

# Energy Saving Business Matching

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THURS. 17<sup>TH</sup> FEBRUARY – FRI. 18<sup>TH</sup> FEBRUARY 2022

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# Azbil Philippines Corporation

URL: <http://ph.azbil.com/>

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## **Product/Technology to be introduced** **ENE-OPT for Air-Compressor**

### **Application**

Automatically control the number of compressor to optimize factory air consumption

### **Counterpart we would like to meet with through matching**

[Distributors]

[Engineering Company]

[End-Users] Manufacture Factory(Related Car Manufacture, Chemical, food, steel company)

[Others]

### **Sales results in Japan and in the Philippines or Overseas**

[Sales results in Japan]

We already installed 140 systems in Japan factory

[Sales results in the Philippines or outside Japan]

In Philippines we have one system in the past three years, We have experience Indonesia, Malaysia, Thailand

Product/Technology:

# ENE-OPT for Air-Compressor

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## Features and Superiority

- **Reasonable cost.** No need replace old compressor.
- **Fully Automatically.** Reduce cost for operator

## Unique technology behind features

- **Energy Saving that match the production schedule.** Operation automatically matches the production schedule for weekdays, holidays, and production start time. In addition to compressor operating status, settings for pressure, wait time between unloading and shutdown, etc. can also be scheduled.

## Quantitative effect by application of this product or technology

- Can be **reduce roughly 10 % of power consumption** per unit according to the result among customers in Japan.

# Azbil Philippines Corporation

URL: <http://ph.azbil.com/>



## Product/Technology to be introduced

# ACTIVAL+<sup>TM</sup>

### Application

This is unique energy valve.

Motorized two-way valve with Flanged-end connection and Valve / actuator integrated type.  
this has both function proportional control of valve and measuring flow rate.

### Counterpart we would like to meet with through matching

[Distributors] Cost consultants, Design consultants.

[Engineering Company] Design company

[End-Users] Land Developer, Building owner

[Others] Companies who are interested in energy saving devices.

### Sales results in Japan and in the Philippines or overseas

[Sales results in Japan]

Sales more than 7,000pcs per year. Cumulative sales results more than 60,000pcs.

[Sales results in the Philippines or outside Japan]

Cumulative sales results more than 400pcs in outside Japan.

## Product/Technology: **ACTIVAL PLUS**

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### **Features and Superiority**

Achieves maximum energy consumption of pump more than PICV.

Compact and lightweight.

Valve and actuator integrated in a single unit.

Conforms to IP54.

A variety of control input signals available.

Durable actuator with low power consumption.

Equal percentage flow.

Easy communication and record the data into BMS.

### **Unique technology behind features**

Built in pressure sensor in the valve.

The appearance and shape are the same as the normal valve.

Realization of downsizing and saving installation cost without the appearance and shape are the same as the normal valve. Enable accurate flow rate measurement because of not affected chilled water flow rate.

### **Quantitative effect by application of this product or technology**

Verified chilled water pump consumption 25% saving at the summer in our company factory.

# Enebloom Inc.

Representative: Mr. Masayoshi Ito



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## **Product/Technology to be introduced**

- Heat Exchanger Tube Cleaning System
- The system inject sponge balls which clean the tubes and totally avoids scale.

## **Application**

- Saving on Water cooled turbo chiller to energy consumption about 20% and more.
- Reduce maintenance and chemicals cost.

## **Counterpart we would like to meet with through matching**

End-Users] Factory, building, Shopping mall, Hospital, School,  
[Distributors] Heat Exchanger chiller , Energy saving products  
[Engineering Company] Heat Exchanger installer.

## **Sales results in Japan and in the Philippines or Overseas**

[Sales results in Japan]

- Over 100 systems in Japan.

[Sales results in the Philippines or outside Japan]

- Already installed 5 customer on Japanese factory in Philippines.

Product/Technology:

# Heat Exchanger Tube Cleaning System

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## Features and Superiority

- Circulate Sponge balls through system for condenser tubes

## Unique technology behind features

- The system inject sponge balls which clean the tubes and totally avoids scale.
- Less moving parts = higher reliability.
- No moving parts in the ball trap means absolutely no sponge balls are lost.

## Quantitative effect by application of this product or technology

- Energy savings of up to 20%
- With opportunities for utility rebates, our technology offers rapid financial returns
- Automation replaces manual chiller tube cleaning reducing operating costs.
- Improved chiller performance reduces carbon emissions and increases sustainability.
- Extension of capital equipment life-cycle.



# Enebloom Inc.

Representative: Mr. Masayoshi Ito



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## **Product/Technology to be introduced**

- Mold cooling pipe cleaning machine. No chemicals required for cleaning.
- Electrolysis of general water with special high frequency "Anti-Ruster" of water quality reformer and a device that converts water into working water (functional water) by using a unit combined with a pump.

## **Application**

- Reduce chemical costs for chemical cleaning .
- Easy to clean the water pipe of the mold.
- Reduce defects in molded products.

## **Counterpart we would like to meet with through matching**

End-Users] Plastic injection molding factory.

[Distributors] Molding , Injection machine

[Engineering Company]

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

- Over 40 systems in Japan.

[Sales results in the Philippines or outside Japan]

- Already installed 6 customers on Japanese factory in Philippines.

Product/Technology:

# Mold Cooling Pipe Cleaning Machine

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## Features and Superiority

- Electrolysis of general water with special high frequency “Anti-Ruster” of water quality reformer and a machine that converts water into working water (functional water) by using a unit combined with a pump.

## Unique technology behind features

- In case of injection molding, the temperature control chiller and mold on the secondary side can be cleaned at the same time.
- Oil coolers can be cleaned without removing from the die cast machine body.
- In case of using a water softener, the clumps of silica and red rust are not completely blocked.

## Quantitative effect by application of this product or technology

- Removing completely the dirt penetrated into molds with the mold cleaning machine that not only recover molds to nearly new, but also prevents molds from corroding.

# Enebloom Inc.

Representative: Mr. Masayoshi Ito



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## **Product/Technology to be introduced**

- Deep UV-LED ( Ultra Violet LED ) Water Purifier

## **Application**

- Beyond the Mercury Lamp.
- Long life time
- Environmental friendly
- Downsizing equipment

## **Counterpart we would like to meet with through matching**

[End-Users] Factory, building, Shopping mall, Hospital, School, Oyster farm, Pearl farm, Livestock farm , Sterilize well water for drinking water

[Distributors]

[Engineering Company] Water treatment

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

- Over 100 systems in Japan.

[Sales results in the Philippines or outside Japan]

Product/Technology:

# Deep UV-LED Water Disinfection System



## Features and Superiority

- Deep UV-LED ( Ultra Violet LED ) Water Purifier .

## Unique technology behind features

- Long operation life(> 10,000hrs)
- Instant start time
- Space saving/Simple Installation
- No heat effect
- No resistant bacteria
- No ozone, chemical and mercury
- Compact design

## Quantitative effect by application of this product or technology

- Beyond the Mercury Lamp.
- Long life time
- Environmental friendly
- Downsizing equipment

# Extech Corporation

URL: <https://www.extech.co.jp/>



## **Product/Technology to be introduced**

A power-saving device “SHIGA SAVER” specialized in reducing power consumption of motors

## **Application**

Completely different from conventional power-saving technologies, such as demand control systems or invertors. This is the world's first power-saving device to reduce power consumption of motors without changing its speed.

## **Counterpart we would like to meet with through matching**

[Distributors] Seeking a company that will sell “SHIGA SAVER” in the Philippines.

[Engineering Company]

[End-Users]

[Others]

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

Over 300 installations in the past seven years.

Retail price per unit is several million Japanese yen (JPY) to 30 million JPY depending on the capacity of transformer.

[Sales results in the Philippines or outside Japan]

This product has never been sold in the Philippines yet.

Seeking a distributor who will promote sales of the product in the Philippines with us.

Product/Technology:  
**Power-Saving Product**  
**SHIGA SAVER**



### **Features and Superiority**

SHIGA SAVER needs to be connected to each transformer. All the motors connected to the transformer can reduce the power consumption. Just connect SHIGA SAVER to a breaker, and it can be installed in a few hours without changing existing facilities. Low running costs and No maintenance required.

### **Unique technology behind features**

Patented in Japan, the U.S., China, Taiwan, and Korea.

### **Quantitative effect by application of this product or technology**

Once SHIGA SAVER is connected to a transformer, all the motors connected to the transformer reduce its power consumption.

According to results of our customers in Japan, 5 to 10% of the power consumption of motors can be reduced.

- Facility : 4,692,000 kWh/year  $\Rightarrow$  4,274,412 kWh/year Reduction rate: 8.9%
- Supermarket : 905,781 kWh/year  $\Rightarrow$  806,145 kWh/year Reduction rate: 10.1%
- Industrial waste treatment facility : 1,395,636 kWh/year  $\Rightarrow$  1,209,720 kWh/year Reduction rate: 13.3%

# H&S Promotion Inc.

URL: <http://www.hs-p.co.jp/>



## **Product/Technology to be introduced**

The area between air and heat exchanger will be bigger with CONTINWEM, then the heat exchanger's performance will be improved.

## **Application**

Air conditioner, refrigerator

## **Counterpart we would like to meet with through matching**

[Distributors]

[Engineering Company]

[End-Users] Mall, BPO, Bank, Hospital, Chain Store

[Others]

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

Tokyo Depart., Tokyo Electrical construction, Tesco Inc. which are direct customers of the manufacturer.

[Sales results in the Philippines or outside Japan]

Nothing, under trial.

# Product/Technology: **CONTINEWM**



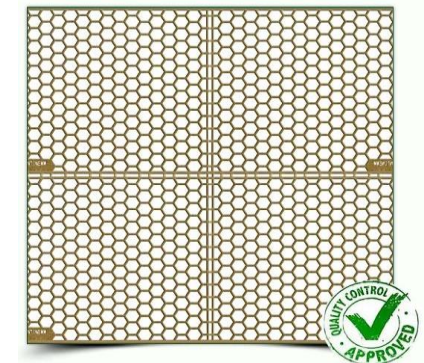
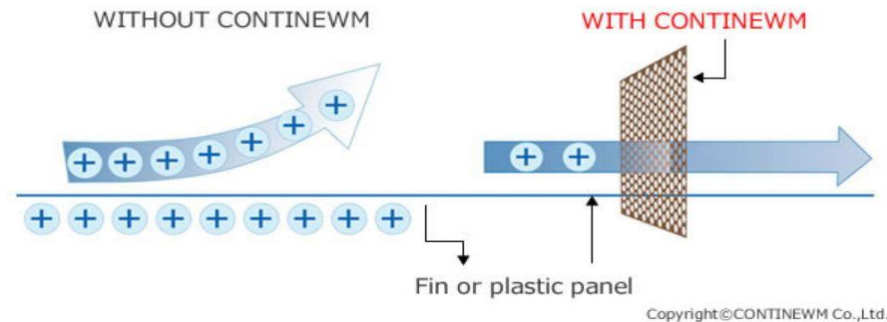
## **Features and Superiority**

The performance of the heat exchanger will be improved, and maintenance free.



## **Unique technology behind features**

CONTINEWM suppress the generation of static electricity, as a result, the performance of the heat exchanger will be improved.



## **Quantitative effect by application of this product or technology**

CONTINEWM can save about 20% of air conditioner's energy consumption, and ROI is almost 3 years or shorter.



## Product/Technology: **ECOMO**



### **Features and Superiority**

ECOMO is a new power saving unit which utilizes tourmaline and has no similar, no competitive products. By installing it on a transformer or breaker, the power consumption of the entire factory and/or office building is reduced.

ECOMO itself requires no power and power, is safe and is a maintenance-free product.

Installation is possible in about 30 minutes, and relocation is easy.



### **Unique technology behind features**

The piezoelectric effect creates free electrons from the internal tourmaline, which improves the flow of electricity and reduces power loss, thus reducing power consumption. In addition to the waterproof, it is coated with impact resistance, abrasion resistance, rust prevention, and chemical resistance, so you can use it at ease. We have obtained a patent in Japan.

### **Quantitative effect by application of this product or technology**

ECOMO can reduce the electricity consumption of the entire facility by 5 to 15%. Return on investment(ROI) is expected to be 3-5 years. The design life is guaranteed for 15 years and the quality guarantee period is 7 years, so you can use it at ease, for a long time.

# iFORCOM Co.,Ltd.

URL: <https://www.iforcom.jp/>



## **Product/Technology to be introduced**

**ecopro21**

Solution for Energy Saving

## **Application**

Visualization System &  
Energy Saving Consulting

## **Counterpart we would like to meet with through matching**

[Distributors] Companies with sales access to the office buildings, factories, malls, schools and hotel industries.

[Engineering Company] Company that can do construction in the Philippines.

[End-Users] Mall, Hotel, School, Factory, Office Building.

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

Introduced more than 2500 facilities in Japan

[Sales results in the Philippines or outside Japan]

Introduced hotels and factories in the Philippines. Other countries: Indonesia, Thailand, Vietnam

## Product/Technology: **ecopro21**



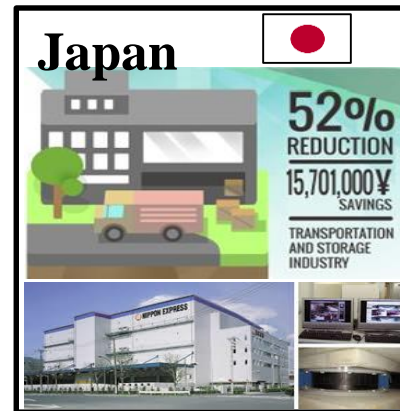
### Features and Superiority

Before taking any energy saving action, run an analysis to estimate how much we can save.

### Unique technology behind features

After analyzing the operating status of the air-conditioning equipment of the installed facility, ecopro21 (1) energy efficiency improvement by tuning the equipment and creating rules for operation (equipment operation improvement) and (2) energy efficiency improvement using monitoring technology and automatic control technology (equipment) (Automatic control) realizes optimum energy saving according to regional characteristics and user needs. By utilizing energy-saving technology that can be introduced regardless of the type of building or equipment of a specific manufacturer, and operational rules that exert an energy-saving effect without affecting the productivity and organizational structure of the installed facility. It is possible to design and build an optimal energy conservation promotion platform in the region.

### Quantitative effect by application of this product or technology



# MIURA SINGAPORE CO Pte.Ltd.

## Philippine Branch

[URL:http://miurasingapore.com.sg/](http://miurasingapore.com.sg/)

The Best Partner of  
Energy, Water and Environment



### **Product/Technology to be introduced**

High-efficiency one-through Steam Boiler ,Water treatment equipment and Miura Intelligence Flexibility System

### **Application**

Heating, Boiling, Drying, Sterilization, etc.

### **Counterpart we would like to meet with through matching**

[Engineering Company]

[End-Users] Beverage and Brewery, Pharmaceutical company

[Others] Companies using steam boiler

### **Sales results in Japan and in the Philippines or overseas**

[Sales Steam Boiler results in Japan]

Installed Boiler 114,938 units

Sales Result 5,560 units (2019)

[Sales results in the Philippines or outside Japan]

Philippines	Installed Boiler	128 units
	Sales Result	16 units (2019)

Outside Japan	Installed Boiler	33,309 units
	Sales Result	3,280 units (2019)

Product/Technology:

## **One-through steam boiler : SI series**

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### **Features and Superiority**

Small Water quantity held leads to quick start-up and low losses

Low heat losses due to compact size

Boiler Efficiency : 98%(Gas) , 95%(Oil)

### **Unique technology behind features**

Advanced microcomputer-driven boiler control technology offers easy operation

Features various AI functions for real-time notifications of effective data for Maintenance and energy savings

### **Quantitative effect by application of this product or technology**

Saving energy and reducing CO2 emissions and space-saving

High degree of safety

## Product/Technology: **Water Softener : MW series**

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### **Features and Superiority**

MW water softener is designed to deliver a more consistent, highly softened water supply  
24-hours continuous water service

### **Unique technology behind features**

Conservation of regenerating salt through split-flow regeneration  
Function for evaluating regenerating salt concentration  
Function for adjusting amount of regenerating salt

### **Quantitative effect by application of this product or technology**

Saving salt and water  
Sustain the boiler efficiency

Product/Technology:

# Miura Intelligence Flexibility System : ER series

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The Best Partner of  
Energy, Water and Environment

**MIURA**

## **Features and Superiority**

Real-Time monitoring  
Alarm monitoring & History  
Automatic Report Generation  
Historical Trend

## **Unique technology behind features**

PLC Host Communication(Optional)

The system automatically collects the operation status of equipment that has a MIURA controller and management data including reports.

The information of MIURA equipment can be easily imported into the customer's own system.

## **Quantitative effect by application of this product or technology**

Measurement and recording can be performed automatically without human intervention.

# Nippon Paper Trading Co., Ltd.

URL: <https://www.nptjapan.com/english/>



## **Product/Technology to be introduced**

LUMINOUS THERMAL INSULATION

HEAT SHIELDING, PAINT

Temperature control, Creation of comfortable milieu, Realization of energy-saving

## **Application**

Construction, Manufacturing, Logistics, Laboratories etc.

## **Counterpart we would like to meet with through matching**

[Distributors] Possessing sales channels to painting companies or distributing painting materials to construction industries

[Engineering Company] Running plant facilities or maintaining those, general contractor

[End-Users] Handling temperature-sensitive products in manufacturing, logistics and labs. Running large-scale business that want to reduce the cost for AC permanently.

## **Sales results in Japan and in the Philippines or overseas**

[Sales results in Japan]

\*500 pails/month

\*Manufacturing, logistics etc.

[Sales results in the Philippines or outside Japan]

\*300 pails/month

\*Temple, manufacturing, logistics etc.



## Product/Technology: **LUMINOUSTAR**



### **Features and Superiority**

1. Heat shielding (92.7% solar reflection : WHITE color)
2. Thermal insulation
3. Temperature control from ENERGY-SAVING point of view.
4. Adhesive (4 times the adhesion force of JIS standard and can be used for a long time.)
5. Elastic (250% elasticity, hard to crack and follow the crack on the wall when painting. Be able to paint for rounded objects such as helmets, tanks and so on. )
6. Durable from ECONOMIC point of view. ( JIS K 5,600-7-7 Accelerated Weather Resistance Test Achieves Over 5,000 Hours )

### **Unique technology behind features (We can provide SDS, TDS.)**

1. Test report from Japan Paint Inspection and testing Association. \*Please check the tables of the end of this slide.

### **Quantitative effect by application of this product or technology**

1. Efficiency improvement of AC. Actual Value : 3 to 5°C  
\*Reduction ratio : 20% - 40% (Heating), 30% - 40% (AC)



# ルミナスター

Heat shielding  
thermal insulation  
temperature control

Creation of comfortable milieu  
realization of energy-saving

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EARTH-FRIENDLY  
MULTIFUNCTIONAL PAINT

KEEP COOL IN SUMMER  
KEEP WARM IN WINTER

Nippon Paper Trading Co., Ltd.

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3. Temperature differences between normal paint and heat shielding paint
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5. Retrenchments and Differences of application process
6. Result table by Japan Paint Inspection and testing Association

# 1. Functions and Effects of Luminoustar

## ~ LUMINOUSTAR \*6 Major Functions ~

### ENERGY-SAVING

#### HEAT SHIELDING

Reflecting thermal energy from solar light,  
preventing temperature increase of building.  
Solar radiation reflection rate  $\geq 92\%$   
(WHITE)

#### THERMAL INSULATION

Efficiency improvement of AC  
Actual Value : 3 to 5°C

#### TEMPERATURE CONTROL

Keep room cool and warm  
Also for dew drop

### ECONOMY

#### ADHESIVE

Four times as JIS standard  
For all types of undercoats  
with strong adhesiveness

<<Hardly peeled>>

#### ELASTIC

250% elasticity  
Cover cracks

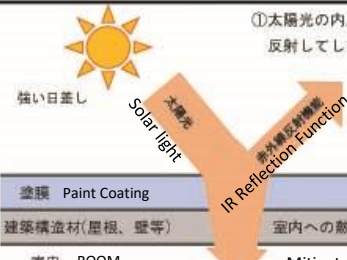
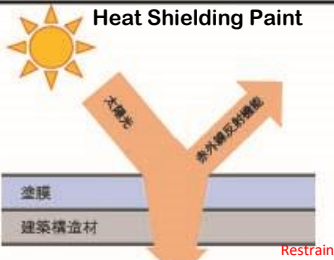
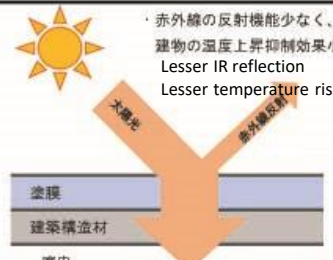
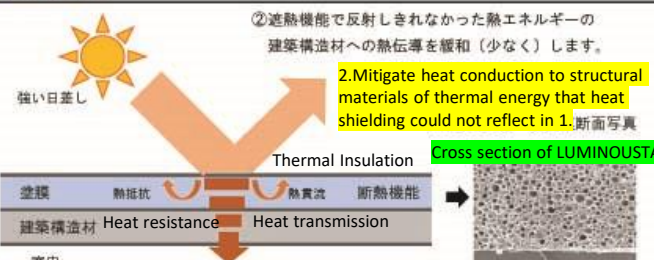
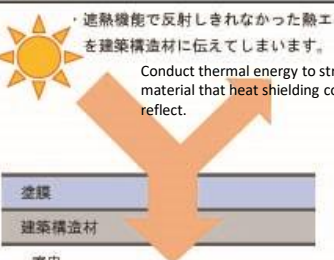
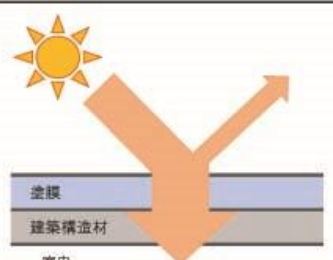
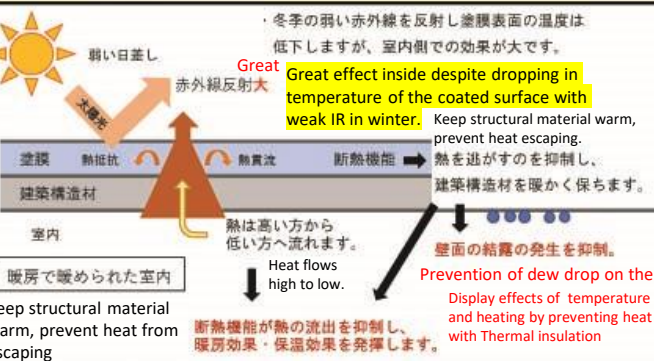
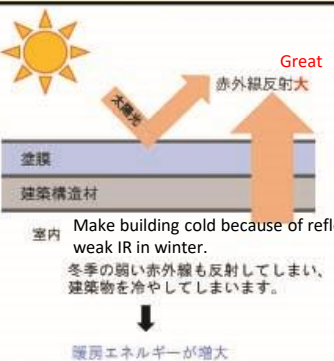
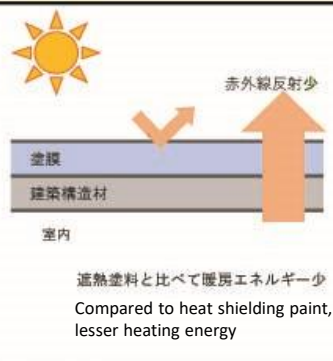
<<Hardly cracked>>

#### DURABLE

Weather resistance test  
5,000 hours  
Durability : More than 15 years

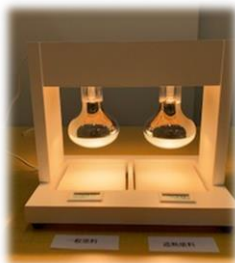
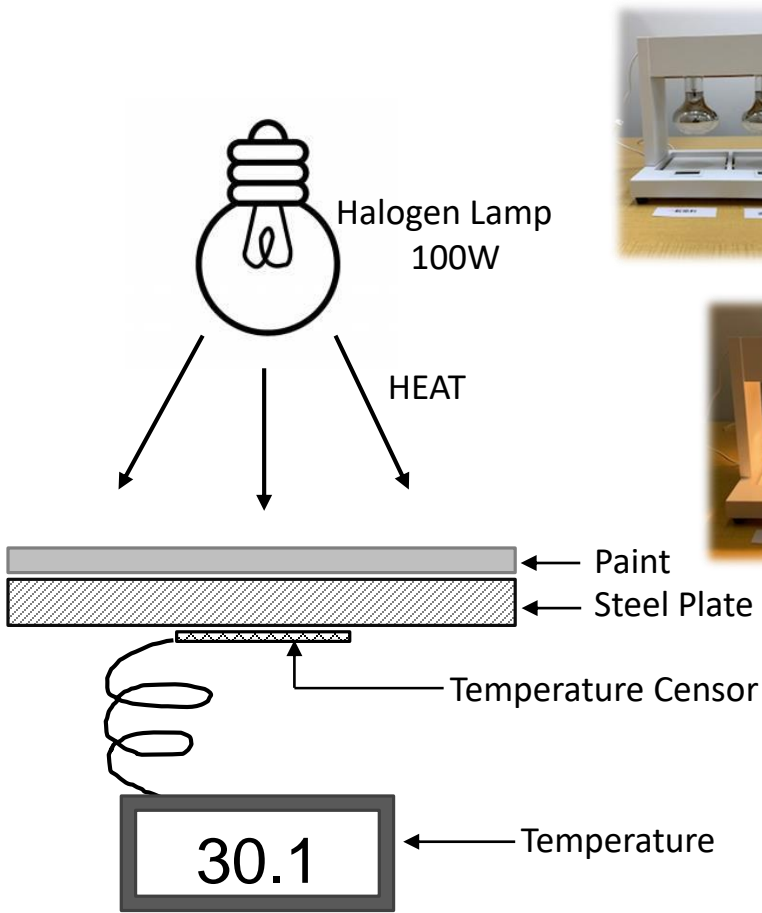
<<Prolonging life of building>>

## 2. Comparisons of each paint material (Normal, Heat shielding and Luminoustar)

	遮熱断熱塗料（ルミノスター） LUMINOUSTAR	遮熱塗料 Heat Shielding Paint	普通塗料 Normal Paint
夏季の遮熱機能 Heat Shielding Summer	 <p>①太陽光の内、熱に変わる赤外線を熱に変わる前に反射してしまい、建物の温度上昇を抑制します。</p> <p>1. Restrain temperature increase and reflect solar light before IR turns into heat</p> <p>塗膜 Paint Coating 建築構造物(屋根、壁等) 室内 ROOM</p> <p>室内への熱エネルギーの流入緩和 Mitigate inflow of thermal energy into room</p>	 <p>大日光 太陽光 赤外線反射機能</p> <p>塗膜 建築構造物</p> <p>室内</p> <p>Restrain temperature rise inside and save energy for AC</p>	 <p>大日光 太陽光 赤外線反射</p> <p>塗膜 建築構造物</p> <p>室内</p> <p>赤外線の反射機能少なく、建物の温度上昇抑制効果小さい。 Lesser IR reflection Lesser temperature rise prevention</p>
EFFECT 効果	室内の温度上昇抑制、冷房エネルギー抑制 Restrain temperature rise inside and energy for AC	室内の温度上昇抑制、冷房エネルギー抑制	室内への熱エネルギー流入大、冷房エネルギー大 Greater inflow of thermal energy, greater consumption of energy for AC
夏季の断熱機能 Thermal Insulation Summer	<p>断熱機能有り With Thermal Insulation</p>  <p>②遮熱機能で反射しきれなかった熱エネルギーの建築構造物への熱伝導を緩和（少なく）します。</p> <p>2. Mitigate heat conduction to structural materials of thermal energy that heat shielding could not reflect in 1. 断面写真</p> <p>Thermal Insulation 塗膜 熱抵抗 熱貫流 断熱機能 建築構造物 Heat resistance Heat transmission 室内</p> <p>Cross section of LUMINOUSTAR</p>	<p>断熱機能無し No Thermal Insulation</p>  <p>・遮熱機能で反射しきれなかった熱エネルギーを建築構造物に伝えてしまいます。 Conduct thermal energy to structural material that heat shielding could not reflect.</p> <p>塗膜 建築構造物 室内</p>	<p>断熱機能無し No Thermal Insulation</p>  <p>塗膜 建築構造物 室内</p>
効果	①遮熱+②断熱の効果により室内の温度上昇抑制効果がより大きくなる。 冷房エネルギー抑制大 Owing to 1. and 2., greater temperature rise prevention	効果なし No effect (遮熱機能のみの効果) (Effect only heat shielding)	効果なし No effect
冬季の断熱効果 Thermal Insulation Winter	 <p>・冬季の弱い赤外線を反射し塗膜表面の温度は低下しますが、室内側での効果が大きいです。</p> <p>Great effect inside despite dropping in temperature of the coated surface with weak IR in winter.</p> <p>Keep structural material warm, prevent heat escaping. 熱を逃がすのを抑制し、建築構造物を暖かく保ちます。</p> <p>室内 暖房で暖められた室内 Keep structural material warm, prevent heat from escaping</p> <p>断熱機能が熱の流出を抑制し、暖房効果・保温効果を発揮します。</p> <p>壁面の結露の発生を抑制。 Display effects of temperature control and heating by preventing heat outflow with Thermal insulation</p>	 <p>・冬季の弱い赤外線も反射してしまい、建築物を冷やしてしまいます。</p> <p>Great Great</p> <p>Make building cold because of reflecting weak IR in winter.</p> <p>室内 暖房エネルギーが増大</p>	 <p>・冬季の弱い赤外線も反射してしまい、建築物を冷やしてしまいます。</p> <p>Great Great</p> <p>Make building cold because of reflecting weak IR in winter.</p> <p>室内 暖房エネルギーが増大</p>
効果	暖房エネルギー削減・結露抑制 Mitigation of heating energy and dew drop	暖房エネルギー増大	暖房エネルギー大 Greater consumption of heating energy
その他効果	消音効果（パチンコ店で10db低減）・防水効果 Noise reduction, water resistance	Much greater consumption of heating energy	

3. TEMPERATURE differences between normal paint and heat shielding paint

< TEMPERATURE COMPARISON >



Beginning

NORMAL

24.4°C

HEAT  
SHIELDING

24.4°C

3 Minutes later

73.1°C

66.0°C

【7.1°C】

Difference

5 Minutes later

77.8°C

71.3°C

【6.5°C】

Difference



## 4. Temperature differences between Luminostar and heat shielding paint

HOT



Beginning

LUMINOUSTAR HEAT SHIELDING

26.1°C

25.8°C



3 Minutes later

55.2°C

66.6°C

< 14.4°C >  
Difference



5 Minutes later

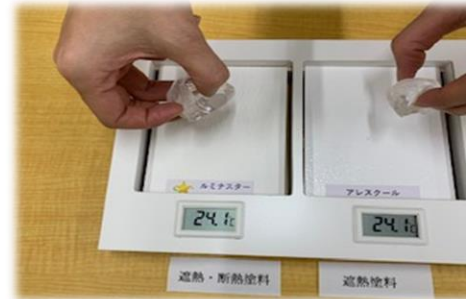
59.3°C

71.7°C

< 12.4°C >  
Difference

COLD

(Ice on the temperature sensor)



Beginning

LUMINOUSTAR HEAT SHIELDING

24.1°C

24.1°C



30 Seconds later

15.8°C

8.0°C

< 7.8°C >  
Difference



1 Minute later

10.7°C

3.0°C

< 7.7°C >  
Difference

## 5. Retrenchments and Differences of application process

- Differences of application process compared to other companies

— Unneeded ○ Needed △ As needed

Undercoat	Process	LUMINOUSTAR	Company K	Company G	Heat shielding paint
<u>Water Unabsorbent</u>  Steel Plate ECP (ASULOCK) PC Concrete Coating film not degraded Metal – siding etc.	Primer / Sealer First coat Second coat Finish coat Top coat	— — ○ ○ △  2 – 3 process	— ○ ○ ○ △  3 – 4	○ ○ ○ ○ △  4 - 5	○ — ○ ○ △  4 – 5 OR 3 - 4
<u>Water Absorbent</u>  Mortar Concrete ALC Ceramic – siding etc.	Primer / Sealer First coat Second coat Finish coat Top coat	○ — ○ ○ △  3 - 4	○ ○ ○ ○ △  4 - 5	○ ○ ○ ○ △  4 - 5	○ — ○ ○ △  3 - 4 OR 4 – 5

### ☆Half application process

**LUMINOUSTAR : Retrench 1-2 processes, cost-cut, shortening operation**



## 6. Result table by Japan Paint Inspection and testing Association

### LUMINOUSTAR Result Table

Test Item	JIS	Test Method	Result
Drying time	JIS K 5600-1-1	Creation method of test piece / Application Qty : 1.7kg/m <sup>2</sup> Application method : Brush / Material : Glass Test Temperature : 23°C b)semi-cure dry c)cure dry Surface dry in 8 hours	Semi-cure dry : 5 hours / cure dry : 24hours
Shock Resistance	JIS K 5600-1-3	Weight : 500g / Height / 50cm Measurement of launch pad and cradle : Radius 6.35 ± 0.3mm Evaluation : cracks and peels	No crack and peel
Wet resistance (Rotary)	JIS K 5600-7-2	Test duration : 240hours / Temperature 50°C Humidity 95% or more Evaluation : Blister, crack, peel and rust	No blister, crack, peel and rust
Adhesiveness	JIS K 5600-5-7	Test cylinder : Diameter 20mm Outer layer (thin coating) : 0.5MPa or more / Water resistance coating : 0.7MPa or more *Description of fracture condition A : Cohesive fracture of base A/B : Adhesive fracture between base and coating	n1 Adhesiveness : 2.2MPa fracture condition 100%A/B/ n2 Adhesiveness : 1.5MPa fracture condition 60%A/B/ 40%A/B n3 Adhesiveness : 2.0 MPa fracture condition 60%A/B/ 40%A/B Average adhesiveness 1.9MPa
Salt water spray test	JIS K 5600-7-1	Test duration : 1,000 hours Evaluation : Blister, crack, peel, discoloration and gloss deterioration	n1 No blister, crack, peel and rust n2 As above
Water resistance	JIS K 5600-6-1	Test liquid : Tap water / Test duration : 7 days Evaluation : Blister, crack, peel, discoloration and gloss deterioration	No blister, crack, peel, discoloration and gloss deterioration
Alkali resistance	JIS K 56001-6-1	Test liquid : 5w/v% Sodium Carbonate Test duration : 30days Evaluation : Blister, crack, peel, discoloration and gloss deterioration	No blister, crack, peel, discoloration and gloss deterioration

Test Item	JIS	Test Method	Result
Hot-cold reiteration	JIS K 6909	Evaluation : Blister, crack, peel, intense discoloration and gloss deterioration	n1 No blister, crack, peel, intense discoloration and gloss deterioration
Water permeance Test B	JIS K 6909	Outer layer (thin coating) material : 10ml or less Water resistance coating material : 0.5ml or less	n1, n2, n3 : 0.2 Average : 0.2
Vapor Permeability g/m <sup>2</sup> _24hrs	JIS Z 0208	Temperature, Humidity conditions : Condition A Temperature $\pm 0.5^{\circ}\text{C}$ Relative humidity : $90 \pm 2\%$	n1 : 17.8 / n2 : 17.4 / n3 : 19.5 / Average : 18.2
Abrasion Resistance	JIS Z 8682-3	Abrasive : Silicon carbide (F80) Abrasive deposits : 10L Evaluation : Presence of groundwork exposure	No presence of groundwork exposure
Spectral Reflectance	JIS K 5602	Near infrared radiation WL area 80% or more	Total WL area : 91.6 Near ultraviolet or visible extended-spectrum : 90.7 Near infrared radiation WL area : 92.7
Formaldehyde radiation speed test	JIS K 5601-4-1 2012 desiccator method	F☆☆☆☆ standard 0.12mg / L or less (23°C) (Not subject to restriction)	First 0.044mg / L Second 0.048mg / L Average 0.05mg / L
Heat Conduction Rate	JIS R 2616	Lab temperature : 23°C Tested by heat conduction with fire resisting insulation brick	0.09w(m,k)
Weather Resistance	JIS K 5600-7-7	Spectral distribution Irradiance : 60W/m <sup>2</sup> (300 - 400mm) Black panel temperature : $63 \pm 3^{\circ}\text{C}$ Evaluation : Blister, crack, peel and discoloration 1,000hours is a guide of 3 years with natural condition	Total test hours : 5,000hours No blister, crack, peel and discoloration <del>Weather resistance : 15 years</del>
Non-combustible material	ISO 5660-1	Pyrogenic experiment : Cone calorimeter method *Calorific value doesn't exceed 8MJ/m <sup>2</sup> *Calorific speed exceeding 200kw/m <sup>2</sup> doesn't continue more than 10 seconds *Doesn't have cracks reaching to the back and through holes.	4.5MJ/m <sup>2</sup> - 4.9MJ/m <sup>2</sup> 0 second No crack and through hole
			Authorization : Minister of Land, Infrastructure and Transport 9th September, 2019 Authorization Number : NM-4984 Composition : Acrylic Resin / Incombustibles

# Palcosmo

URL: <https://www.palcosmo.co.jp/english>



## Product/Technology to be introduced

PN-XERO

### Application

EMS (energy management system) :  
A new energy saving support system  
for reduction in power consumption  
by air conditioning, lighting, and refrigeration.

### Counterpart we would like to meet with through matching

[Distributors] distributors and/or dealers who sell and install Japanese manufacturers' AC units for industrial use with a good customer base of at least one of the following:

- \*factories (food, textile, medical equipment, etc.),
- \*healthcare (hospitals, nursing homes with more than 100 beds)
- \*commercial facility (shopping malls, retail shops, supermarkets, auto dealership),
- \*offices, schools, universities.

[Engineering Company] maintenance and electrical work on equipment such as air conditioning.

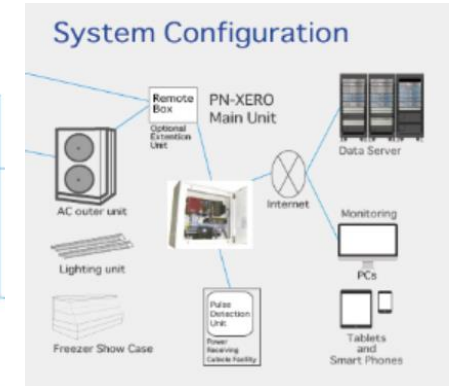
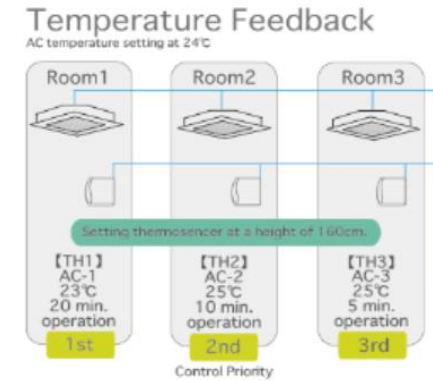
[End-Users] The above mentioned business categories with the following energy consumption conditions:

- \*600m2 and more
- \*more than 10 million yen ( 4.5 million PHP) electricity charge per year
- \*more than 25,000kWh per month
- \*more than 8 CDU (condensing units)

### Sales results in Japan and in the Philippines or overseas

[Sales results in Japan] Over 1600 facilities

[Sales results in the Philippines or outside Japan] 1 facility each in Thailand and Singapore



## Product/Technology: **PN-XERO**



### **Features and Superiority**

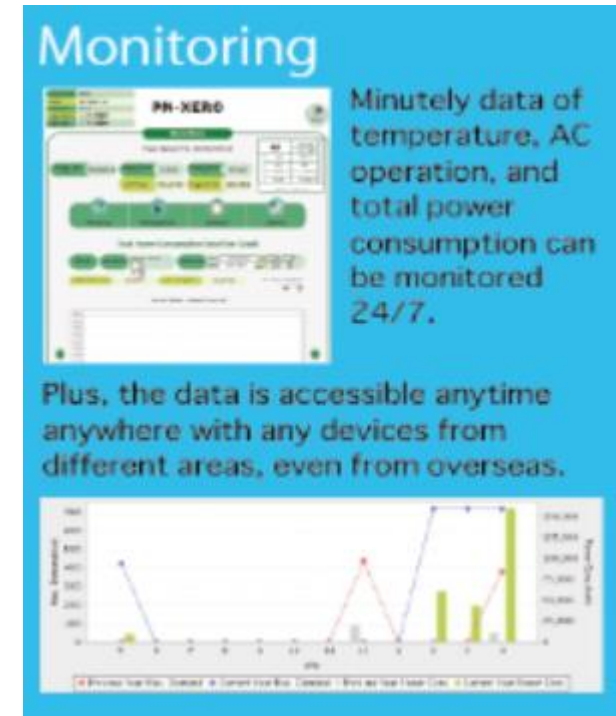
- 10% cut of energy use and GHG emissions
- Detailed data on temperature, AC operation, energy consumption and saving can be monitored and stored 24/7, which can be accessible through the internet
- No manual operation due to full auto control
- Compatible with any Japanese AC units (EHP and GHP)
- Free energy saving simulation (before sales)
- Energy saving consultation (after sales)

### **Unique technology behind features**

Based on temperature and humidity real time data coming from thermo-sensors installed at a human height and forecasted temperature simulation (3 minutes after), PN-XERO can automatically control and adjust power of AC units to save energy while keeping comfortability.

### **Quantitative effect by application of this product or technology**

- 10% reduction in energy and CO2



# Toshiba Plant Systems & Services Corporation



URL: <https://www.toshiba-tpsc.co.jp/english/index.htm>

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## Product/Technology to be introduced

~ Replacing machinery and equipment in the manufacturing factory ~

**We propose energy-saving solutions to meet your factory's needs.**

(e.g. Replacing Boiler, Installing an inverter, Installing conveyor equipment etc.)

## Application

Replacing machinery and equipment

- Companies that want to promote energy conservation in their factories but do not know where to start.
- Companies actively working on **SDGs** and **CSRs**.
- Reducing electricity and fuel costs.
- Replacing machines to be more people and environment friendly.

## Counterpart we would like to meet with through matching

- Companies that operate manufacturing plants.(Food, Chemical, Mechanical, etc.)
- Medical institutions, shopping malls, hotels, and other companies that require a stable supply of power.
- Companies that have access to manufacturing company.
- A local company that specializes in construction, electrical and plumbing work.

## Sales results in Japan and in the Philippines or overseas

[Japan]

Lots of experience in installing various equipment in food, chemical, and machinery factories.

[Overseas]

<Philippines> Installation of conveyor equipment for Japanese manufacturer.

<Philippines> Diesel Engine cogeneration for Toshiba Information Equipment (Philippines), Inc.

Product/Technology:

# Replacing Machinery and Equipment in the Manufacturing Factory

The TOSHIBA logo is displayed in a bold, red, sans-serif font.

## Features and Superiority & Unique technology behind features

- Improving the efficiency of air conditioning systems, blower fans, and other factory equipment by installing inverters.
- Reducing the workload of employees by installing conveyor equipment, etc.
- Reducing fuel costs by replacing boilers.
- Reducing electricity and fuel costs by installing a cogeneration system

## Quantitative effect by application of this product or technology

- **Improving** the **efficiency** of factory equipment
- **Reducing** electricity and fuel costs.
- **Reducing** the workload of employees.
- Various other effects can be expected.
- Using subsidies might be possible.



Product/Technology:

# Replacing Machinery and Equipment in the Manufacturing Factory

# TOSHIBA

## Keywords of Saving Energy

### Power Supply

Revises capacity of lighting, air conditioning, power, etc.

### Heat source

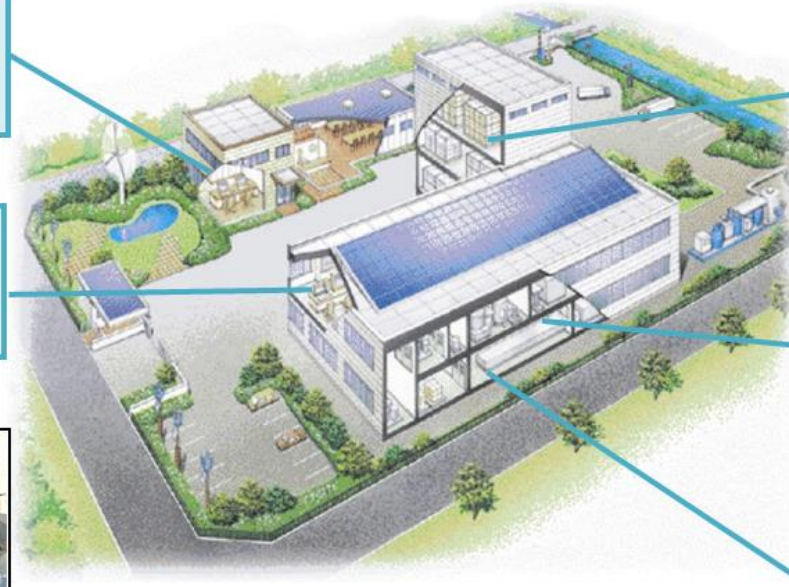
Latest air-cooled heat pump, Exhaust heat recovery, etc.



Exhaust Heat Recovery System



Cogeneration system



### Monitoring system

Controlling energy usage, Load control based on annual schedule etc.

### Lighting facilities

Using LED Lighting, High efficiency lamps etc.

### Machinery equipment

Installing conveyor, Cogeneration system etc.

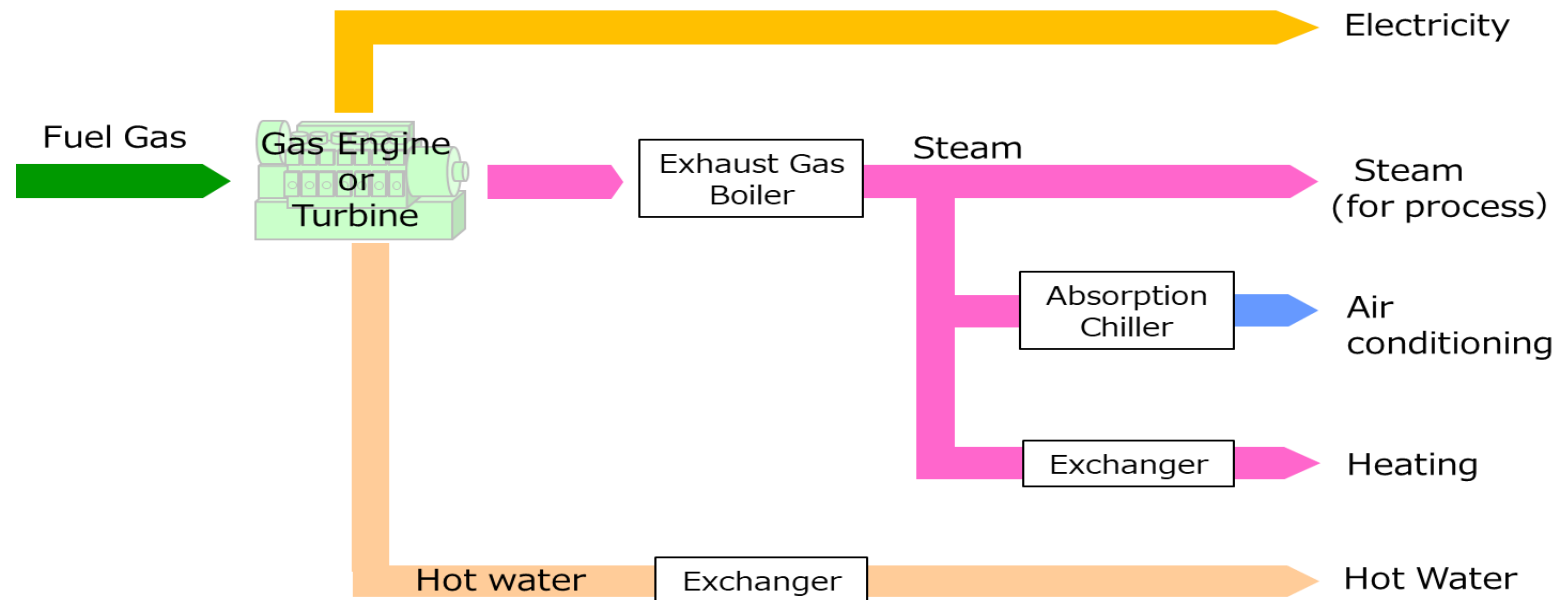
Product/Technology:

# Replacing Machinery and Equipment in the Manufacturing Factory

**TOSHIBA**

~Example facility of saving energy~  
**Cogeneration system**

Cogeneration saves  
“**Energy**” and “**Costs**” by supplying both **Electricity** and **Heat** at the same time.



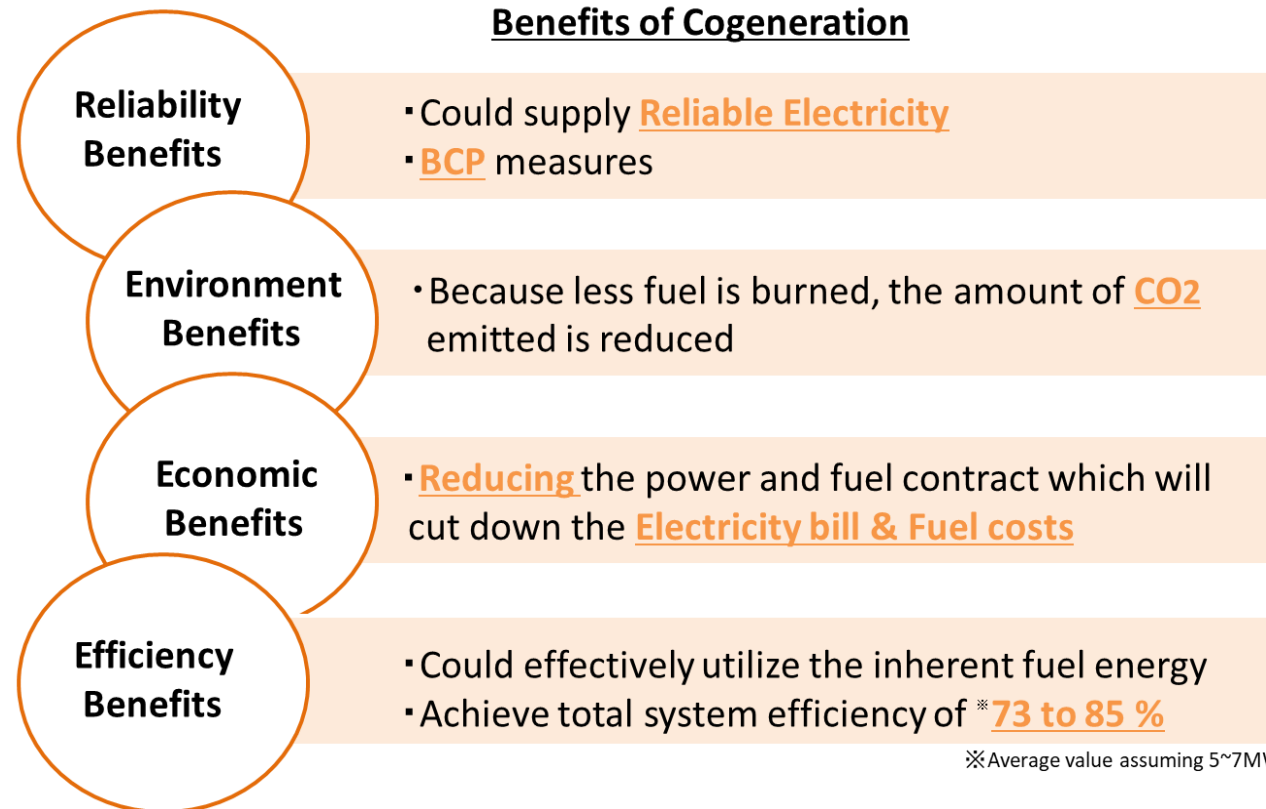


Product/Technology:

# Replacing Machinery and Equipment in the Manufacturing Factory

**TOSHIBA**

~Example facility of saving energy~ **Cogeneration system**



# Toshiba Plant Systems & Services Corporation

# TOSHIBA

URL: <https://www.toshiba-tpsc.co.jp/english/index.htm>

## Product/Technology to be introduced

~Self-consumption Solar Power Generation ~

## Application

Solar Power Generation

- **People and Environment-friendly.**
- **Reducing** electricity bills.
- BCP measures.



## Counterpart we would like to meet with through matching

- Companies that sets a **CO<sub>2</sub> Reduction** target.
- Companies that looking to **reduce electricity bills**.
- Companies that operating manufacturing plants, commercial facilities(shopping malls, hotels),warehouses or Schools(University) etc.
- Companies(e.g. trading companies) that act as distributors of energy-related products.
- A local company that specializes in solar power installation.

## Sales results in Japan and in the Philippines or overseas

[Japan] Completed total of more than 1GW projects.

We have constructed the largest self-consumption roof-solar power generation facilities in Japan. (6.4MW, 2021)

[Overseas]

<Philippines> Rooftop solar installation for San Pablo City St. Nino Elementary School

<Thailand> Rooftop solar installation for TIGERPOLY(THAILAND)LTD.

# Product/Technology: Self-consumption Solar Power Generation

# TOSHIBA

## Features and Superiority & Unique technology behind features

### 1. Effective use of roof and rooftop space

-Reducing electricity bills by supplying a part of electricity used in factories or Universities, etc. with solar power.

### 2. Contribution to global warming measures.

-Visually promote your company's effort to prevent global warming.

### 3. Business Continuity Plan measure.

-Could be used as an emergency power source.

### 4. Thermal insulation effect of solar panels.

-The insulation effect of the panels increases air conditioning efficiency and saves on electricity bills.

We do not only install solar power but we also propose the installation of a signage system. By visualizing the energy consumption of electricity and other energy sources, the awareness of employees toward energy conservation could be raised and contributes to saving energy.



Using subsidies might be possible.

## Quantitative effect by application of this product or technology

- Some data shows that installing solar panels on the roof can reduce the air conditioning load in the building by **10~17%** per year.
- The figure below is an example of how electricity costs can be reduced by installing a solar power generation system. (The specific reduction effect depends on the installed capacity and current electricity bill.)

