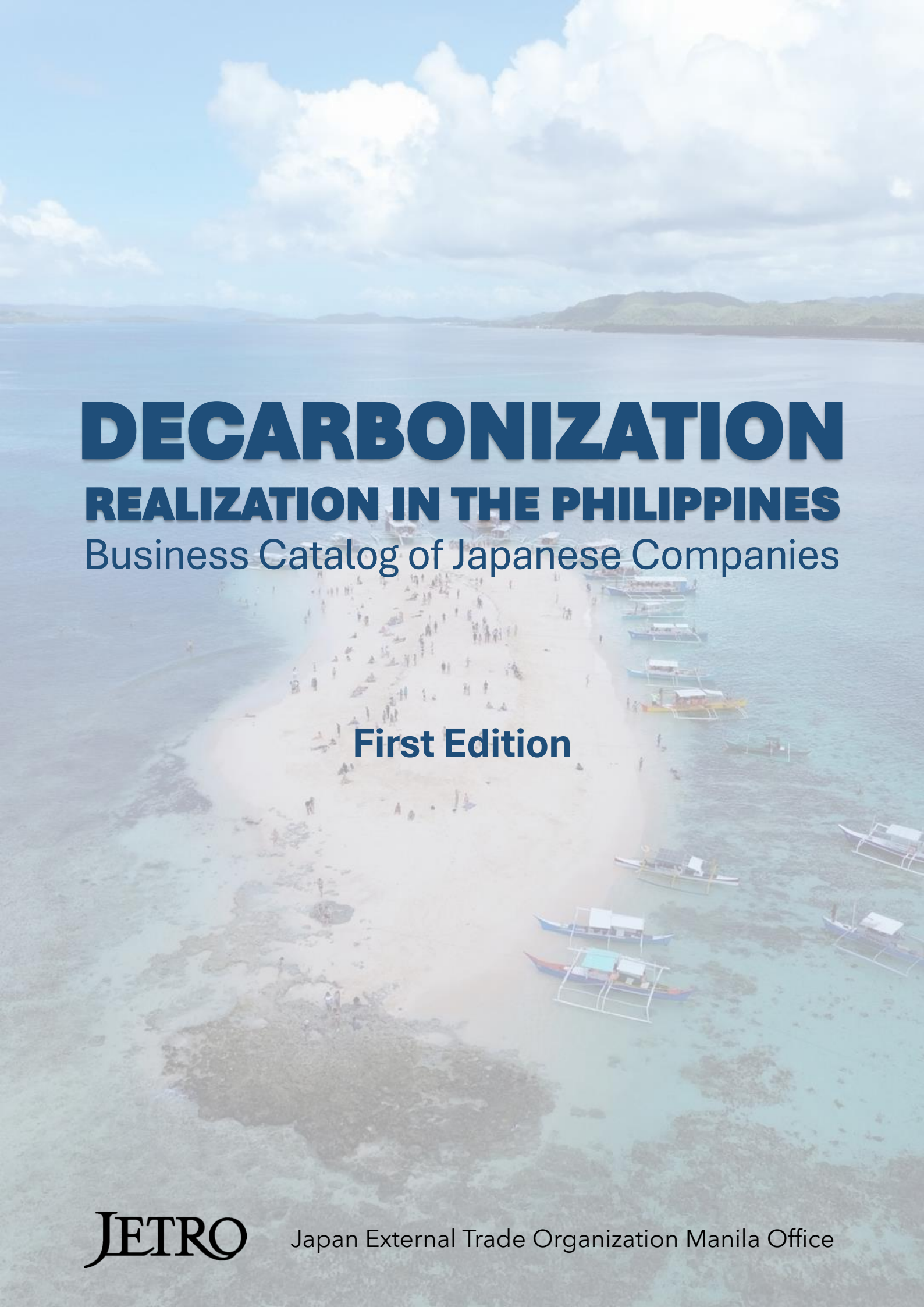


DECARBONIZATION
REALIZATION IN THE PHILIPPINES
Business Catalog of Japanese Companies

First Edition

JETRO
Japan External Trade Organization Manila Office

Introduction

The Philippines government has set a goal of 50% renewable energy in domestic supply by 2040. To achieve this goal, incentives such as feed-in tariffs (FIT) and the Green Energy Auction Program (GEAP) have been established to maximize the use of renewable energy.

The Japanese government has been supporting the decarbonization of ASEAN countries by launching the Asian Zero Emissions Community (AZEC) in March 2023. In January 2024, it was agreed to launch the AZEC Japan-Philippines High-Level Coordination Dialogue as a framework for local consultation between the Japanese public and private sectors and the Philippine government to promote decarbonization efforts.

This business catalog is prepared to introduce Japanese companies' products and services for decarbonization in the Philippines, such as the introduction of renewable energy and energy conservation in the industrial sector, to the Philippine government and businesses.

We hope that this catalog will contribute to the creation of new businesses and decarbonization in the Philippines.

June 2024
JETRO Manila Office

NIZATION

Table of Contents

Renewable Energy

Wide range of Renewable Energy

- CHODAI CO., LTD.
- Marubeni Asian Power Philippines Corp.
- RENOVA Inc.

Solar Energy

- Advantec Philippines, Inc.
- Sky Renewables Philippines, Inc.
- TeaM (Philippines) Energy Corporation
- Transnational Uyeno Solar Two Corporation

Biomass Power Generation

- Sumitomo Heavy Industries, Ltd.

Renewable Energy Consultancy Service
～Solution and Infrastructure Service Provider (ISP)～

CHODAI CO., LTD.




Overview of Service

- CHODAI CO., LTD. is an engineering consulting firm with track record in developing various renewable energy projects including solar, wind, hydroelectric, biomass, and waste-to-energy power generation.
- We support everything from small-scale facilities for private consumption to large-scale facilities with equity participation.
- We provide support for planning, feasibility studies, detailed design, construction supervision, operational management, maintenance, and project fundraising. For small and medium-sized facilities, we offer zero-initial-cost service.
- We can assist in accessing a range of JP government support programs for equipment installation and project development.

Actual Result and Example

〈Mindanao Island, CARAGA Region, Mini-Hydropower Plant, 8MW〉

- Commissioned in 2018 with annual GHG reduction of 19,402 tons.
- 10% equity investment, technical consultant, facilitated two-step-loan from JBIC.
- Began in 2011, formed partnership, reviewed technical design, supervised. construction, procured turbines from JP manufacturers, monitoring operations.
- Hosted numerous on-site tours for JP government officials and JP companies.

〈Solar Power Generation Projects〉

- Utility-scale solar farm, 390MW (under development).
- Remote island resort, (zero-initial-cost/under development for multiple projects).

〈Waste-to-Energy Projects〉

- Supplied steam turbine and provided plant engineering services in Thailand.
- Engaged in development activities in Vietnam, Saipan, and the Philippines.

〈Pipeline Investment Projects in the Philippines〉

- Negros Island: Mini-hydropower, 7MW (joint investment with a JP company).
- CARAGA: Mini-hydropower, 4MW (construction underway).
- CARAGA: Wind power, 72MW (construction, equipment procurement underway).
- Aurora Province: Biomass, 5MW (FS completed, commercialization underway).

Contact Point

Japanese：Masayuki Oura
☎ +63-916-554-0465,
✉ ooura-m@chodai.co.jp

English：Jett Tolentino
☎ +63-947-347-5953,
✉ tolentino-tom@chodai.co.jp

Website:
https://www.chodai.co.jp/

Marubeni Asian Power Philippines Corp.




Product and Service outline

- Marubeni Asian Power Philippines Corp., a power generation development company wholly owned by Marubeni Corporation, is actively engaged in developments of renewable energy generation projects aimed at realizing a low-carbon society.
- The company primarily focuses on developing/operating solar, hydro and wind power. Leveraging expertise accumulated from owing and operating power plants worldwide (Net Capacity :11,402MW), it has established an in-house system capable of comprehensive development covering technology, finance, and legal aspects.
- As a member of the industry association, Pilipinas Offshore Wind Energy Resource, formed by six domestic and international companies involved in renewable energy in the Philippines, the company contributes to activating the offshore wind power sector and provides advice to government agencies.

Actual Result and Example

■ Operation Projects

- San Roque Hydropower Project (435MW / COD: May 2003), Pangasinan Province, Luzon, engaged in development and maintenance/operations.

■ Projects under development

- Developing multiple solar / floating solar power projects (50MW to 150MW) in Luzon and Western Visayas.
- Developing offshore wind power projects in two marine areas in Northern and Central Western Visayas, Philippines.

Contact Point

Marubeni Asian Power Philippines Corporation
Contact Person :
Sangwook Woo
✉ Woo-S@marubenipower.ph
☎ +63 968 086 4809

Ortega, Bryan Carlo
✉ bryan_ortega@marubenipower.ph
☎ +63 908 886 5107

Green and sustainable energy systems
～ Creating our future with renewable energy～

RENOVA Inc.

Center: President Marcos
Right: RENOVA CEO Kiminami
LOI Sign Ceremony

- Co-develop of the project
- Appointment of local work such as civil work, transportation and construction

- Support for the policy goals for the green society

- Lead to significant job creation

Business outline

- Develop and operate multiple renewable energy power sources, including solar, wind, biomass, geothermal and hydro
- Green businesses such as storage batteries that contribute to the expansion of these renewable energy power sources and the other which contribute to decarbonization
- Not only "building power plants“ but also “promoting business development" that can coexist with the local community and industry

Actual Result and Example

- Under developing
  - Kiangan Hydroelectric [8.3 MW]
    Under construction
  - Mabini Onshore Wind [50 MW]
    JDSHA with Basic Energy Corporation
    (Operation is scheduled to start by 2028.)

- Sourcing projects
  - Onshore Wind [250 MW]
  - Ground Solar [140 MW]
  - Ground Solar [40 MW]

etc.

- Other examples
  - Signing of LOI (Letter of Intent) on renewable energy project development with DTI (Department of Trade and Industry Philippines) in the presence of President Marcos
  - Established a local office in Manila, creating employment for 10 local employees

Contact Point

RENOVA Inc (Website)： https://www.renovainc.com/
Gen Takahashi (PHL) ☎ +63 917 100 4672/ +63 917 186 8852
✉ gen.takahashi@renovainc.com
Koda Iguchi (JPN) ☎ +81 70 8713 4836
✉ kodai.iguchi@renovainc.com

Solar Power Generation
～ Creating a better world with our technology ～

ADVANTEC PHILIPPINES INC.

ZEB PLANNER
ZEB2022P-00002

Net Zero Energy Building

Micro-Grid Smart City

Battery System

Solar System

Product and Service outline

- Engineering and Installation of Solar Power System, Battery System, Energy Management System and Emergency Back Up Ssytem
- Power Purchase Agreement (PPA)
- Micro-Grid Smart City Development, ZEB Planner

Actual Result and Example

- Solar System Installation to 3 Japanese Factories in Luzon Island. (125kW-700kW)
- PPA to PEZA Economic Zone 10 locators (409kW)
- PPA to public 13 facilities (City Hall, Public Hospital etc.) in 2 Mindanao.

Contact Point

Contact：
(Japanese) **Noriaki Sanada**
✉ n.sanada@advantec-global.com
☎ 02 8805-2836

(Filipino) **Jane Abadiez**
✉ r.abadiez@ph.advantec-global.com

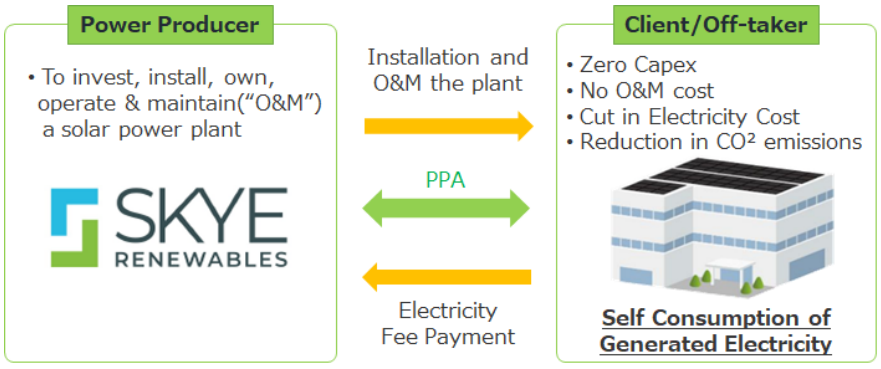
Website：
https://en.advantec-global.com/

Energy-as-a-service Developer
～ Zero Capex Free and Offsite Solar ～

Skye Renewables Philippines Inc.

Product and service outline

- Skye Renewables Philippines Inc. (“Skye”) is a developer of renewable energy in South East Asia and an affiliate of Idemitsu Kosan Co. Ltd. and the British International Investment.
- Skye provides long term rooftop and offsite renewable power contracts to reduce a client’s electricity costs and address their sustainability goals
- Skye has already developed >10,000kWp of capacity over 18 sites in the region since its founding in 2021



Sample projects

- Client: Honda Philippines Inc.
- Business: Motorcycle parts manufacturing
- Capacity: 1,057.32 kWp
- Energy Produced:
  14 Million kWh (over 10 year Contract)
  10,416 Metric tons of Co2 saved
  36.9 Million PHP in Electricity Savings
- Status: Operational

Client: Decathlon
Capacity: 225.06 kWp

Client: Fast-Koldstor
Capacity: 503.05 kWp

Client: AM-Europharma
Capacity: 115.2 kWp

Contact Point

Contact： Gary Espino
☎ +639178899549
✉ Gespino@Skyerenewables.com

Robert Magat
☎ +639167978091
✉ Rmagat@Skyerenewables.com

Website: https://www.skyerenewables.com/

Retail Electricity Supply and Distributed Solar Power Generation
～ Realize Green Power Plant with Zero Initial Investment Cost～

TeaM Energy Corporation



Product and Service outline

- Marubeni Corporation and JERA Co., Inc. have established a 50-50 joint venture, TeaM Energy Corporation, which supply electricity and International Renewable Electricity Certificates (I-RECs) to commercial and industrial customers as Retail Electricity Supplier.
- We also own and maintain/operate solar power generation facilities on the premises of commercial and industrial customers. These solar power supply green power under power purchase agreements with customers for up to 25 years.For customers, no upfront cost, fixed electricity rates based on consumption, high-quality solar PV components, and end-to-end project management.

Implementation Record (Distributed Solar Power)

■ Implementation Record

- Coca-Cola Beverages Philippines INC
  - Type: Rooftop Solar Power Plant
  - Capacity: 1,521 kWp
  - Operation Start : March 2021
- Mariwasa Siam Ceramics Inc
  - Type: Rooftop Solar Power Plant
  - Capacity: 3,146 kWp
  - Operation Start: June 2023

■ Planned Implementations

- Discussing with multiple commercial and industrial customers regarding the development of decentralized solar power plants.

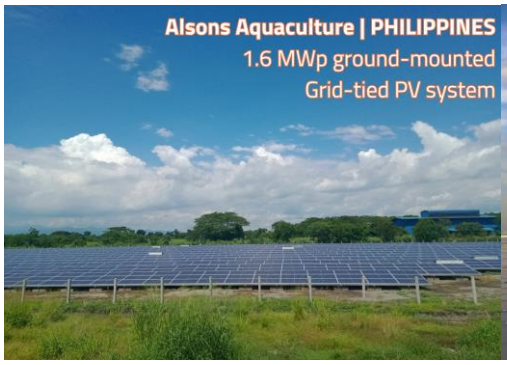
Contact Point

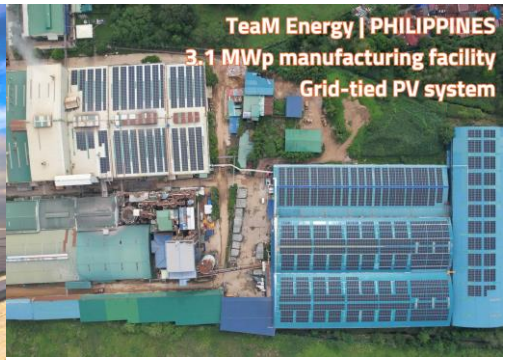
Contact : **Keisuke Osuga**
✉ Keisuke.Osuga@teamenergy.ph
☎ +63-918-804-1015、
代表番号 : (+632) 8552 8080

Tristan Taghoy
✉ Tristan.Taghoy@teamenergy.ph
☎ +63-918-913-4326

Engineering, Procurement, Construction, Operations and Maintenance Services of PV systems

TRANSNATIONAL UYENO SOLAR TWO CORPORATION





Product and Service outline

- We offer end-to-end solutions from **design & engineering, procurement**, installation for solar rooftop and Ground Mounted Installations for Commercial, Industrial and Utility Scale segments. In addition, we also provide **operation and maintenance, and development** of solar PV systems.

Actual Result and Example

- A leading solar energy company with an extensive portfolio and strong track record in the C&I market with a professionally trained team.
- To date, there are **more than 43MW** of installed capacity of renowned multinational, Japanese and Filipino companies in the Philippines.
- We have installed several firsts in the country like the 1st ever solar photovoltaic carpark located in Laguna, Philippines, 1st eco-friendly airport located at Bohol-Panglao Airport, Philippines and the 1st solar powered Starbucks store in Asia located at Quezon City, Philippines.
- TUSC is an approved EPC of **Japan's Global Environment Centre Foundation (GEC)** for **Joint Crediting Mechanism (JCM)** projects in the Philippines. To name a few are the installations for Aikawa, Enomoto, Kanepackage, Fujisash, Daiki OM and HKT Philippines.

Contact Point

KOSHI AGAWA
Business Development Manager
☎ +63 919 060 0163;
✉ koshi.ogawa@tuscsolar.com

MARY GRACE GOLEZ
General Manager
☎ +63 999 220 9588
✉ grace.golez@tuscsolar.com

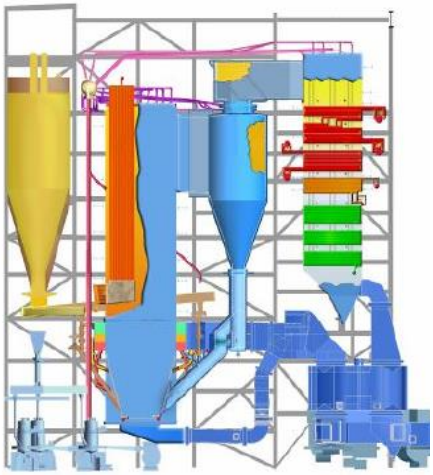
CHARLIE CREENCIA
Sales Manager
☎ +63 999 886 1461;
✉ charlie.creencia@tuscsolar.com

SUMITOMO HEAVY INDUSTRIES, LTD.

Product and Service Outline

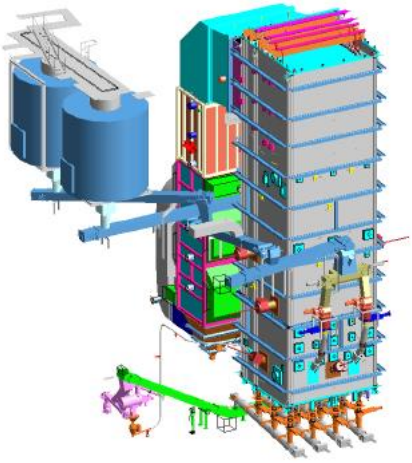
- Proven track records in installing BFB and CFB type boilers around the world using biomass fuels. Currently, our 300MWe biomass-only firing facility is undergoing its trial operation.
- Offers TMU services for the conversion of existing coal-fired boilers to biomass-fired boilers.
- In Southeast Asia, we conducts feasibility studies in collaboration with Electric Power Companies to convert coal-fired power plants to biomass-fired power plants.

<CFB Fuel Conversion>



A type of service that we provide to reduce coal usage by increasing the co-firing ratio of biomass fuels.

<Boiler Modification>



A type of service that we provide to existing PC boilers by converting them to BFB or CFB in order to utilize different biomass fuels thereby reducing coal usage.

TRACK RECORDS/ REFERENCES

No.	Country	Boiler Type	Year	Capacity (MWth)	Original Fuels	Current fuels
1	Bulgaria	CFB	2021	327	Bituminous Coal, Pet Coke	Agro Biomass 30%, Bituminous Coal
2	South Korea	CFB	2019	315	Coal, PKS	PKS, Demolition Wood, Wood Pellets
3	Finland	BFB	2018	110	Natural Gas	Various Biomasses
4	South Korea	CFB	2017	750	Coal	Coal, Wood Pellets
5	Thailand	CFB	2006	140	Coal, Lignite	Coal, Sludge 20%, Paper reject 20%, Bark
6	Finland	CFB	2002	81	Coal, Peat	Coal, Peat, Waste Wood

Note) SHI has more than 50 track record for this fuel conversion services.

Contact Point

Sumitomo Heavy Industries, Ltd. (JP)
Energy & Environment Group
Kris Matsuo（**Japanese, English OK**）
☎ +81 70 1316 3158
✉ kristofer.matsuo@shi-g.com

SHI Designing & Manufacturing, Inc. (PH)
Business Development Section
Ronaldo F. Catindig (Tagalog, English)
☎ +632 8636 6010 to 11
✉ ronaldo.catindig@shi-g.com

Energy Conservation

- Epson Philippines Corporation
- Sumitomo Heavy Industries Ltd.
- TOYOTA TSUSHO PHILIPPINES CORPORATION
- Mitsubishi Heavy Industries Ltd. Philippines
- MELCO Factory Automation Philippines Inc. (Mitsubishi Electric)

Business Inkjet Printers
～Heat Free Technology built for the environment～

Epson Philippines Corporation

Up to **85%** less **power** consumption vs laser printers[1]

Up to **85%** less CO_2 generated vs laser printers[1]

Up to **59%** less **replacement** parts vs laser printers[1]

Product and Service outline

- Epson, which has been deeply involved in paper printing, believes that one way to combat the environmental impact is to promote the widespread use of printers that "do not use heat" to eject ink. Epson's Heat-Free Technology ejects ink without using heat, achieves both low power consumption and high productivity with a simpler printing process than laser methods. In addition, there are fewer replacement parts, which contributes to high productivity in offices while reducing the environmental impact.

Actual Result and Example

- We have a sales and service network throughout the Philippines, and our products have been widely adopted by central and local government agencies and private companies.
- We can offer both leasing (Click-charge) as well as outright purchase. When it's time to update your current printer or copier, we encourage you to consider switching to an inkjet printer, which has less of an environmental impact than a laser printer

*1.Tested by Keypoint Intelligence, please contact us for details

Contact Point

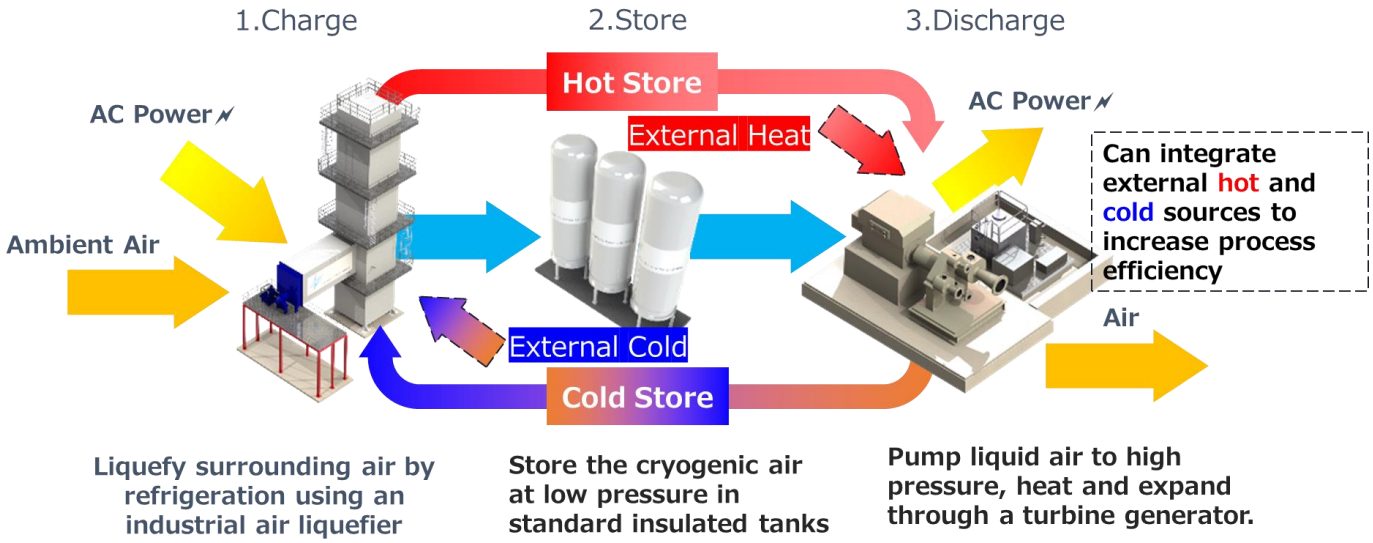
Contact : **Benjamin Villacorta**
☎ +63-917-8790947
✉ benjaminv@epc.epson.com.ph
Website: https://www.epson.com.ph/

Liquid Air Energy Storage（LAES）System
～Utilizing ambient air to secure green sustainable power supply～

Sumitomo Heavy Industries. Ltd.

Product and Service Outline

■LAES Process Flow



■Special Features

1. 30~40 years product lifetime with no performance degradation and no major replacements/overhauls required
2. Utilizing only proven equipment and processes
3. Minimal site limitations
4. Integration with external sources of heat or cold such as LNG terminals to increase efficiency

■Applications

1. Energy Shifting（Intra-day、Inter-day、Weekly storage）
2. Grid Stability Services from AC power（Capacity, Inertia, Frequency support, Voltage support, Reactive power, Spinning reserve）
3. Supporting decarbonization and energy security of off-grid and island grid operations

References

Heathrow（UK）
Startup : 2011
Capacity : 350kW、2.5MWh
Pilot Demo

Manchester（UK）
Startup : 2018
Capacity : 5MW、15MWh
Commercial Demo

Hiroshima（Japan）
Startup : 2025
Capacity : 4.99MW、20MWh
Commercial Demo（inc. LNG terminal integration）

World's first full spec LAES plant. Demonstrating added value gained with cold utilization from integration with LNG terminal*

*Project partner : Hiroshima Gas Co., Ltd.

Contact Point

Sumitomo Heavy Industries, Ltd. (JP)
Energy & Environment Group
Kris Matsuo（Japanese, English OK）
☎ +81 70 1316 3158
✉ kristofer.matsuo@shi-g.com

SHI Designing & Manufacturing, Inc. (PH)
Business Development Section
Ronaldo F. Catindig (Tagalog, English)
☎ +632 8636 6010 to 11
✉ ronaldo.catindig@shi-g.com

CONTINEWM

Electric Utility Expense Reduction with Low Cost and Easy Installation

TOYOTA TSUSHO PHILIPPINES CORPORATION

Product and Service outline

- With plus static electricity charge in air conditioner, [heat exchange efficiency] will be lowering because the air flowing won't become an airflow following the turbulence design, so it will spend some amount of electric power (electric power loss about 20%). By installing [continewm] to the existing air conditioning equipment (AC), the static electricity charge will be decreasing and then the heat efficiency will improve, it can preserve the temperature faster and longer on the set temprerature , and finally, the compressor burden is lowering and that is the idea.
- During installation there is no need to reconstruct the existing equipment, only cleaning will be carried out and the installation or removal is easy. Moreover, after installation, there will be only periodic cleaning without running cost. The product durability will be years and for indoor use, it can be around 10 years (but it is no longer applied if there is a heat or pressure burden and used while bending).

Actual Result and Example

<Japan> some selection
- Denso Co., Ltd
- Totsuka densi Co. Ltd
- Komatsu Co., Ltd
- Nippon mektron Co., Ltd
- Coca cola bottlers Japan Co., Ltd
- Toyota museum
- NTT east Japan Co., Ltd

<Overseas>
- Toyota Motor Europe (Belgium)
- PT. Toyota Motor Manufacturing Indonesia (Indonesia)
- PT. Toyota Tsusho Mechanical & Engineering Service (Indonesia)
- Toyota South Africa Motors
- Aisin Anqing Automotive Parts (China)
- Denso (Changzhou) Fuel Injection System (China)

Contact Point

Contact：

(Japanese・En) Name: Yuichi Sugii
☎ +63-917-517-0032
✉ y-sugii@toyotsu.com.ph

(Tagalog・En) Name: Christian Ebreo
☎ +63-956-842-7800
✉ crebreo@toyotsu.com.ph

Low Carbon Solution for Industry
～EMS, High-Efficiency Power Generator, High-Efficiency Chiller, Waste Heat Power Generator, CO2 Capture Technology～

Mitsubishi Heavy Industries Ltd. Philippines

Product and Service outline

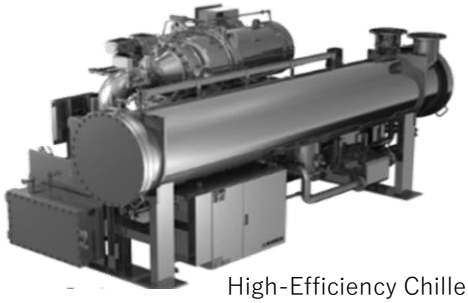
- Mitsubishi Heavy Industries (MHI) Group offers a wide range of technologies and solutions to realize decarbonization and low carbon society (energy transition, energy saving, electrification, CO2 capture, etc.), that meet customer needs.
- CO2 emission reduction has become an important managerial issue for each industry and factory in Philippines. Although, Implementation of rooftop PV system is progressing, it is not necessarily effective depending on conditions such as limitation of power generation capacity and output fluctuation.
- CO2 emission source is different for each industry and factory; therefore, it is the most important to analyze current conditions by each Scope and select appropriate solutions for CO2 reduction. MHI Group supports CO2 emission reduction on each Scope with the following solutions.

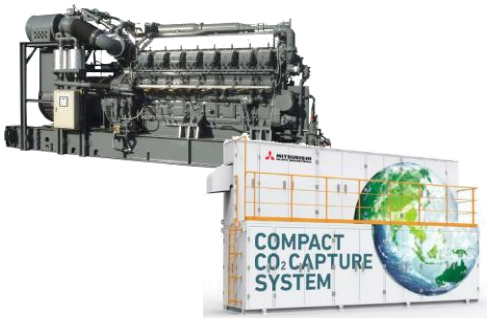
Scope-1 (direct emission) CO_2 capture unit
Scope-2 (indirect emission) Energy saving operation by EMS※1, high-efficiency chiller, high-efficiency power generator by gas engine, power generation by waste heat recovery with ORC※2, steam/hot water production with LHP ※3, and triple hybrid power generator (EBLOX).

- Furthermore, MHI Group offers solutions in view of future utilization of hydrogen and ammonia for in-house power generation.

※1 Energy Management System ※2 Organic Rankine Cycle ※3 Large Heat Pump


EMS (Energy Management System)

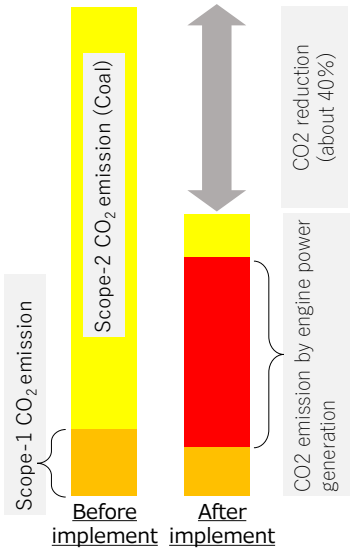

High-Efficiency Chiller



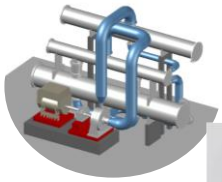
High Efficiency Power Generator
(Gas Engine) / Compact CO2 Capture Unit

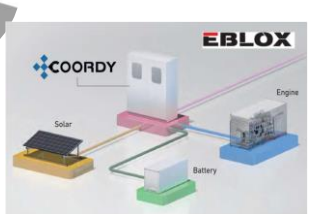
Experience and example

- MHI Group has been offering low carbon solutions that suit diverse needs of various customers .
- The figure on the right shows an example that our customer achieved around 40% of CO2 emission reduction by applying our engine power generation.
- In addition to engine power generation, MHI Group can offer established and reliable technologies and solutions shown below. With these technologies, MHI Group realizes CO2 emission reduction and economical efficiency improvement of customers considering their ICP※5 , an increase of electricity consumption and an introduction of PV system in the future.




Waste Heat Power Generation (ORC)





Large Heat Pump (LHP) / Triple Hybrid
Power Generator (EBLOX)

EMS : Control system used for thermal power plants which MHI Group constructed.
High Efficiency Power Generator/High-Efficiency Chiller : Has a major share in the Japanese market
CO2 Capture : Has top market share in the world, and has constructed world's largest plant in the US
ORC : Abundant delivery records such as geothermal power plants, biomass power plants and waste heat recovery from factory furnace, etc.
LHP : Expanding as a means of heating and waste utilization in Europe.
※5 Internal Carbon Pricing

Contact：

Japanese/English
☎ +639178064068
✉ yasuo.yamaoki.4t@mhi.com

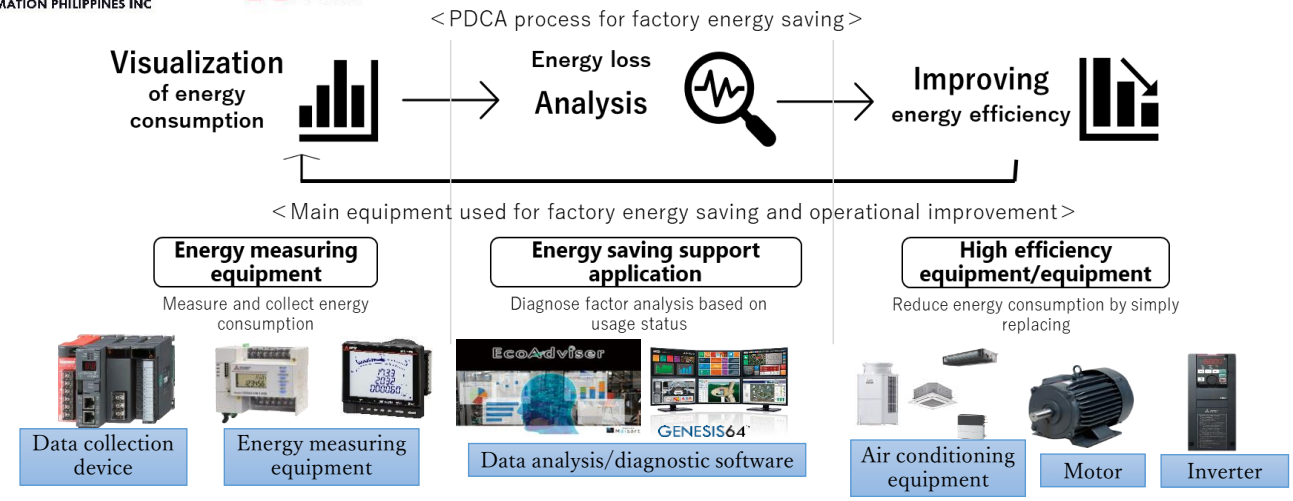
English/Tagalog
☎ +639178064068
✉ jestonnie.abadilla.ty@mhi.com

Energy-Saving Solutions
～Discovering and reducing energy loss for decarbonation～

MELCO Factory Automation Philippines Inc. (Mitsubishi Electric)

MELAP
MELCO FACTORY AUTOMATION PHILIPPINES INC

A Group Company of
MITSUBISHI ELECTRIC



Product and Service outline

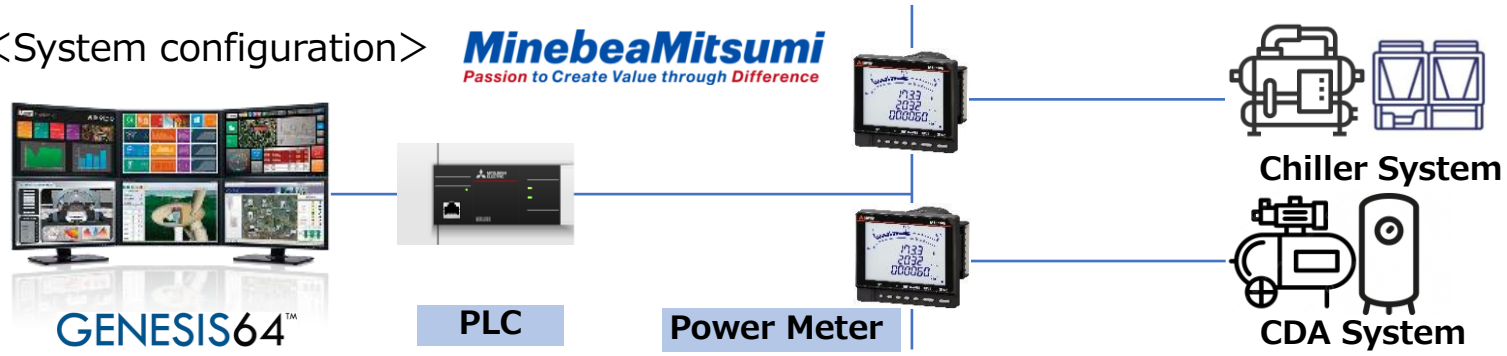
We support the reduction of CO2 emissions by promoting energy conservation in buildings, factories, etc. We have a variety of equipment and applications necessary for this purpose.

Actual Result and Example

■ CEBU MITSUMI, INC. uses our SCADA (GENESIS64) system as an energy monitoring and control system.
Based on the data visualized by this monitoring system, CEBU MITSUMI implemented optimal control of the chiller and clean dry air (CDA) system.
As a result, the system contributed to a reduction in energy consumption of approximately **3.7 million kWh (equivalent to approximately 24 million PHP)** in the 8 months following its introduction.

*CEBU MITSUMI website:
https://www.minebeamitsumi.com/english/corp/company/factories/philippines/1200049_7932.html

<System configuration>



Contact Point

Contact： Japanese - Daichi Ishikawa
☎ +63-917-513-9889
✉ daichi.ishikawa@mitsubishifa.com.ph

English - Sales contact window
☎ +63-02-8256-8042
✉ Sales@mitsubishifa.com.ph

Website： Asia-Pacific | Locations Worldwide | About us | MITSUBISHI ELECTRIC Factory Automation

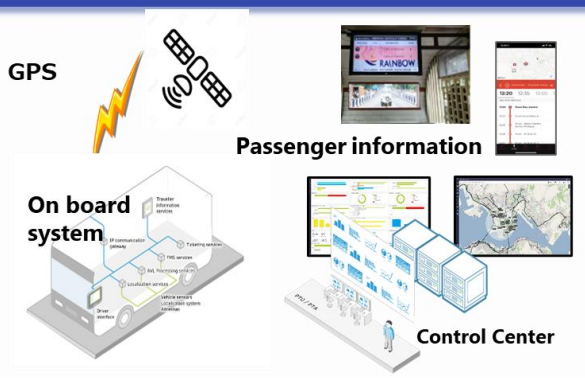
Transportation and Vehicles

- NEC
- Komatsu
- Toyota Motor Philippines Corporation

Smart Transport Solutions
～ for more advanced public transport operation～

NEC Corporation/ NEC Philippines, Inc.

AVL : Automated Vehicle Location



AFC : Automated Fare Collection

Product and Service outline

- AVL (Automated Vehicle Location)
  - GPS based location system, which can provide accurate ETAs for both passengers and Operators.
- AFC (automated Fare Collection)
  - Cashless payment solution, with Usage of IC card / QR code / credit card etc).

Actual Result and Example

- Ongoing project for metro AFC etc.

Contact Point

Contact：

Hikari Goya
✉ h-goya@nec.com

Kenshiro Oishi
✉ kenshiro-oishi@nec.com

Alona Gonzales
✉ alona.gonzales@nec.com.ph

Abigail Valencia
✉ abigail.valencia@nec.com.ph

Website： Transport: Products & Solutions | NEC

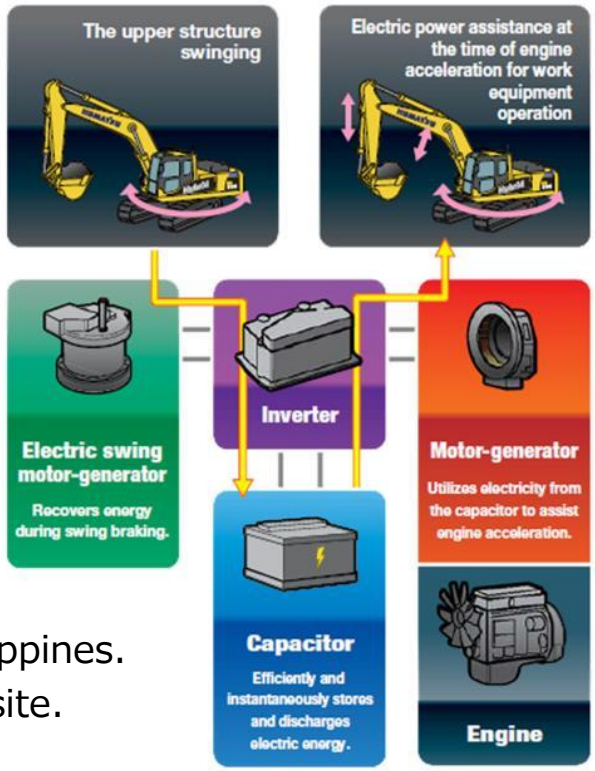
Hybrid Excavator HB365LC-1

～35t class excavator with low fuel consumption / low CO2 emission～

Komatsu Ltd.

Product and Service outline

- **Reduced fuel consumption:** HB365LC-1 is equipped with Komatsu's unique hybrid system. While maintaining performance**, fuel consumption is significantly reduced by 20%** compared to our conventional machines.
- **Electric swing motor convert swing energy into electricity** and store it to capacitor. This electricity is reused to reduce fuel consumption.
- **Motor generator assists engine during acceleration**, and generates power when the capacitor power is depleted.
- Designed for quarry and heavyduty job, **arm and boom has been reinforced**.
- "KOMTRAX" enables user to **check machine operation and condition remotely**.
- No special investment is required**. You can reduce CO2 emission simply by replacing conventional model to hybrid.**



Actual Result and Example

- 16 units has been delivered to jobsite in Philippines. Fuel saving effect has been confirmed at jobsite.

Contact Point

Contact： Komatsu Manila Representative office
Asakura (Japanese/English)
☎ +63-917-117-3266
✉ takeshi_ta_asakura@global.komatsu

All-Encompassing Electric Vehicle Strategy for CN (Carbon Neutral)
～Electrification designed to reginal needs with Multi Pathway～

Toyota Motor Philippines Corporation

Product and Service outline

- Toyota is committed in realizing Carbon Neutral society through continuation of our multi-pathway approach. Taking full advantage of the diverse range of options including GAS, HEV, PHEV, BEV, FCEV,H2 Vehicle and CN fuel vehicles, we aim to achieve global carbon neutrality while leaving no one behind.

- In Philippines, HEV and BEV models are introduced to best cater to the customer characteristics and the local infrastructure. We are focusing on expanding the HEV model to steadily reduce CO2 immediately.

(Center photo: Latest HEV: Corolla Cross HEV / Right: BEV model RZ)

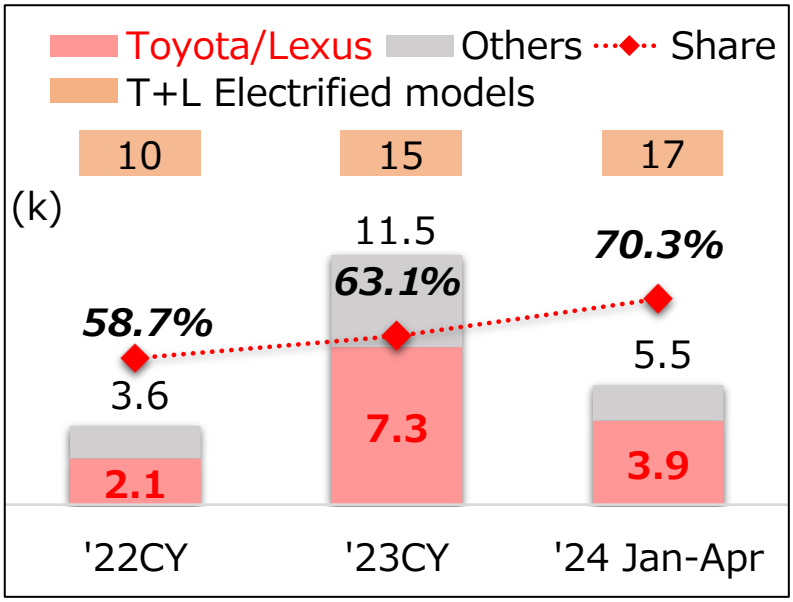
Actual Result and Example

- Industry leading electrified lineup with total of 17 models (15 HEVs and 2 BEVs).

- The electrified market surpassed 11.5K in ’23CY . As of Apr ’24 YTD, Toyota accounts for *70.3%* market share in continuing electrification.

- By 2030, the goal is to achieve 30% of Toyota sales to be electrified.
(Jan-Apr ‘24: 2.6%)

Fig1. Electrified market



Contact Point

Company: Toyota Motor Philippines Corporation
Address: Toyota Special Economic Zone 4026, Santa Rosa-Tagaytay Road, Santa Rosa City, Laguna, Philippines
Website: https://toyota.com.ph/
Contact: masahiro.haoka@toyota.com.ph (Haoka)

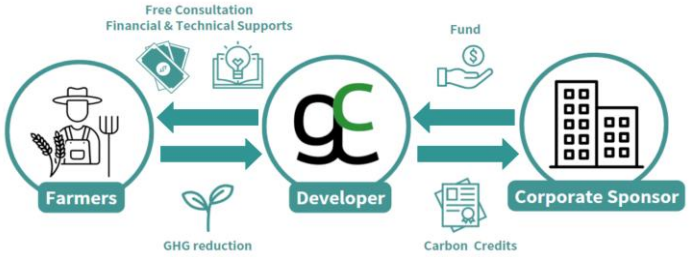
Agriculture and Forestry Sector

- Green Carbon Inc.
- Sagri Co., Ltd.

Carbon Credit Project Development
~Creation of businesses focusing on agricultural and forest-based~

Green Carbon Inc.

Business Models



AWD in paddy fields
Mangrove plantation

*Alternate Wetting and Drying

Product and service overview

- With a corporate philosophy of 'Saving the planet with the power of life', We are responsible for for agriculture and forests related carbon credit.
- We provide one stop service as carbon credit project developer.
- The company plans to be the first in the world to create credits for agriculture, utilizing the Ministry of the Environment's Bilateral Credit Mechanism (JCM), and will contribute to the fight against global warming.
- Also offer ESG consulting services to companies and create credits outside the agricultural and forest sectors.

Achievements and case studies

- 62,000 ha AWD project in Vietnam is on-going.
- In Japan, appr. 40,000ha is being owned, 100,000t of J-credit this year.
- Australia is as Research and development base to reduce methane gas emitted from rice farmers and cattle burping is being conducted in collaboration with various universities in the several Asian countries.
- Aiming to generate 10 million tons of carbon credit by 2026 to achieve 100 Million tons in 2030 through irrigated agriculture, cow burp, biochar, mangrove plantations, etc.

Contact Point

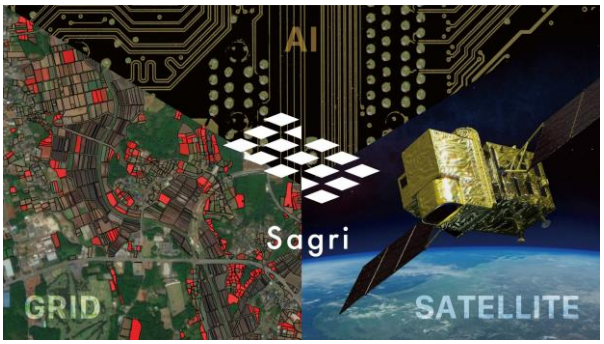
Contact：
Japanese: Takato Senoo
☎ ＋63 917 892 9790
✉ t.senoo@green-carbon.inc

English: Takato Senoo
☎ ＋63 917 892 9790
✉ t.senoo@green-carbon.inc

Website: https://green-carbon.co.jp/

Decarbonization of farmland using satellite and AI
～ Soil analysis, water detection and carbon credit generation

Sagri Co., Ltd



SCAN ME

Product and Service outline

- Utilizing advanced technology in soil analysis and water detection, the farmland decarbonization opportunities will be seized from satellites and AI.
- This data will be available as GHG emissions tracking data that will be shared with stakeholders for large companies.
- These data can also serve as the basis for the generation of carbon credits via carbon farming, and the profit can be shared with farmers after the credits are sold to large Japanese corporations.

Actual Result and Example

- Achieved over 100 customers in Japan
- With the branch in India and Singapore, Sagri has been working in India, Thailand and Vietnam before entering Philippines market. Our customers are agricultural companies, cooperatives and governments.
- In Philippines, Sagri plans to start the pilot of carbon credit with UPLB this year. Also, Sagri already agreed to start pilot test of soil analysis with Department of agriculture this year.

Contact Point

Contact： **Kazuki Sakamoto,** Head of ASEAN Business, Sagri Singapore
☎ +65 8657 8375 (WhatsApp, Viber)
✉ Sakamoto-kazuki@sagri.co.jp
LinkedIn： https://www.linkedin.com/in/kazuk18/
Website ： https://sagri.tokyo

Finance Sector

- Mizuho Bank

ESG Rating Advisory
～ Optimizing Corporate's ESG Rating ～

Mizuho Bank

Product and Service outline

- ESG Rating offers a structural approach to measure corporates' ESG performance and is mainly used by investors to assess and engage with corporates
- Mizuho Bank assists corporate clients to comprehend and improve their performance under various ESG Rating models

(Process of ESG Rating Advisory Service)

Understand client's current ESG efforts and performance	Analyze and identify the gap between client's current ESG performance and requirements of ESG rating agencies	Establish ESG rating enhancement action plan

Actual Result and Example

- Mizuho Bank has provided ESG Rating Advisory to corporate clients in APAC exclude Japan
- ESG Rating Advisory solution is applicable to corporates which have sustainability strategy, track major non-financial dataset, in order to obtain ESG Rating from ESG rating agencies, or optimize their existing ESG Rating
- ESG Rating Advisory solution is only provided in English

Contact Point

Contact： Japaese/English: Kazuki Takefuji, Mizuho Bank, Ltd. Manila Branch
✉ kazuki.takefuji@mizuho-cb.com
Website： https://www.mizuhogroup.com/asia-pacific

Consulting for decarbonization

- Nippon Koei Co., Ltd.
- Fujitsu Limited
- Yuasa Trading (Philippines) Inc.

One-stop consulting services for decarbonization
- Decarbonization business proposals using JCM and public funds -

Nippon Koei Co., Ltd.

No.1 in sales
among civil engineering consulting firms in Japan

Operations in **160 countries**

Over **75 years** in business

Product and Service outline

- Being established in 1946, as an “Engineering Consultant”, involved in various infrastructure project in developing countries (mainly in study/survey, design, Tender Management and Construction Supervision)
- We have been providing consulting services in the field of **climate change and decarbonization**, working with Japanese ministries and other public agencies since the earliest stages of the **JCM (Bilateral Crediting Mechanisms)**.
- We have local office and subsidiary (**Philkoei International, Inc.**) and can provide support in Japan and Philippines. Please contact us for business development, finding local partners, obtaining credits, etc.

Actual Results and Examples

- Founded in 1989, Philkoei International, Inc. has more than **200 professionals and engineers** serving both the public and private sectors
- Surveys, demonstration projects, and subsidized projects related to **JCM**
- **City-to-City Cooperation Program:** collaboration between cities in Japan and abroad, including cities in the Philippines, for decarbonization
- JCM model projects(**subsidy for initial costs of installing equipment**) : 30+ experience, including thermal/solar powers in the Philippines
- **Support for JCM projects** : methodology, project design document (PDD), project registration, monitoring report (MR), and credit issuance
- **Survey for obtaining carbon credits**, including JCM (multiple track record in the Philippines)
- F/S studies, pilot projects related to carbon credits

Contact Point

Contact： Philippines: Nippon Koei Manila Office
Buntaro Shiono (Mr.), Acting Chief Representative
☎ +63-(0)929-972-3572
✉ shiono-bn@n-koei.jp

Japan- Nippon Koei Co., Ltd.
Intl. Environment Dept, Climate Change Group
✉ nk-jcm@n-koei.co.jp

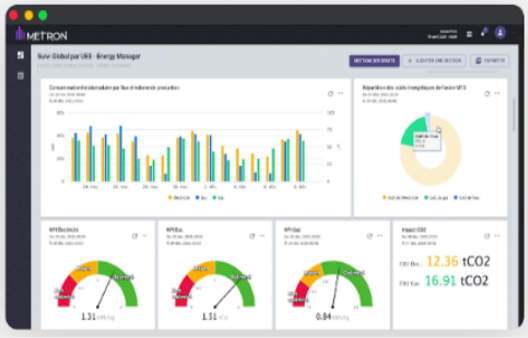
Website: https://www.n-koei.co.jp/consulting/

Fujitsu Energy Consumption Optimization
~Supporting Data Collection, Visualization, Analysis, and Optimization~

Fujitsu Limited

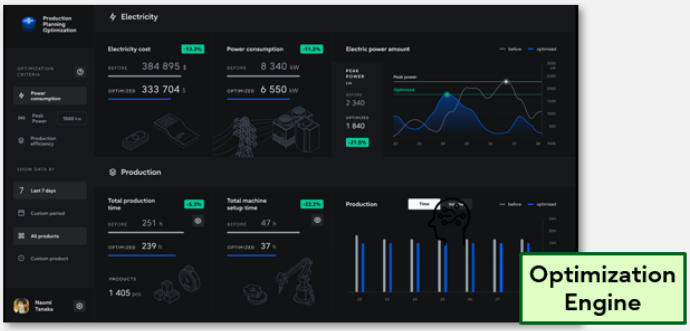
Contributing to Carbon Neutrality by Reducing GHG Emissions

A. Energy Visualization & Analysis



1. Understanding Energy Consumption in Factory Facilities
2. Monitoring, Analysis, and Improvement Proposals

B. Balancing Efficiency & Energy Use in Production



3. Rapidly Formulating Production Schedules that Balance QCD Maintenance/Improvement and Energy Cost Minimization

Product and Service outline

We provide an end-to-end energy consumption optimization service that supports data collection, visualization, analysis, and optimization for factories and offices in all industries.

1. **Energy Visualization SaaS:** This SaaS service visualizes, manages, and analyzes detailed energy information used in factories and other facilities. By leveraging this service, you can grasp and analyze the balance between energy consumption reduction and production efficiency improvement.
2. **Energy Optimization Consulting:** We support data collection methods, identification of energy hotspots, optimization of energy use, and development of energy roadmaps.
3. **Production Schedule Optimization:** Utilizing Fujitsu's "Digital Annealer" technology, inspired by quantum phenomena, we can create optimal production schedules that balance energy consumption and productivity.

Actual Result and Example

Steam Network Optimization for Food Factories:

- Reduced steam consumption by approximately 9% per year
- Reduced CO2 emissions by approximately 1,200 tons per year
- Reduced workload by approximately 2 person-days

Production Schedule Optimization for Steel Pipe Processing Factories:

Based on simulation results, simultaneously reduced power consumption and total production time by approximately 5-8%

Contact Point

Fujitsu Limited
Email Address: fj-sxeco-contact@dl.jp.fujitsu.com

Yuasa Carbon Neutral One-Stop Solution
~We provide one-stop support for corporate decarbonization~

YUASA TRADING (PHILIPPINES) INC.

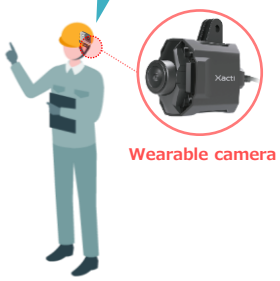
"YUASA one-stop solution for achieving carbon neutrality"

1. Managing of CO2 emissions → 2. CO2 reduction targets → 3. Plan and Action

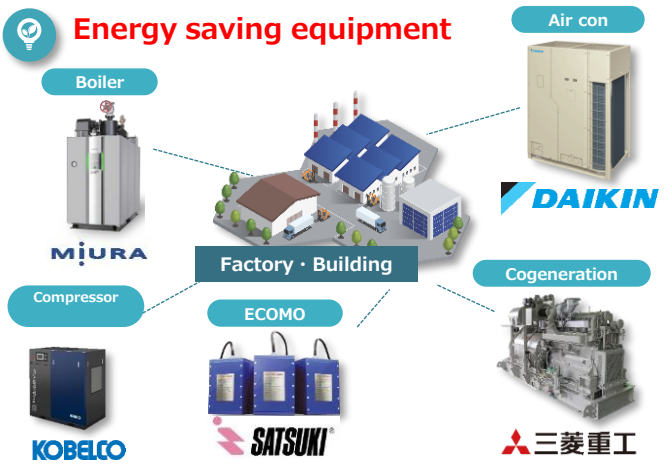
Energy saving(Co2) diagnosis

- Pre-hearing
- Field survey
- Discovery of issues
- Result report
- Equipment renewal

Diagnosis using a wearable camera! !



Energy saving equipment



Renewable energy(solar power equipment)

▪ Regarding self-consumption type solar power generation equipment, We can support you from design to installation.

Rooftop

Field

Carport

▪ Proposals for Storage battery systems

✓As an emergency power

✓ Reducing electricity costs through peak cuts

▪ Choosing a deployment scheme

- ✓ PPA model
- ✓ Lease
- ✓ EPC

We can propose an implementation scheme tailored to your needs.

Product and Service outline

- Energy saving/CO2 reduction diagnosis: **A specialized Japanese team will conduct** an on-site survey using cameras.
- We can provide **one-stop** proposals for carbon neutrality.
- We can handle everything from detailed design and simulation to on-site construction.
- We can support equipment installation by **utilizing the JCM system**.

Actual Result and Example:JCM System Utilization Examples

partner country	Thailand
Business year	2016
Industry	Precision parts
Equipment	Air-con control System
Planned CO2 reduction amount	2,493 tCO2/year

partner country	Mexico
Business year	2023
Industry	Auto parts
Equipment	Solar power generation system
lanned CO2 reduction amount	392 tCO2/year

Contact： Japanese/English:Mr.Sudo
☎ +63-2-8845-2036
✉ sudo@yuasa.ph

Website: https://www.yuasa.co.jp/

This business catalog is published on the website of the Japan External Trade Organization (JETRO) Manila Office.

Inquiries regarding this catalog

Japan External Trade Organization (JETRO) Manila Office
MLA@jetro.go.jp

Disclaimers:

- Information in this catalog is valid as of the published date and is subject to changes any time after its publication.
- JETRO will not be held responsible for any losses or damages arising directly and indirectly from the use of this catalog or any information thereof.
- Any form of diversion or appropriation of this catalog to a third part for the purpose of profit is prohibited.