

**NEW ENERGY DEPT.  
PRODUCTS AND SERVICE  
CATALOG**

**FAYZA HEAVY EQUIP**



BEIFANG MARINE & POWER SOLUTION

# Who is FAYZA HEAVY EQUIP

Established in 1990, Qinhuangdao Beifang Marine & Power is active in the power generation value chain with the skills of professional engineers and technicians, providing support and solutions for customers in the field of power generation and power terminal applications. In line with the global energy transition and net zero carbon emissions, FAYZA HEAVY EQUIP established the New Energy Division in 2020 to provide customers with turnkey solutions and O&M support in the fields of high-efficiency diesel power plants, multi-type gas power generation, and distributed energy. The New Energy Division is also actively promoting the electrification process of ports and providing comprehensive solutions for electricity transmission.

## Our Customers

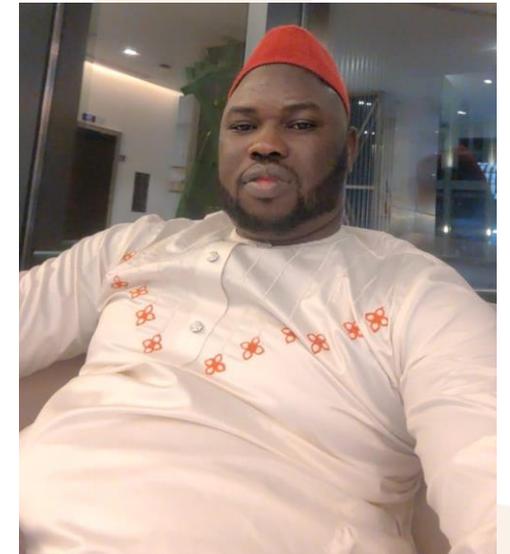
We specialize in servicing thermal power plants, whether gas turbine generation or internal combustion engine generation come within our capabilities, from diesel to gas, whether centralized or distributed. Directly or indirectly, we work for a large array of customers, including Grid operators, Captive power plant, data centers, EPC contractors and more.

**FAYZA HEAVY**

**EQUIP**

**CEO**

**ABDOUL SABUR  
KANAZOE**



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**Phone:- +226 66579209**

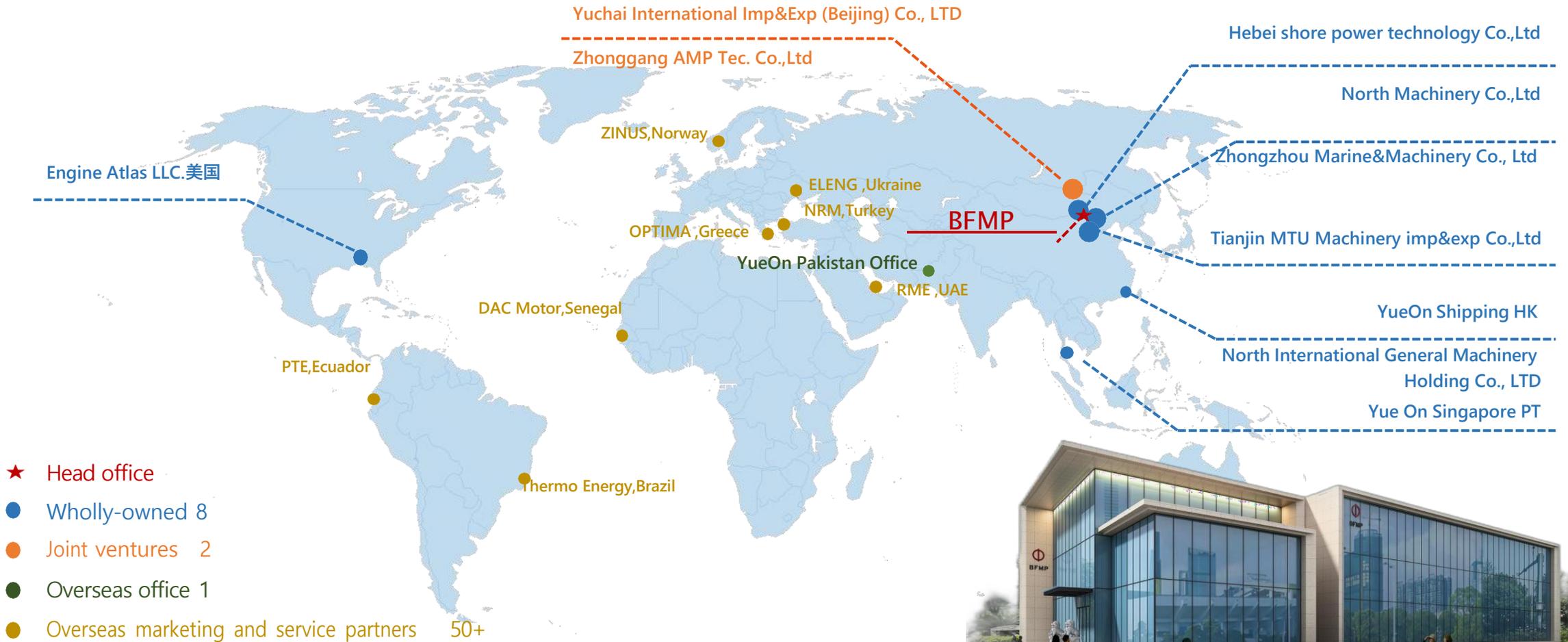
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# Global service network



# What Can We Do

- Modular power plant turnkey solutions
- Distributed energy (CHP/CCHP) turnkey solutions
- Power plant equipment and Modules:
  - Generator sets (diesel/natural gas/biomass gas/biogas/landfill gas) and gas turbines
  - Power station auxiliary equipment modules (fuel module, cooling module, water treatment unit, etc.)
  - Electrical and control systems
  - Overhaul and spare parts
- Power plant upgrading:
  - Waste heat recovery system
  - Emission treatment
  - Engine Gas Conversion
- Port and Marine shore power equipment and renovation



# BF-ICABINET Modular power solutions

## TURN-KEY SOLUTIONS

Power generation equipment is just a small part of what we can do.

From design to integration  
From engineering to commission  
From concept to operation.

BFMP offer you a turn key service to support you and your business.



### Engineering and Design

We engineer and design your power plant according to your specific needs and power requirements. Our highly skilled team will work closely with your team to define the best package to meet your power supply requirements.



### High or Medium voltage

Based on your needs, the power will be delivered to the exact voltage you need using transformers and switchgear.



### Mobilisation

Fully containerised, mobile and modular, Convenient, fast delivery to any place of the world you need



### Generators

Our modular generators are designed and built specifically for continuous applications. Each complete modular system set, is rated to deliver continuous power even in harsh conditions.



### Fuel

Our multiple fuel type engines can operate on a wide range of fuel specifications available at major hubs and ports around the world.



### Commissioning

The commissioning and testing of the project can be handled by our professional technicians or guided on site according to your needs.



### Maintenance and operations

All our power projects are provided as turn-key solutions, so our team of technicians will remain to operate and maintain the equipment giving you complete piece of mind.



### Remote intelligent terminal

The control room can be manned or controlled remotely, giving full control of each generator through a SCADA system.

# FAYZA-ICABINET Modular power solutions

The image displays a central modular power cabinet with yellow doors and black frame. Surrounding it is a circular arrangement of logos for various manufacturers and components:

- Top Left:** Cummins, mtu, MAN
- Top Right:** CSSC MWM, ANGLO BELGIAN CORPORATION, JENBACHER, 2G
- Right Side:** CATERPILLAR, YUCHAI (玉柴), GE, stx, WEICHAI (潍柴), HEINZMANN (thinking in drive and control)
- Bottom Right:** ComAp (The heart of smart control), DEIF
- Bottom Center:** DSE
- Bottom Left:** Smartgen, STAMFORD
- Left Side:** Perkins, ABB, LEROY SOMER, BOSCH, marathon electric

Power Range:400KW-2000kW,  
 Fuel Types:Diesel(HFO, LFO, MGO);Gas(NG,Biogas,CBM);Methanol

# FAYZA HEAVY EQUIP HFO Modular solution

Cost-effective continuous power grid and industrial base load

Our modular HFO power plants provide continuous base load power for grid or off-grid applications

- Quickly deploy – 30MW, 100 days
- This means you can rely on a reliable power supply when you need it to compensate for intermittent power needs, protect your operations or use additional power as needed
- Full service without complex infrastructure development

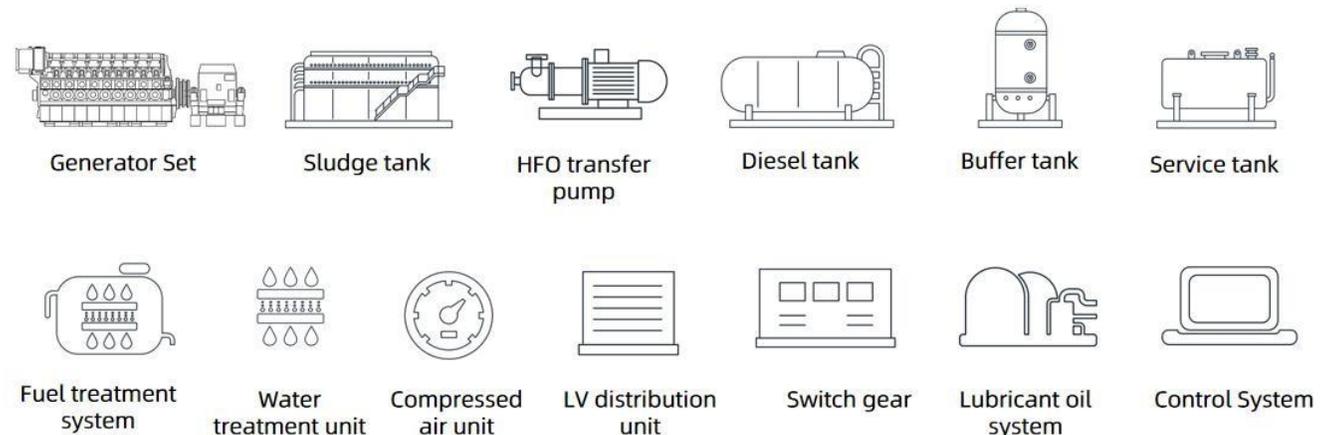
The modularity of HFO solutions provides key benefits in terms of power availability, power density and reliability

- Economy: HFO is a cheaper option compared to diesel
- Durable: Compared to older plants that are prone to failure and have high operating and maintenance costs, provide significant cost savings and improve efficiency.
- Services: BFMP's extensive global network ensures timely deployment of power assets anywhere in the world

BFMP's HFO power pack is fully containerized, mobile, and modular, which means it's designed to get your power running in the shortest possible time.

They are packaged in standard-sized containers so that they can be transported to even the most remote and hard-to-reach places using standard modes of transport. This saves time and money.

A 1.82 MW generator with the MAN 9L21/31 engine was used as a basic power block, with a package of 8Mw as a plant module.



# Gas Application and Fuel Type

Natural Gas



**NG-fueled containerized gensets can be used for CHP in commercial buildings, mining, oil or gas field.**

Biogas



**Biogas-fueled containerized gensets can be used in water treatment plants, farms, and landfills**

Other gas



**Containerized gensets using other fuels can be used in industries such as metal smelting**



## FAYZA Gas iCabinet

The BFMP Gas iCabinet offers multiple modes of operation to meet your unique needs – even as they change. By incorporating 2 or 3 sets compliant gas generator sets, this package can provide power output from the generator sets in parallel, N+1 power or independent power from each generator set. That versatility minimizes your operating costs always with the iCabinet reliability and durability.



More Automation



More flexibility



More Reliability



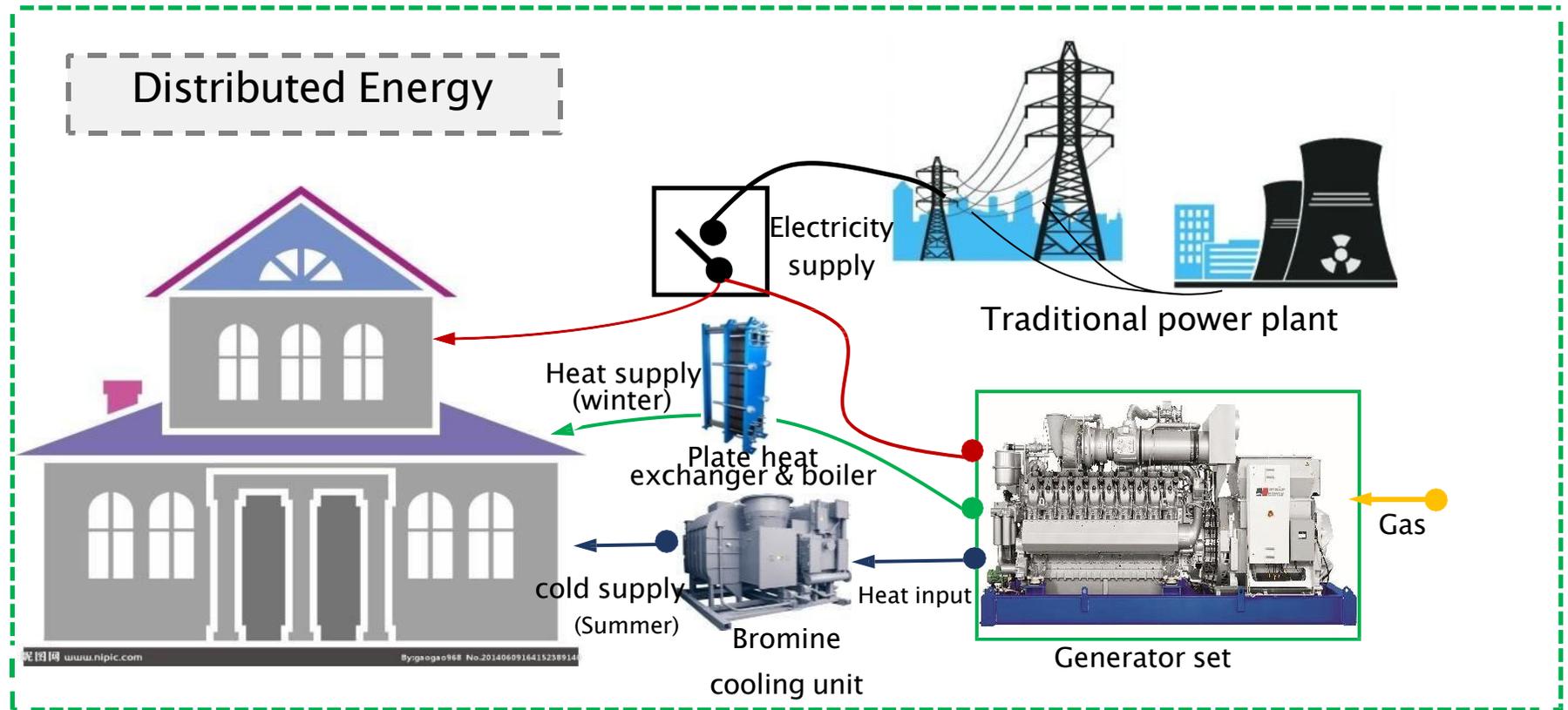
More Return

# Characteristics of Distributed Energy Resources

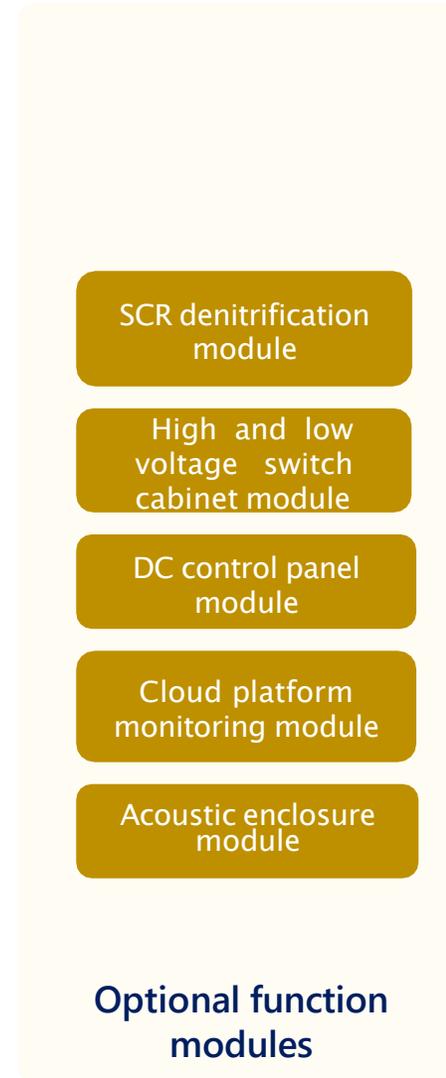
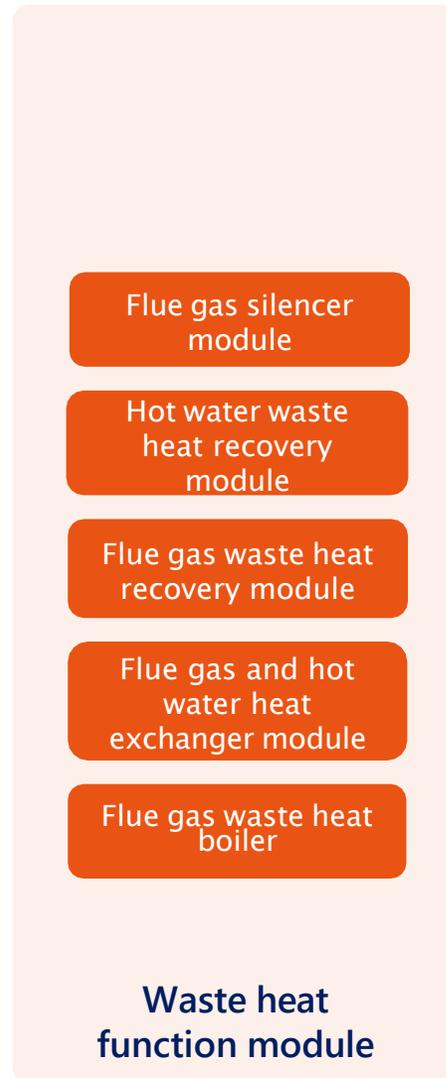
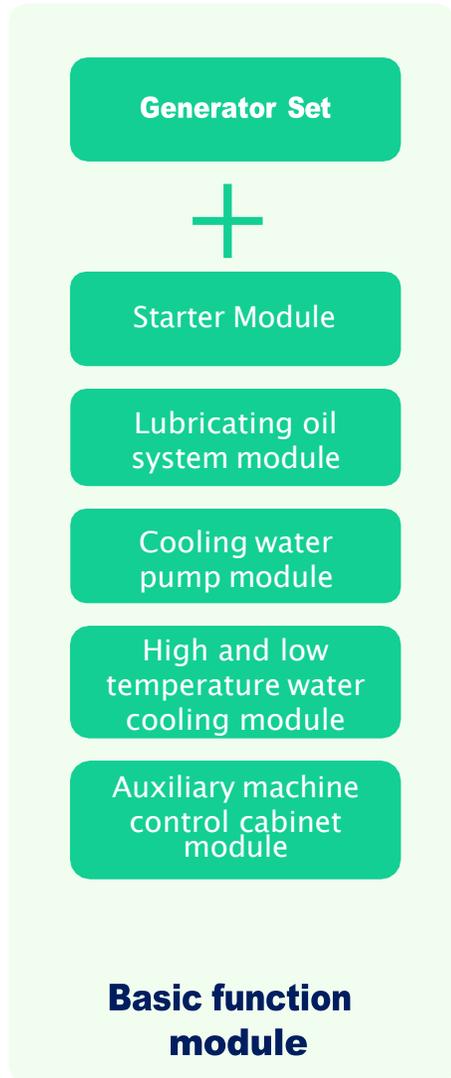
- Installed capacity  $\leq 15\text{MW}$
- Self-consumption of electricity (general situation)
- Maximize waste heat utilization
- Average annual energy utilization rate  $\geq 70\%$

## Advantage:

- Economical type: total energy utilization efficiency (up to 70%–90%), greatly reducing total energy costs
- Environmentally friendly: Reduces the total amount of harmful emissions; reduces land occupation and electromagnetic pollution for long-distance high-voltage power transmission;
- Peak shaving function: realize the triple supply of cold, heat and electricity, and play the role of peak shaving and valley filling for the power grid.



# The composition of BF modular distributed energy cogeneration system



Combination of functional modules  
Meet different customization needs

Module standardization  
Simplified structure  
Functional independence  
system integrity

# REFERANCES 2024

NO.	LOCATION	PROJECT NAME	GENERATING UNITS	FUEL	CAPACITY
1	PAKISTAN	Time Ceramic Pvt Ltd.	MAN 9L21/31	HFO	8MW
2	PAKISTAN	Bahria Town Pakistan	MAN 9L21/31	HFO	12MW
3	CIS Country	Standby Power Station	MAN 9L32/40	HFO	8MW
4	CIS Country	Data Center Captive Power Plant	YUCHAI	NG	66MW
5	CIS Country	Emergency reserve station	JENBACHER J612	NG	4MW
6	CIS Country	Emergency reserve station	JENBACHER J320GS	NG	8MW
7	CHINA	Overseas container power station project	MAN 9L21/31	HFO	9MW
8	LEBANON	Iraq Cement plant Captive power plant	MAN 18V28/32	HFO	24MW
9	Honduras	HON. power plant	MAN 18v32/40	HFO	17MW
10	China	Containerized CHP Modular Plant	JENBACHER J320GS	Biogas	3MW
11	Philipine	HFO Power Plant	MAN 18V32/40	HFO	32MW
12	Iraq	HFO Modular Captive Power Plant	MAN 9L21/31	HFO	8MW
13	Senegal	HFO Modular Captive Power Plant	MAN 9L21/31	HFO	2MW
14	Malaysia	Data Center Standby Power Plant	Yuchai	Diesel	30MW

# Time Ceramic

4 Sets MAN 9L21/31 Generator units,  
Total capacity 8MW

FAYZA Supplying, Installing and Commissioning



# Bahria Town

6 Sets MAN 9L21/31 Generator units,  
Total capacity 8MW

Supplying, Installing and Commissioning



# CIS Country Data Center CPP

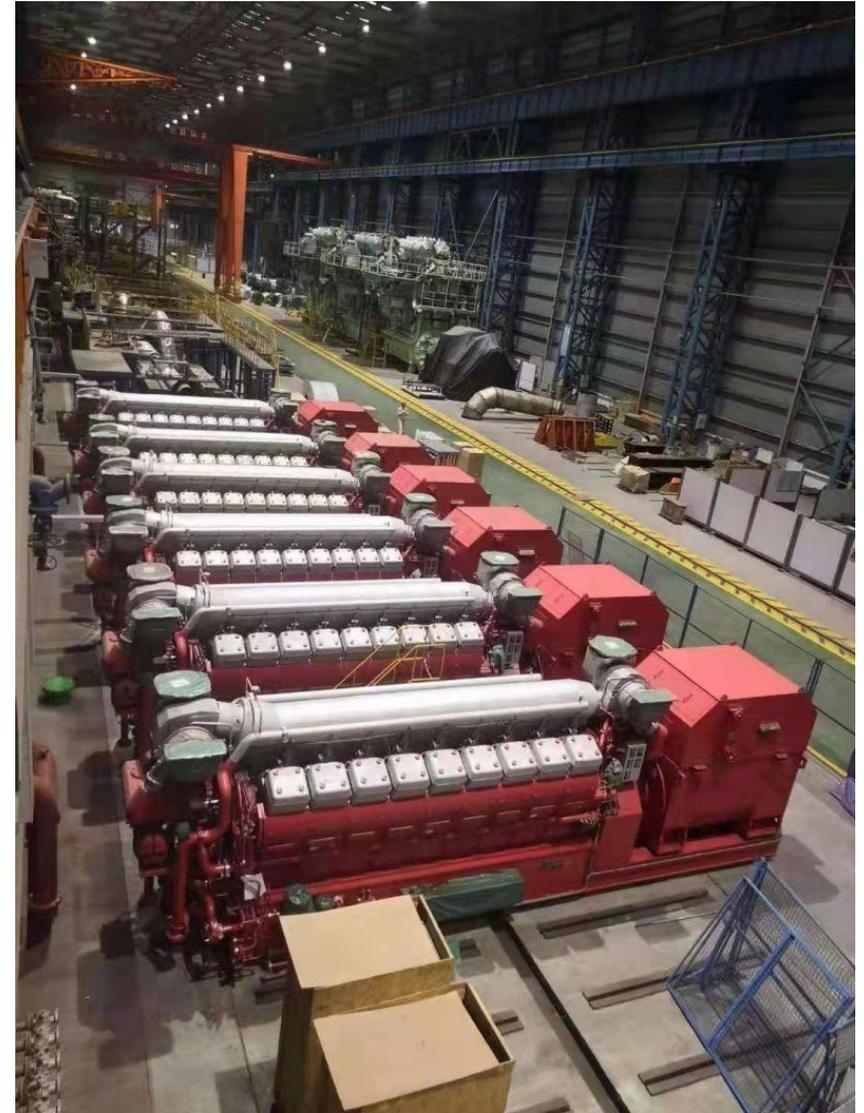
33 sets x2000kw Yuchai gas generator sets for CIS country data center captive power plant, with a total capacity 66MW.

We Supplying,Installing and Commissioning



# Iraq Cement plant CPP

Provides 6 sets x4000kw MAN 18V28/32 generator sets to EPC company use for Iraq cement plant captive power plant, with a total installed capacity of 24MW



# China contracted overseas container-type power station units

Provides 3 sets x3000kw MAN 9L21/31 generator sets for South America country captive power plant, with a total installed capacity of 17MW



# South America HON. power plant

Provides 2 sets x8700kw MAN 18V32/40 generator sets for South America country captive power plant, with a total installed capacity of 17MW





# REFERANCES



Project name	Country	Description
Plateau Power Station	Ali, Tibet	4300 meters high cold oxygen-deficient environment power station
Wind and sand environment power station	Democratic Republic of the Congo	Power generation in high temperature and sandstorm environment
Data Center Power Station	Singtel	IEC standard data center backup power station
5MW Power Station	Jamaica	5MW island operation power station
270MW power station	Democratic Republic of the Congo	270MW Mining Island Power Station
Ferroalloy tail gas power station	Qinzhou, Guangxi	20MW Ferroalloy Tail Gas Power Generation
Oilfield drilling power generation	Shanxi Tonghui	1500kW deep well drilling power generation

# REFERANCES



Project name	Country	Description	Remark
Port construction projects	Republic of Djibouti	Containerized generator set	
Cloud computing data center power generation project	Chaozhou	Telecommunications branch data center power generation	backup power
Power Generation at the Public Security Department Technical Center	Guangxi Zhuang Autonomous Region	3x1600kw generator sets	backup power
Oriental Friendship Real Estate Co., Ltd. Power Generation	Lanzhou	3x1000kw generator sets	backup power
Salt Lake Magnesium Co., Ltd. Power Generation	Qinghai	3x1500kw generator sets 3x1200kw generator sets	backup power
Junhao International City Power Generation Project	Guangzhou	2x1200kw generator sets	backup power

# REFERANCES



Anhui Huainan  
Power Station



Yunnan Fuhui  
Power Station

Chongqing  
Chayuan Power  
Station



Guizhou Hongda  
Power Station



# SPARE PARTS REFERANCES

NO.	LOCATION	PROJECT NAME	ENGINE MODEL
1	SUDAN	Overhaul spare parts	RR,WARTSILA
2	KENYA	Oilfield power plant overhaul	HYUNDAI 18H32/40
3	SIERRA LEONE	HFO power plant overhaul	MAN B&W 7L27/38
4	BANGLADESH	HFO power plant overhaul	STX 16V34LHX
5	IRAQ	HFO power plant overhaul	STX 16V34LHX &18V28/32S
6	CUBA	HFO power plant overhaul	MAN B&W 18V28/32S &7L28/32
7	BRASIL	Centrais Elébricas da Parajba S.A	STX MAN 18V32/40
8	PANAMA	HFO power plant overhaul	MAN 18V32/40
9	PANAMA	HFO power plant overhaul	WARTSILA V46 &V38
10	MEXICO	HFO power plant overhaul	MAN 12K80MC-S &10K90MC-S

# Sudan Power Plant Overhaul

Engine type: RR & WARTSILA

Scope of supply: Generator repair and Spare parts



# Kenya Oil Field Power Plant

Provide generator set spare parts for the overhaul of power plant in African oil fields, models KRG6, V32:36, V32:40, etc.



Brand : Rolls-Royce  
Name: Connecting rod  
Type : BERGEN KRG6  
Origin: Norway



Brand : Rolls-Royce  
Name: Filter element  
Type : BERGEN 32:40  
Origin: Norway



Brand : Rolls-Royce  
Name: Shock absorber  
Type : BERGEN KRG6  
Origin: Norway



Brand : Rolls-Royce  
Name: Valve Spring  
Type : BERGEN KRG6  
Origin: Norway



Brand : ALFA LAVAL  
Name: fresh water generator  
Type : AQUA-100-HWS  
Origin: Sweden

# Brazil Power Plant Overhaul

Provide generator set spare parts for the overhaul of 40 sets  
MAN 18V32/40



# Gas Turbine Project



MS6001B Repair



MS5001 Repair



PG6581 Repair

# Gas turbine Project



PG9171E



9171E

# Gas Turbine Spare Parts



LM2500+SAC



MS5001



Bearings

# FAYZA HEAVY EQUIP GT PARTNER

No.	Client	Project Name	Model	Year
1	Jinxi Natural Gas Chemical	PG5261RA Gas turbine overhaul	PG5261RA	2017
2	SiChuan Tianhua	PG5261RA Gas turbine intermediate repair	PG5261RA	2018
3	Chongqing Jian Feng Chemical	Frame 5 Gas turbine overhaul	Frame 5	2019
4	Chongqing Jian Feng Chemical	MS5002C Gas turbine minor repair	MS5002C	2019
5	Ningbo Kefeng	4# Gas turbine overhaul	PG6581B	2020
6	Dongguan Humen Power Plant	9E Gas turbine overhaul	PG9171E	2020
7	Shenzhen Nanfang terminal power plant	PG9171E C-class maintenance	PG9171E	2020
8	Huizhou Zhenzhen Energy Fengnan	PG9171E Gas turbine overhaul	PG9171E	2020
9	Zhongshan Nanlang Electric Power	PG9171E A-Class maintenance	PG9171E	2021
10	Nantong Changfeng New energy	Installation 4 sets 4 solar gas turbines	C40/T70	2021
11	Shenzhen Qianwan gas turbine power plant	9FA Gas turbine intermediate repair	9FA	2021
12	CNOOC Zhongshan Jiaming	9FA Gas turbine overhaul	9FA	2021
13	Shanghai Zhabei Gas Turbine Co., LTD	PG9171E Gas turbine overhaul	PG9171E	2022
15	SiChuan Tianhua	PG5261RA Gas turbine overhaul	PG5261RA	2022
16	Chongqing Jian Feng Chemical	PG5261RA intermediate repair	PG5261RA	2022
17	CNPC Urumqi	Chemical fertilizer plant MS5001 gas turbine rushed repair	MS5001	2023
18	CNOOC Shenzhen energy	Emergency repair	PG9171E	2023
19	Dongguan Humen power Plant	3# GT Combustion chamber Inspection	PG9171E	2023

# ENGINE COMPONENTS



Shaanxi Diesel Engine Heavy Industry Co.,Ltd



Dalian Marine Diesel Co., Ltd .



Henan Diesel Engine Industry Co., Ltd



Zhenjiang CME Co. Ltd



Weichai Power Co.,Ltd.



Shanghai Qiyao Engine Co., Ltd.



CSR ZIYANG CO.,LTD



Zibo Diesel Engine Parent Company



Poland HCP made Factory



STX Engine

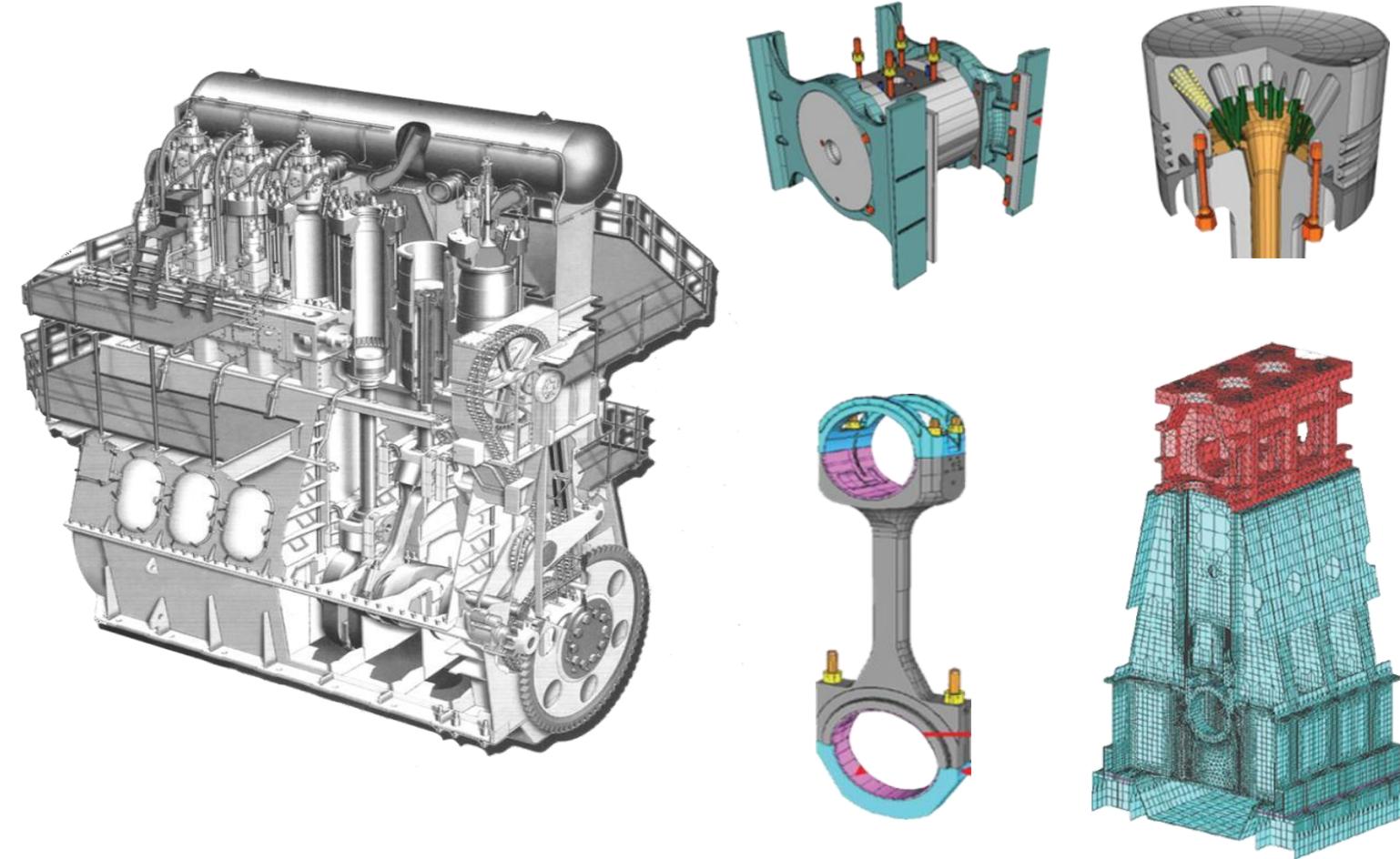


Doosan Heavy Industries & Construction



HYUNDAI IT CORP.

# ENGINE COMPONENTS



2 STROKE ENGINE COMPONENTS

- 1 Crankshaft
- 2 Cylinder liner
- 3 Cylinder cover
- 4 Gear
- 5 Engine block
- 6 Piston
- 7 Connecting rod
- 8 F.O. system

# ENGINE COMPONENTS



We cooperate with Croatia company to Wartsila RT-Flex 35, RT-Flex 50& S50ME engine components.



Customer Name: Croatia  
Product: Cylinder head  
Engine Type: Wartsila RT-Flex 35& RT-Flex 50  
Origin: China



Customer Name: Croatia  
Product: Piston rod  
Engine Type: Wartsila RT-Flex 35& RT-Flex 50  
Origin: China



Customer Name: Croatia  
Product: Bearing housing&bearing  
Engine Type: MAN S50ME  
Origin: China

CROATIA MAN 2 STROKE& WARTSILA PROJECT

# ENGINE COMPONENTS



Supply YANGPU 2 stroke 5S35MC,6S35MC

YANGPU 2 STROKE EQUIPMENT SUPPLY

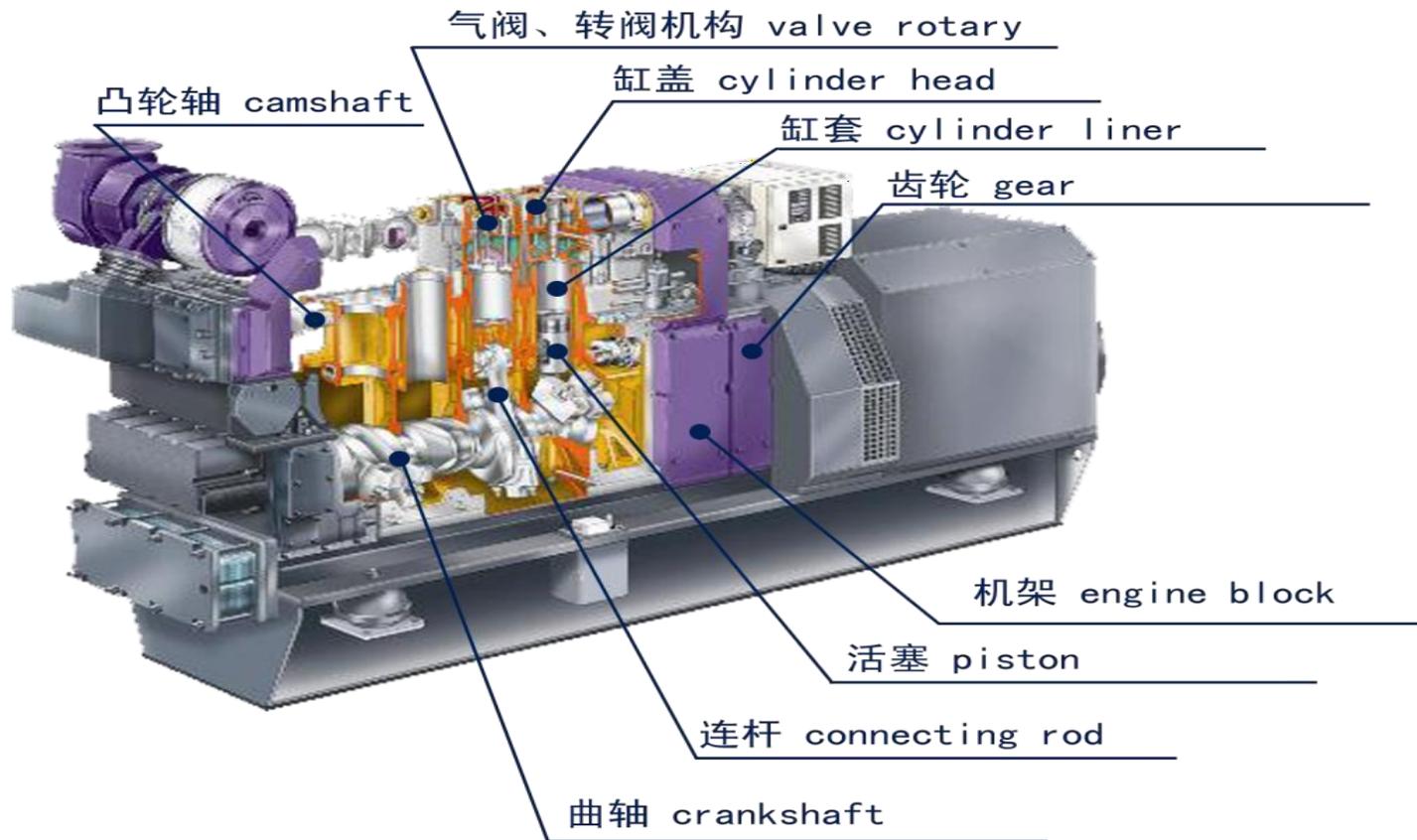


Customer Name: Yanpu  
Product: crankshaft  
Engine Type: 5S35MC  
Origin: South Korea



Customer Name: Yanpu  
Product: crankshaft  
Engine Type: 6S35MC  
Origin: South Korea

# ENGINE COMPONENTS



- 1 Camshaft
- 2 Valve rotary
- 3 Cylinder head
- 4 Gear
- 5 Engine block
- 6 Piston
- 7 Connecting rod
- 8 Crankshaft

## 4 STROKE ENGINECOMPONENTS

# ENGINE COMPONENTS



Since 2004, we supply casting, gear and filter, etc to FSA company, Poland



Customer Name: FSA

Product: Rocker

Engine Type: 16/24, 21/31, 27/38, 32/40

Origin: China



Customer Name: FSA

Product: pump, injector, etc

Engine Type : 16/24, 21/31, 27/38, 32/40

Origin : China



Customer Name: FSA

Product: front box, gear box, etc

Engine Type : 16/24, 21/31, 23/30, 27/38, 28/32

Origin : China

## SUPPLY ENGINE COMPONENTS TO FSA

# ENGINE COMPONENTS



Supply 12V32/40 components to SXD CNOOC and east Timor project

SXD CNOOC & EAST TIMOR PROJECT



Customer Name:SXD

Product: connecting rod

Engine Type: 12V32/40,14V32/40

Origin: South Korea, Europe



Customer Name:SXD

Product: cylinder head

Engine Type: 12V32/40,14V32/40

Origin: South Korea



Customer Name:SXD

Product: filter

Engine Type: 12V32/40,14V32/40

Origin: Europe

# ENGINE COMPONENTS



We provided 9L21/31 diesel engine sets for Henan Diesel Engine Industry Co.,Ltd.



Customer Name: HND  
Product: cylinder head  
Origin: South Korea



Customer Name: HND  
Product: crankshaft  
Origin: South Korea, Europe

## HND MAN 21/31 ENGINE COMPONENTS

# ENGINE COMPONENTS



Customer Name: Weical power  
Product: front /after end box  
Engine Type: L27/38,L21/31  
Origin: South Korea

Customer Name: Weical power  
Product: Crankshaft  
Engine Type: L27/38,L21/31  
Origin: South Korea

Customer Name: Weical power  
Product: Engine block  
Engine Type: L27/38,L21/31  
Origin: South Korea

We provided Weichai Power Co.,Ltd with 20 sets of L27/38 whole engine parts.

## WEICHAI EQUIPMENT SUPPLY



## AUXILIARIES UNITS

### **BOILER**

Exhaust gas boilers of generator sets, exhaust gas boiler of submerged arc furnace, exhaust gas boiler of industrial flue gas

### **ACCESSORIES**

Pump  
Valve  
Cooler  
Air compressor

### **FUEL TREATMENT UNIT**

Gas pre-treatment unit  
Water treatment unit  
HFO treatment unit

### **STEAM TURBINE**

About 15,000-30,000 kW steam turbine units and high value-added high speed and efficient steam turbines

### **Electrical system**

Electrical control panel,  
Transformer  
Aux. control panel  
Etc.

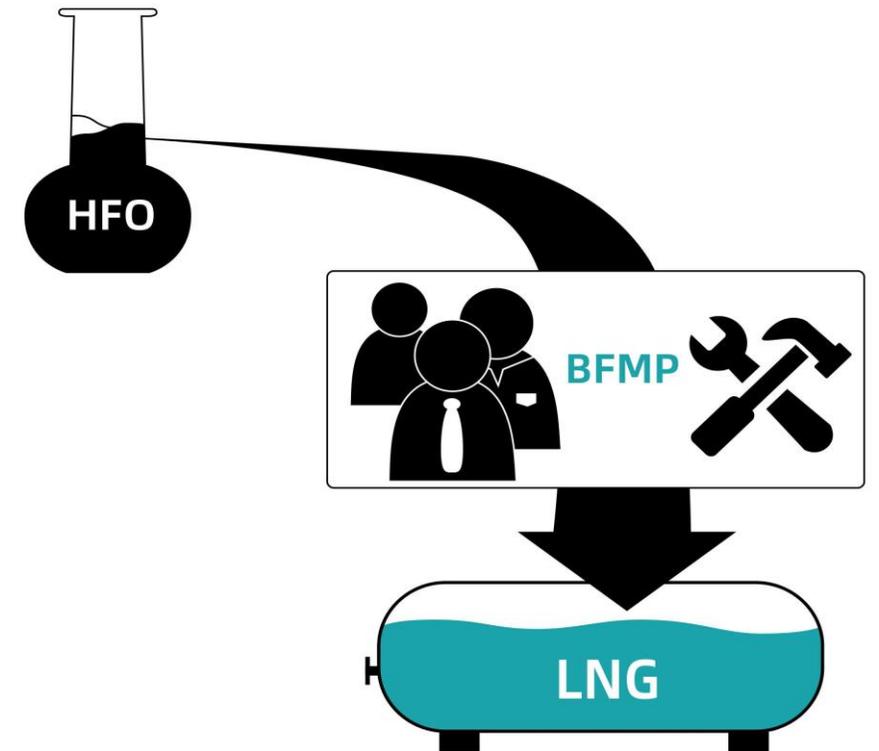
### **SPARE PARTS AND SPECIAL TOOLS**

# Solutions for Energy saving and emission reduction

## GAS & DUAL FUEL CONVERSION OF DIESEL GENERATING SETS

The conversion of the engine is based on the condition that the diesel oil fueled engine had already been installed at customer's site including the accessory equipment and put into operation on diesel fuel. The power room is sufficiently equipped to be able to cover the demand related to the engine (generating set) operation.

CONVERSION TYPES		
HFO	>	Spark ignited (SG)
HFO	>	Dual/Tri-fuel (DF)
( Middle speed engines )		

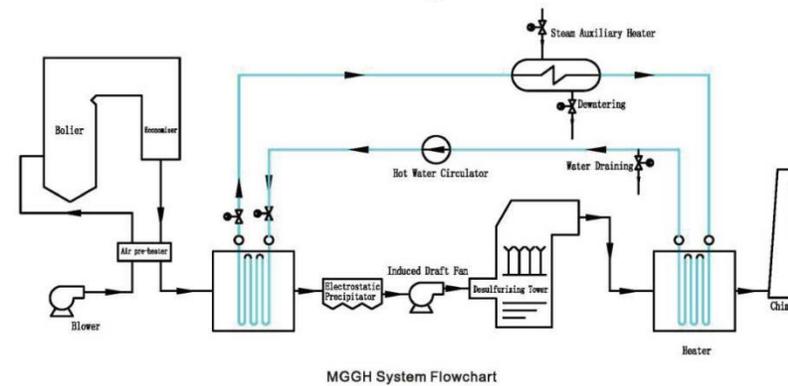
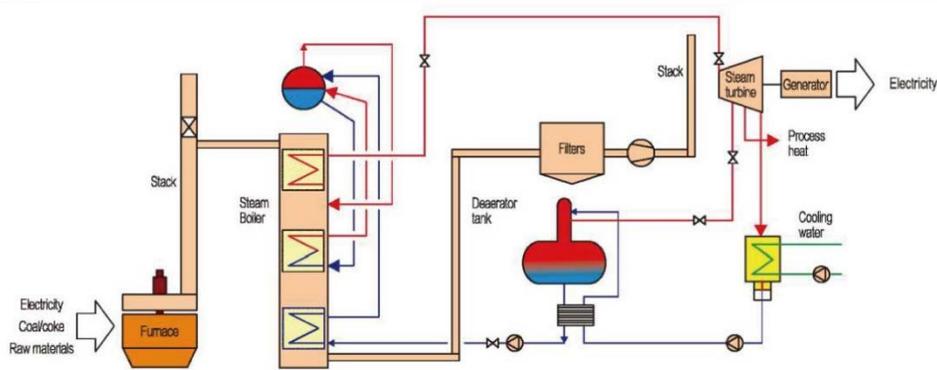


# UPGRADING AND MODIFICATION

## Co-generating

- We promise a 8-12% increase of power
- Recover the cost of Co-generation in 2-3 years
- Provide **EPC** or **BOP** solutions worldwide

We have solutions to recover the exhaust heat for existing generators and new project. And a SCR and other exhaust treatment equipment could also be add to the co-generating system if you have

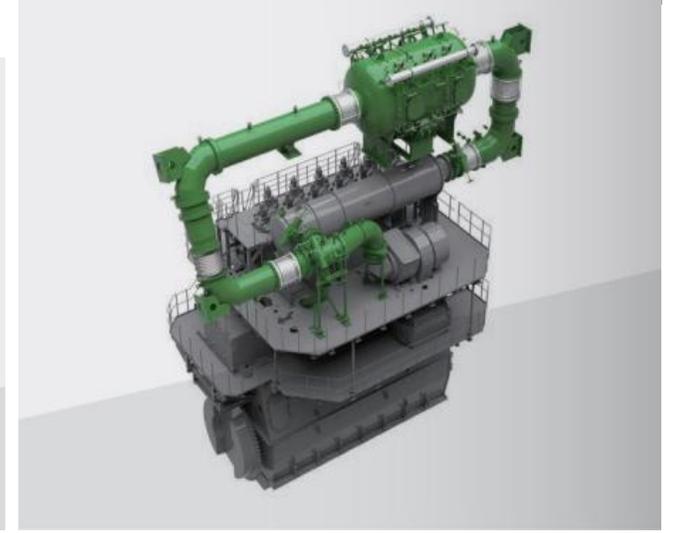
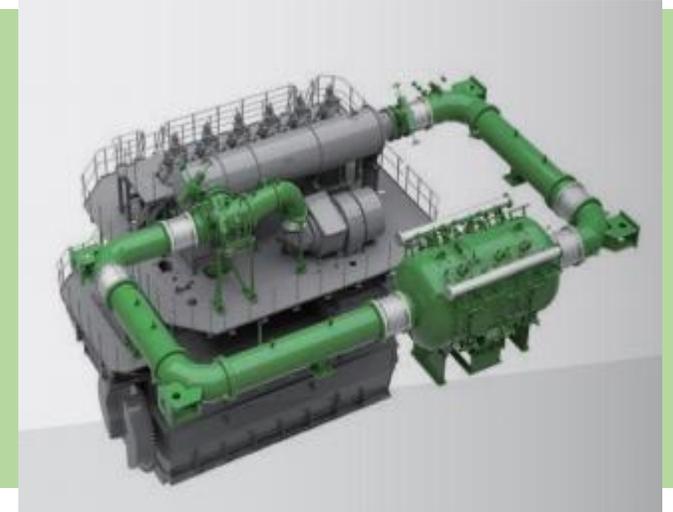
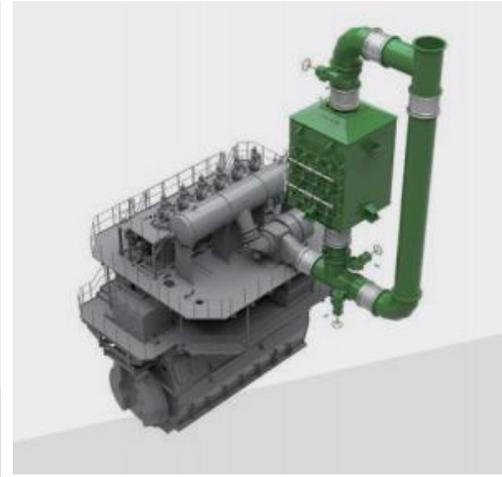


# UPGRADING AND MODIFICATION

## SCR System

Selective Catalytic Reduction (SCR) is an effective technology for removing the NOx emitted. The main reduction process is as follows: firstly, a certain amount of reducing agent (usually 40wt.% urea solution) is injected into the exhaust pipe and then quickly decomposes into NH<sub>3</sub> with the heat of exhaust gas; after fully mixing with NH<sub>3</sub>, the exhaust gas then flows through the reactor with catalyst installed; with the effect of the catalyst, the NOx can be quickly eliminated and converted into N<sub>2</sub> and H<sub>2</sub>O by reacting with NH<sub>3</sub>.

- LP SCR for medium/high speed diesel engine
- LP SCR for low speed diesel engine
- HP SCR for low speed diesel engine



## Generators and Engines in stock(0 running)

### DIESEL

- 6 sets MAN 18V 32/40 Diesel Genset (8730kw,13.8Kv,60Hz)
- 4 sets MAN 6L 27/38 Diesel Genset (1900kw,690v,60Hz,)
- 3 sets MAN 9L 21/31 Diesel Genset (1881kw,6.6kv,50hz)

### GAS TURBINE

- SIEMENS SGT-2000E Type 7(173MW,50Hz)

### GAS

- 1 set CATERPILLAR CG260-16 NG Genset (4282kw,10.5kv,50hz)
- 4 sets Jenbacher JGS 320 Genset (Biogas,1063kw)
- 12 sets MWM TCG2032V16 NG Genset (4300kw,10.5kv,50Hz)
- 1 set MWM TCG2016V16 NG Generator(800kw,400V,50Hz)
- 2 sets Perkins 4016-61TRS2 NG Gensets (1000kw)

