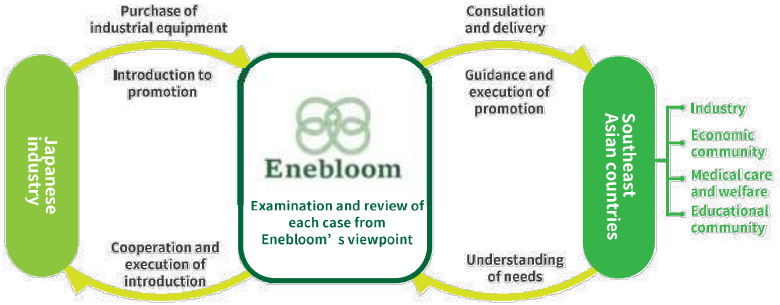
Masayoshi Ito,
President & CEO of Enebloom Inc.

Concept 3

Business Vision

We deliver superior products of high quality to Southeast Asia.

Japan has many excellent products of industrial equipment.
They are products of superior quality, superior SDGs, and low environmental impact.
Such equipment and machines are essential for the future development of the industry in Southeast Asian countries.
Enebloom selects Japanese products that are truly suitable for Southeast Asian countries,
and further selects and delivers only the best products suitable for each specific country.



Concept 4

Export of industrial products

Products and Services for SDGs Society.

No chemicals are used, and none are harmful to the human body or the environment.
Therefore, it is a practical product with low environmental impact
and friendly to both the machine and the environment. So it is easy to maintain and lasts for a long time.

Product line for detergent-free cleaning

Cooling tower
Descaling with electrolyzed water without chemicals

Mold
Water pipe cleaning with electrolyzed water without chemicals

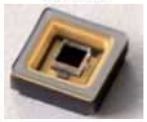
Injection
Water pipe cleaning with electrolyzed water without chemicals

Chiller
Tube cleaning with ball cleaning without chemicals

Sterilizes water and air with deep ultraviolet LEDs (UVCLEDs) without the use of mercury

Mercury lamps

UVCLEDs



Solution 1

Cooling pipe cleaning system for molding

No chemicals are used and electrolyzed water is used for cleaning, so it is safe and secure, and has low running cost! We are confident of the cleaning effect!

This device uses a proprietary electrolysis technology to generate molecular clusters of water to clean cooling pipes and other equipment.
It can be used not only for molds, but also for cleaning water pipes of under-hoppers of injection molding machines, oil coolers, temperature controllers, chillers, etc.

▶Product overview

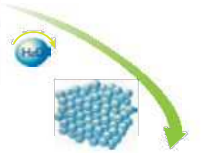
The system generates molecular clusters of water (activated water) using own proprietary electrolysis technology and performs cleaning of cooling pipes, etc. using activated water with citric acid added (700-900g).

▶Features

It can be used not only for mold cleaning but also for water pipe cleaning in molding machine's under-hopper areas, oil coolers, temperature controllers, chillers, etc.
- The embedded flowmeter allows the user to check the flow rate at the beginning of cleaning and any increase in the flow rate during and after the cleaning.
- The caster wheels allow for easy mobility.

▶Effect

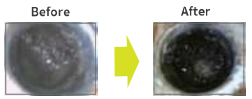
Increased productivity. After 6 hours of mold water tube cleaning, the time of cooling was reduced from 17 sec to 13 sec (23% improvement).

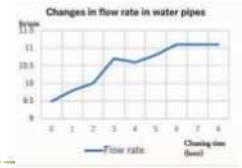


▶Examples of cleaning locations and effects

Example of cleaning an under-hopper area

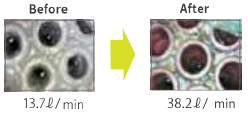
Even though the pipe under the hopper was bent at a right angle, it was possible to remove the rust by cleaning.





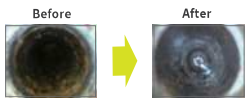
Example of oil cooler cleaning

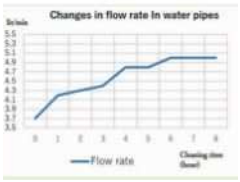
13.7 lit/min --> 38.2 lit/min
The flow rate increased by 24.5 lit/min after 14 hours of cleaning.



Example of mold water pipe cleaning

Rust bumps are removed.
As can be seen from the graph, the flow rate increased and became stable after 6 hours. Only 6 hours of cleaning is sufficient.





▶Main cleaning points

Under-hopper area, Oil cooler

Mold water pipe

Temperature controller

chillers

FAQ

Q What is the size and weight of the system?
A 91 cm (W) × 53 cm (D) × 128 cm (H)
150 kg without tank water, 230 kg with tank water

Q Can we clean pipes other than mold water pipes?
A You can clean pipes of molds, chillers, heat exchangers, oil coolers, molding machine's under-hopper areas, temperature controllers, etc

Q Can any water be used for cleaning? How much citric acid do we have to add?
A Any water, such as industrial water or tap water, can be added to the wash tank. Add 700-900 g of citric acid to an 80-liter tank of water

Q Can we drain the used water as it is?
A You can drain the water as it is, only on one condition that it is diluted by adding citric acid.

Q How long does it take to clean each unit?
A It takes 6 to 8 hours, depending on how clogged the pipes are

Q Is it possible to remove silica and rust clumped together?
A It is possible to remove clumped silica and rust.

Solution 2

On-site water pipe scale cleaning service(on a chargeable basis)

It is therefore a low-cost operation. The service is available on a one-time basis whenever needed.

▶Product Overview

This is a fee-based service that brings cooling pipe cleaning equipment for injection molding machines and molds for cleaning.
We can clean molds, chillers, heat exchangers, oil coolers, under molding machine hoppers, temperature controllers, and other piping.

▶Features

Engineer familiar with the equipment will bring the cleaning system to the site to provide cleaning services (chargeable).
No initial cost because there is no need to purchase equipment. It is therefore a low-cost operation.
Engineer familiar with the equipment will bring the cleaning system to the site to provide cleaning services (chargeable).
The service is available on a one-time basis whenever needed.

FAQ

Q Can we request cleaning services on a regular basis?
A We are available on a regular basis, although we may have to ask for some schedule adjustment.

Q How can we check the cleaning results?
A You can verify the effectiveness of cleaning by viewing endoscope images, measuring the flow rate, and checking dirt in the filtration tank.

Solution 3

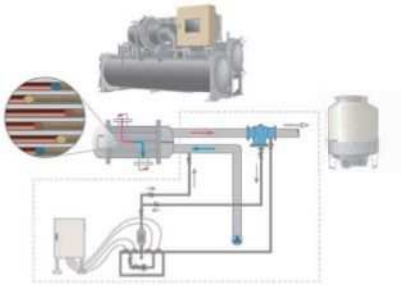
Heat exchanger ball cleaning system

Cleaning with sponge ball. So it shows high cleaning effect. And because it is automatic, no maintenance is required!

How the ball cleaning system works is simple! The system uses sponge balls to physically and automatically clean the equipment, resulting in high cleaning power, energy savings, and extended equipment life.

▶Product Overview

The mechanism of the ball cleaning system is simple. The system passes sponge balls through the tubes of a shell-and-tube heat exchanger to physically clean the tubes.
The tubes can be cleaned repeatedly while the system is in operation.
Therefore, the tubes can always stay clean. As a result, energy savings, extended equipment life, and effective maintenance are expected.



▶Features

Automatic cleaning eliminates maintenance effort.
The system prevents adhesion of dirt whenever the target machine is in operation, thereby preventing the deterioration of machine operating efficiency or problems associated with the corrosion of tubes.
Physical cleaning using sponge enables highly effective cleaning.
No environmental impact because no chemicals are used. No equipment damage caused by chemical cleaning.
This prolongs the life of the equipment.
The only maintenance required is the replacement of natural rubber sponge balls. This results in low running costs.

▶Examples of usage locations

For automotive compressors

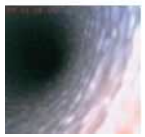
For automotive refrigeration

▶Effect

time of introduction

One year later

Remains beautiful one year later



Scaled tube

Clean tube

FAQ

Q How often will the balls need to be replaced?
A As the sponge balls will wear out and become smaller in time, replace all of them after use of about 3,000 to 4,000 times (about three months of use in the case of 24-hour operation)

Q Do the balls flow through all tubes?
A Due to their porous structure, the balls are designed to have almost the same specific gravity as that of the coolant, so that the flow of the coolant exerts a cleaning effect on all tubes.

Q What is the size of the sponge balls?
A Different sizes are available in 1 mm increments in diameters 10 mm and larger.

Q Is it necessary to conduct manual cleaning prior to installation?
A If the balls are severely stained, clean them in advance as they may cause clogging. If stains are soft, they can be adequately removed by ball cleaning.

Q Is it effective against hard scale?
A The cleaning system prevents scaling because it wipes off scale before it becomes hard. However, its ability to remove already adhered hard scale is limited.

Solution 4

Cooling tower descaling system

Safe and secure because it is cleaned with electrolysis water. Furthermore, maintenance costs can be significantly reduced.

When oxidized water is reduced by electrolysis, the molecular clusters of water are subdivided, increasing its surface area. This makes it easier to dissolve substances.
This effect is used to remove scale and other contaminants in pipes and heat exchangers.

▶Product Overview

This system reduces oxidized water by electrolysis, so that the molecular clusters of water are subdivided. This results in an increase in surface area and makes the substance easier to dissolve. The system utilizes this effect to clean the inside of pipes. It also removes scale and other stains in heat exchangers.

You can check the effects of the system visually, reduce the amount of chemicals used, save a great deal of water, and reduce cooling tower maintenance costs significantly.
As a result, the investment will pay off in a short period of time.

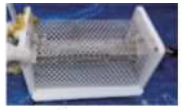
Main Installation Location

Cooling tower　chillers

Equipment used
(For standard equipment)

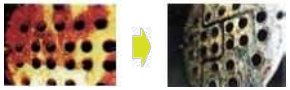
Electrode filter and controller

▶ Example of descaling effect



A month later

You can see that the scale on the electrode cover is starting to be removed.



Removes red rust and stops the progression of red rust.

FAQ

Q What is the principle behind this system?
A Water is decomposed into hydrogen (H2) as well as anions (OH-) by using high-frequency electrolysis to form antioxidant water, which removes red rust.

Q What differentiates this system from those involving chemical injections?
A Chemicals injected into cooling towers are said to make scale less likely to adhere mainly due to the formation of a film of chemicals. But in reality, scale does adhere. There are also problems with the cost of chemical injection and the environmental impact of wastewater.

Q Is it safe during electrolysis?
A It is safe to put hands in the water during electrolysis. Moreover, the electrolysis does not affect other computer equipment.

Q Can the system recover the scale?
A When the scale is dissolved from the piping into water by electrolysis, the scale adheres to and recrystallizes on the electrode cover, which functions as a negative electrode. This allows scale' s recovery.

Q How often should the electrode cover be cleaned?
A It should be cleaned once a month.

Q Is it easy to peel off the scale on the electrode cover?
A It can be easily removed using a spatula.

Solution 5

Sterilization system with UVCLEDs/Thermal barrier ceramic coating (GAINA)

The use of deep ultraviolet LEDs makes it a safe product.

In place of them, deep-ultraviolet LEDs are increasingly being used these days because they have less impact on the human body and the environment, save energy, and have a longer service life.

▶Air sterilization

- Can be used in manned spaces
It can be used at any time because it is not a chemical spray type.
- Eliminates odor-causing substances
It captures and removes not only bacteria, but also a variety of environmental odors and allergens.
- No deterioration effects on objects
It can be used in a wide range of environments because it does not irradiate objects directly.

▶Water sterilization

We provide products that do not use mercury lamps, which have a high environmental impact, but use deep ultraviolet LEDs (UVCLEDs) to provide safe and environmentally friendly air purifiers. We sell air purifiers that are safe and have a low environmental impact, as well as heat-shielding paints that can be applied simply by painting.

High thermal barrier effect just by applying it!

▶Terminal barrier ceramic coating (GAINA)

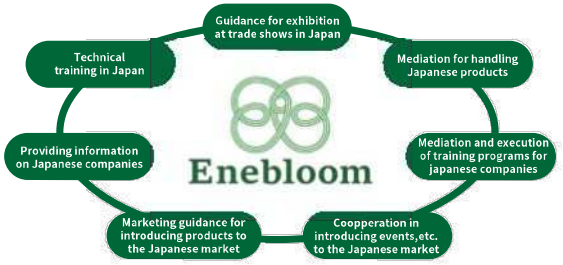
GAINA is an environment-improving functional coating material based on a technology developed by the Japan Aerospace Exploration Agency (JAXA).
This coating technology enables space rockets to withstand high temperatures; and GAINA applies this technology to our daily lives.
Insulation can be achieved simply by coating home building materials with GAINA.

Human Resource

Import of intellectual properties

There are many projects envisioned by Enebloom as shown below. We will closely support these projects.

There are many Southeast Asian countries with excellent intellectual properties, commercial materials, and human resources. Taking advantage of these assets will lead to the development of Southeast Asia and to Japan' s prosperity. It is Enebloom's wish that Southeast Asian countries and Japan will prosper together. To this end, Enebloom is willing to cooperate with any approach to Japan from Southeast Asia.



▶About us

Company name	:	Enebloom Inc.
Head office address	:	854-1, Kawamukou-cho, Tsuzuki-ku, Yokohama, Kanagawa,224-0044, Japan
Phone	:	042-771-7454 (Sales Office)
Representative	:	Masayoshi Ito
Established in	:	Year 2021
Business description	:	Industrial equipment wholesaling, marketing, overseas human resources consultation
Main banks	:	The Bank of Yokohama,Ltd., Yokohama Shinkin Bank

E-mail : info@enebloom.co.jp

https://www.enebloom.co.jp/en

MANDO ENGINEERING Co., Ltd.
～Company and Business Overview～

MANDOENGINEERING
マンドーエンジニアリング株式会社

Company Profile

●Headquarters	3-14-20-701, Nishinakajima, Yodogawa-ku, Osaka City, 532-0011, Japan
●CEO	Naoya Miyata
●Founded	July 2020 (Reiwa 2)
●Capital	20 million yen
●Number of Employees	26 (Average age: 45, as of July 10, 2024)
●Main Bank	Kiyo Bank, Yaominami Branch
●Construction Licenses	Electrical Construction Business・Telecommunications Construction Business・Firefighting Facility Construction Business
●Approval by Minister of Land, Infrastructure, Transport and Tourism (License No. Tok-3 No. 28431)	Date of Approval: February 17, 2022 (Reiwa 4)

MANDOENGINEERING
マンドーエンジニアリング株式会社

Company History

・July 2020	Founded in Yao City, Osaka Prefecture.
・April 2021	Opened Shimaya Sales Office in Konohana-ku, Osaka City.
・December 2021	Opened Wakayama Sales Office in Wakayama City.
・August 2022	Increased capital from 5 million yen to 20 million yen.
・September 2023	Relocated headquarters to Yodogawa-ku, Osaka City.

MANDOENGINEERING
マンドーエンジニアリング株式会社

Address

・Headquarters
3-14-20-701, Nishinakajima, Yodogawa-ku, Osaka City, Japan

・Wakayama Sales Office
1850 Minato, Wakayama City, Japan,Inside Nippon Steel Corporation Wakayama Steel Works

・Shimaya Sales Office
5-1-109 Shimaya, Konohana-ku, Osaka City, Japan,Inside Nippon Steel Corporation Kansai Steel Works

MANDOENGINEERING
マンドーエンジニアリング株式会社

Business Activities

●Electrical Construction Services

・Power Generation Facility Construction・Incoming Line Construction・Substation Construction・Lighting Facility Construction ・On-site Electrical Facility Construction・Fast Charging Facility Construction

●Telecommunications Construction Services

・Wired Telecommunications Equipment Construction・Wireless Telecommunications Equipment Construction・Data Communication Equipment Construction

・Information Processing Equipment Construction・Information Collection Equipment Construction

●Firefighting Facility Construction Services

・Indoor Fire Hydrant Installation・Outdoor Fire Hydrant Installation・Power Fire Pump Installation ・Fire Alarm System Construction・Leakage Fire Alarm Device Installation・Emergency Alarm System Construction

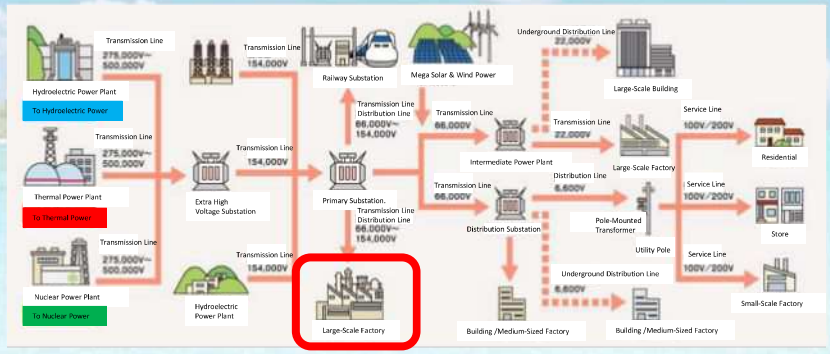
MANDOENGINEERING マンドーエンジニアリング株式会社

Qualified Personnel

・First-Class Electrician: 14 members
・Second-Class Electrician: 10 members
・First-Class Electric Construction Management Engineer: 8 members
・Second-Class Electric Construction Management Engineer: 4 members
・Third-Class Chief Electric Engineer: 2 members Fire Equipment Technician (Type A & B, Classes 4):
5 members, 5 members

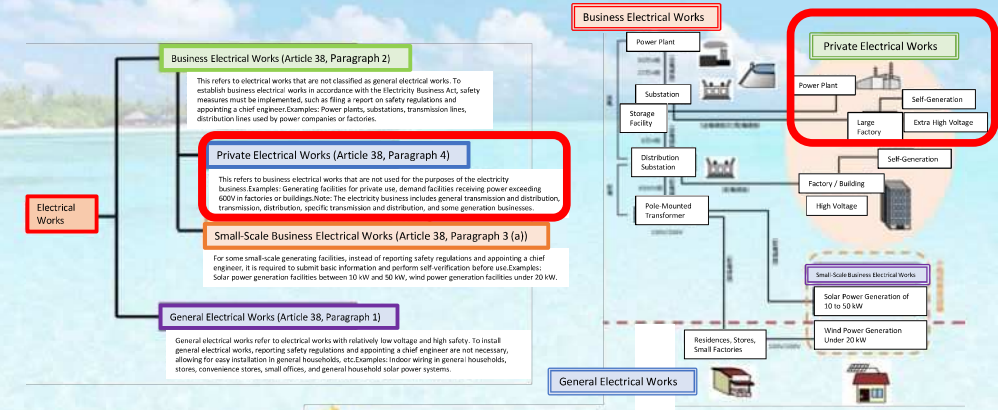
MANDOENGINEERING マンドーエンジニアリング株式会社

Basic Flow of Electricity



MANDOENGINEERING マンドーエンジニアリング株式会社

Construction Categories



MANDOENGINEERING マンドーエンジニアリング株式会社

Electrical Construction Business

- Power Generation Facility Construction

- Incoming Line Construction

- Substation Construction

- Lighting Facility Construction

- On-site Electrical Facility Construction

- Fast Charging Facility Construction

MANDOENGINEERING
マンドーエンジニアリング株式会社

Telecommunications Construction Business

- Wired Telecommunications Equipment Construction

- Wireless Telecommunications Equipment Construction

- Data Communication Equipment Construction

- Information Processing Equipment Construction

- Information Collection Equipment Construction

- Information Collection Equipment Construction

MANDOENGINEERING
マンドーエンジニアリング株式会社

Firefighting Equipment Installation Work

- Indoor Fire Hydrant Installation Work

- Outdoor Fire Hydrant Installation Work

- Powered Fire Pump Installation Work

- Fire Alarm System Installation Work

- Electric Leakage Fire Alarm Installation Work

- Emergency Alarm System Installation Work

MANDOENGINEERING
マンドーエンジニアリング株式会社

Strengths of Our Company

In electrical construction, we primarily focus on electrical work within factories, including transformer and substation equipment installation, explosion-proof electrical equipment, and underground power distribution facilities. We also handle lighting installations, distribution board installations, cable work, and security camera installations, making us capable of addressing various electrical construction needs.

In public works, we engage in electrical construction, telecommunications construction, and fire protection construction. Our branches are staffed with many young employees, creating a vibrant workplace. We emphasize the recruitment of young talent and support for obtaining qualifications. To continue expanding our business, we will strengthen our hiring efforts even further.

MANDOENGINEERING
マンドーエンジニアリング株式会社

Finally

MANDOENGINEERING
マンドーエンジニアリング株式会社

Introduction of THINK STONE

Company Information

・Date of Establishment : 2020.Mar.1st
・Corporate Headquarter : 1-3-11 Ote Dori Chuo Ku Osaka Japan 540-0021
・Representative : Tsutoshi Toby Ishimoto <Mail:tobyishitobyishi@gmail.com>
・Corporate Philosophy : Saving Energy for Our Life & World
・Main Business Activities (Market)
 * Energy Saving System and Solution (Japan / Vietnam)
 * Visualizing Energy Consumption (Japan / Thailand)
 * Power Line Control for Building Management (Japan / UAE)
 * Consultation for Energy Saving Solutions (Japan / Vietnam/Philippine)
 * Solar System Solution for Roof Top (Japan / Vietnam/ Philippine)

Consultants for Various Customer

Sketch Company Ltd.

Dx Solution IndyGo

Projects Reference by THINK STONE