

Caigate 柴门

COMPANY PRESENTATION

June 2019



FossilPower



HybridPower



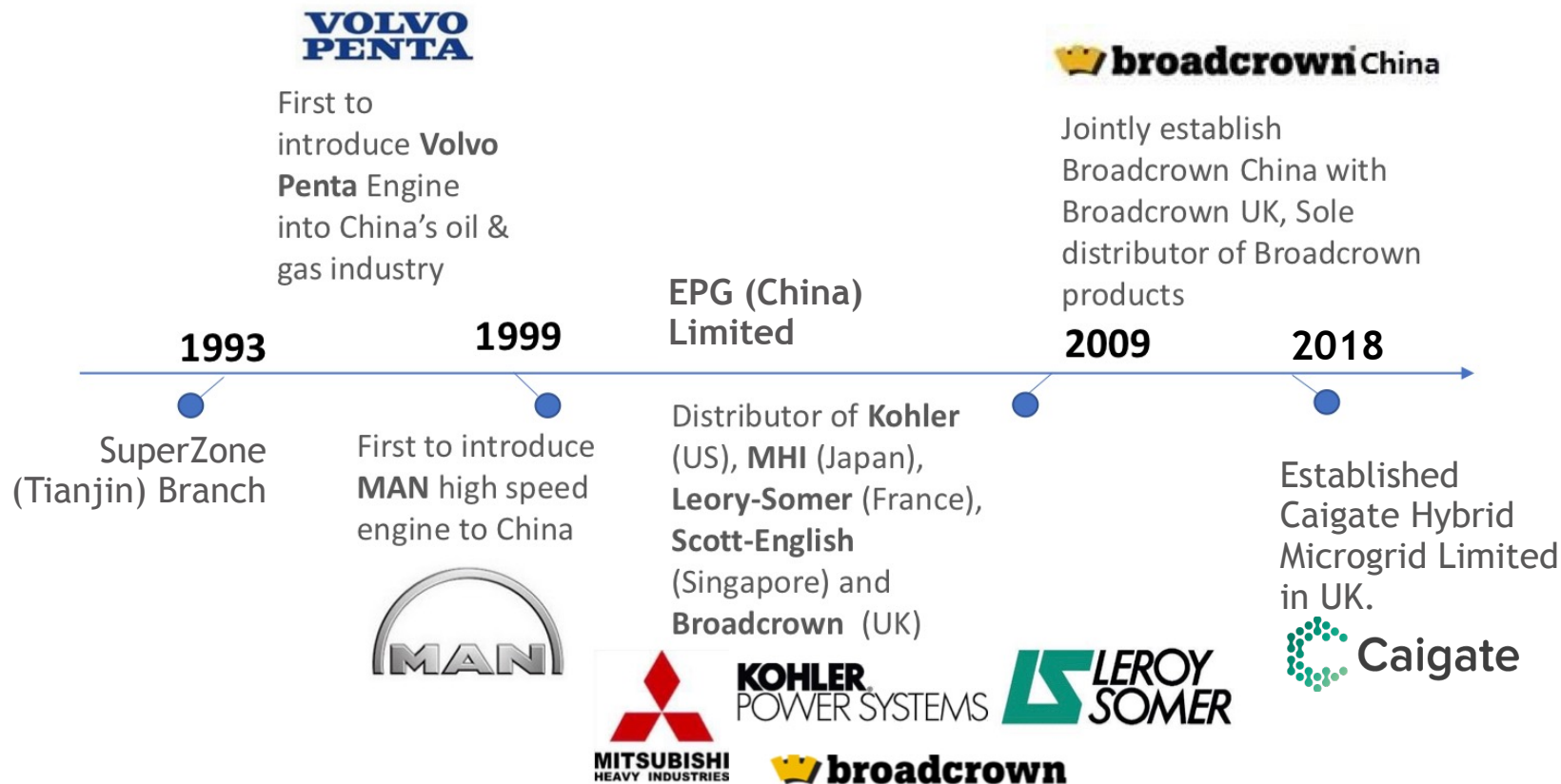
HeatPower



Caigate

Hybrid Power Solution

Company History



Achievement Overview

Caigate has been deeply rooted in the diesel generation business for **more than 25 years**. Our success could not be achieved without fulfilling our customer's vision and we understand that no two projects are the same. We work with our customers to define the specific needs of the project and work around the clock to create the best integrated solution that is **reliable, quick to deploy, inexpensive to run**, and make sure that all the specific requirements of the projects are met.

 **25+**

25 years of dedication
in the power industry

experience and in-depth understanding of power
technology and market.

 **400+**

More than 400MW
total generator
capacity

 **150+**

Over 150 Completed
Projects

 **32**

Projects located in 32
countries & regions

around the world, especially in developing countries
in Asia, Africa, South America, and Pacific regions.

A Dependable & Cost-effective Solution

Reliable

Providing essential off-grid quality power with blackstart capability.

Affordable

Maximize and make use of local renewable energy resources: including solar, wind, hydro, biomass, ocean, geothermal. Less conventional power, with lower maintenance costs of your projects.

Clean

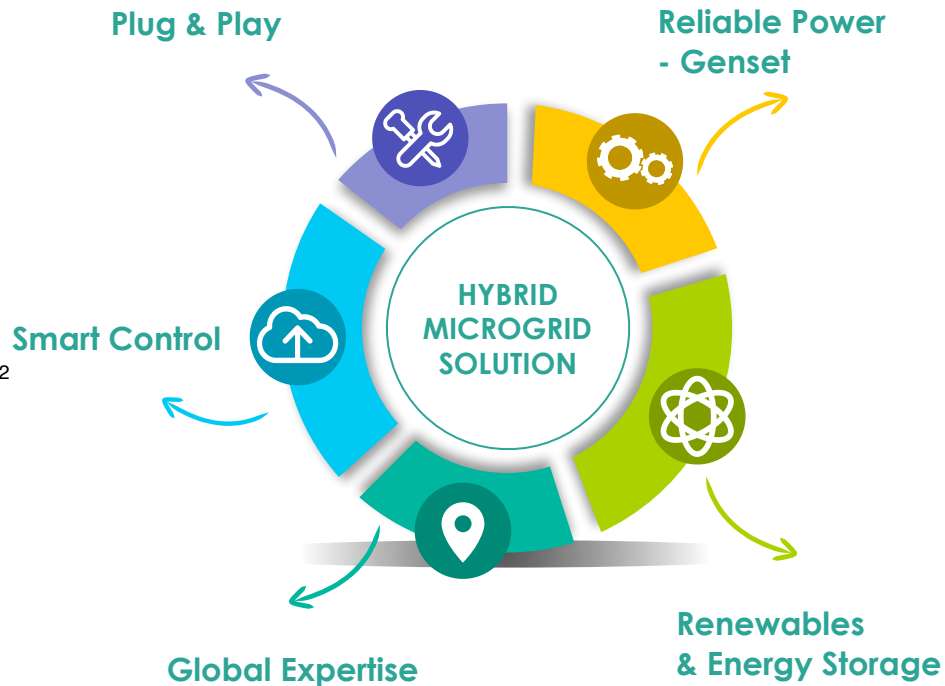
Reducing fuel consumption and associated supply chain risk and CO₂ emissions.

Smart

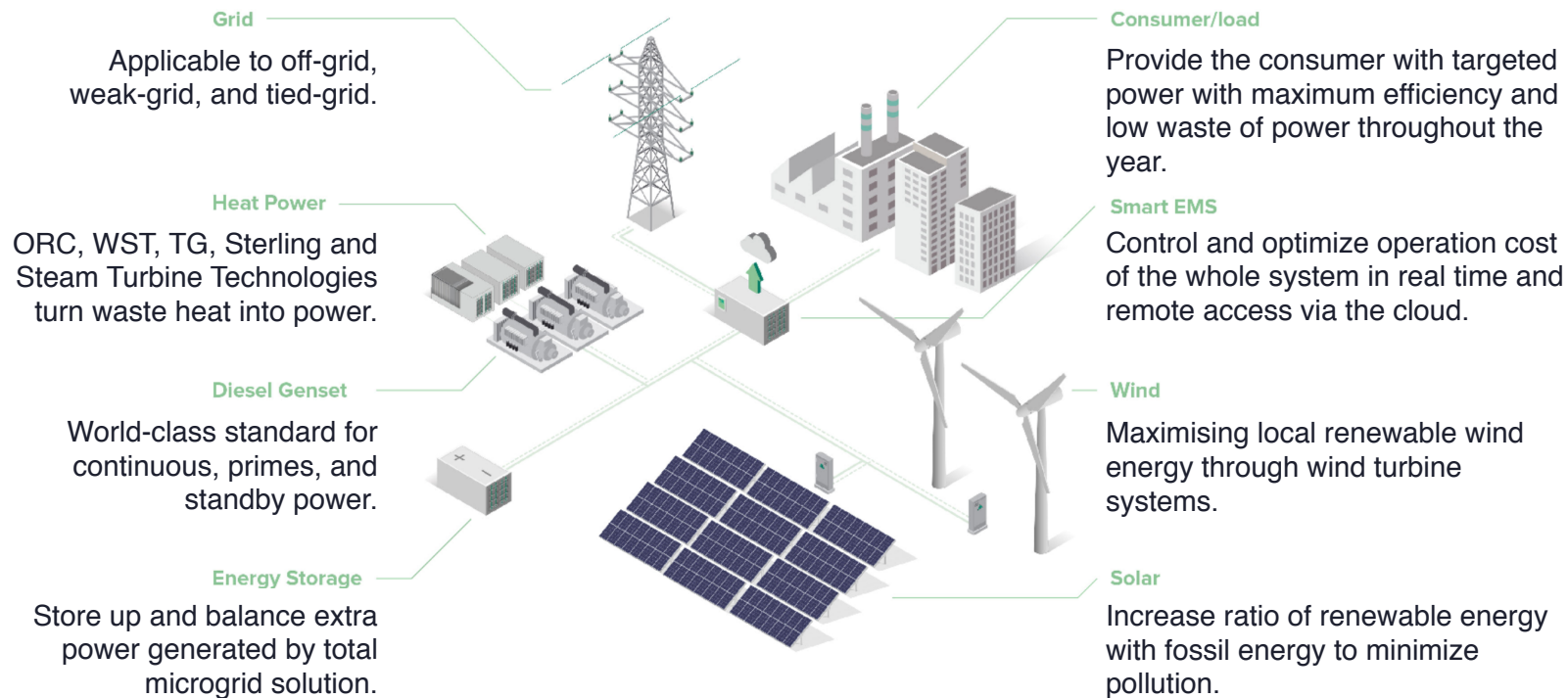
Smart system continuously optimizes the coordination of the Energy Storage, Diesel Genset and Solar power.

Simplicity & Reusability

Easy transport, quick setup, simple management, and everything is reusable globally.



Hybrid Microgrid Solution Overview

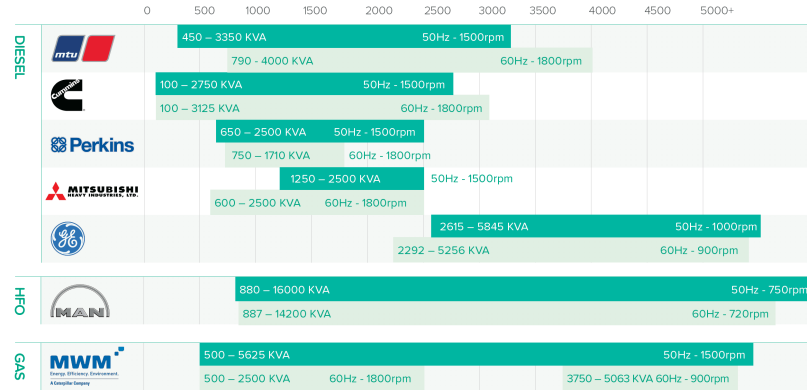


POWER PLANT

- Fastest deployment within 4 months for large scale power plant.
- Turnkey solutions for up to 50MW plants.
- Support options for maintenance, efficiency optimization, and spare parts during complete plant lifetime.

DIESEL GENERATING SET

- Compatible with all top-tier standard diesel engines, alternator, and controller.
- Compact design and high-power density for optimal space-saving and fuel efficiency.
- Flexible customization to match your power needs.
- On-site customer product training.
- Worldwide 24/7 technical support.



BLACKSTART

- Provide full project engineering support in every project, including conceptual design, detailed engineering, software and hardware delivery, and commissioning.
- Worldwide support to ensure maximum reliability.
- Customizable design for unique environment and setting.
- Over 10 successful blackstart systems for coal-fired and gas turbine power plant projects.

Safe and Reliable

No matter how complex the system becomes, our number one priority is safety, and second is to be as reliable, if not more, as traditional fossil powered generators.

Affordable Power

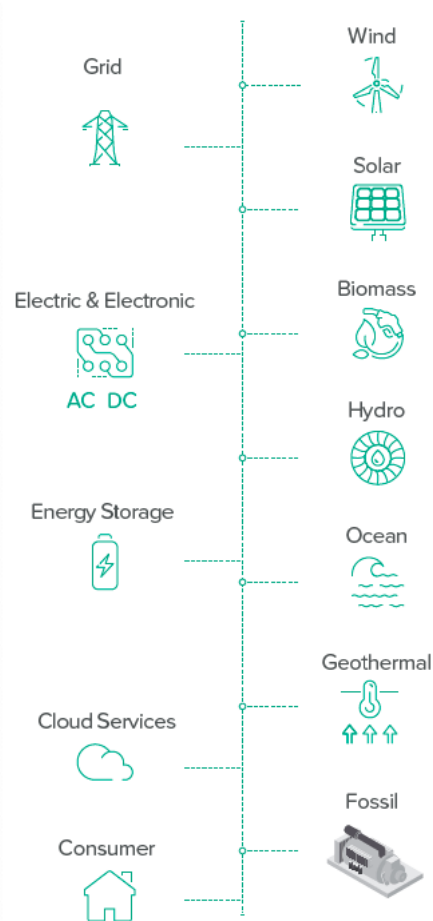
Make power available everywhere, especially for the third world countries. Everyone deserves a fair chance in life.

Local Resources

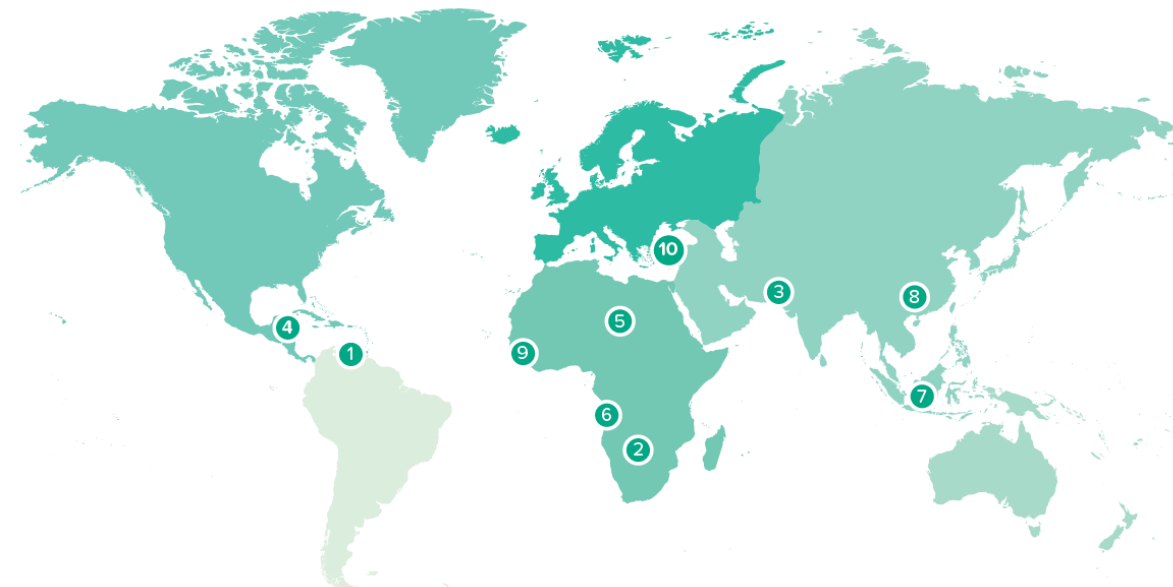
Maximize and make use of local resources, such as solar, biomass, wind, hydro, ocean, geothermal, etc.

Customer Simplicity

Simple setup, simple management, and easy to use.



Project References



1. Blackstart System

New central Siemens Gas Turbine Power Plant
Venezuela, South America
5 x 1800KW @ 4.16KV, 60Hz, 1800rpm
High Speed Engine/Diesel

2. Blackstart System

Morupule B 4 x 150 MW CFB Coal-Fired Power Station
Botswana, Africa
9 x 2000KW @ 6.6KV, 50Hz, 1500rpm
High Speed Engine/Diesel

3. Blackstart System

Engro Powergen Hitachi Gas Turbine Power Plant
Pakistan, Asia
2 x 1600KW @ 6.6KV, 50Hz, 1500rpm
High Speed Engine/Diesel

4. Combined Heat & Power

Sugar Factory Power Station Belize, North America
2 x 2000KW @ 13.8KV, 60Hz, 600rpm
Medium Speed Engine/HFO

5. Diesel Power Plant

200,000 T/year Baoare Cement Plant
Chad, Africa
5 x 2000KW @ 6.6KV, 50Hz, 600rpm
Medium Speed Engine/HFO

6. Hybrid Power Plant

4 Solar & Diesel MINEA Power Plant.
Angola, Africa
12 x 800KW @ 400V, 50Hz, 1500rpm
High Speed Engine/Diesel

7. Diesel Generator Set

LPI-KOMERING Sugar Refinery Project
Indonesia, Asia
3 x 1600KW @ 6.6KV, 50Hz, 1500rpm
High Speed Engine/Diesel

8. Diesel Generator Set

Qinghai Polysilicon Refinery
China, Asia
1 x 1600KW @ 400V, 50Hz, 1500rpm
High Speed Engine/Diesel

9. Diesel Power Plant

Conakry Capital Diesel Power Plant
Guinea, Africa
10 x 1000KW @ 400V, 50Hz, 1500rpm
High Speed Engine/Diesel

10. Diesel Generator Set

Hydropower Plant
Turkey, Europe
2 x 260KW @ 415V, 50Hz, 1500rpm
1 x 120KW @ 415V, 50Hz, 1500rpm
High Speed Engine/Diesel



Project: New Central 772MW Gas Turbine Power Plant
Capacity: 5 x 1800KW @ 4.16KV, 60Hz, 1800rpm

The Challenges:

To satisfy the demand of very high instant load of the gas turbine.

High installation requirements for outdoor installation, low noise penetration, modular contain with good heat dispersion, and high humidity.

What we provided:

Customised total solution for blackstart including calculations, design, and selective components and machinery.

5 Mitsubishi Engine and Leroy-Somer alternator. Genset assembled in United Kingdom.

On-site service and training.



Project: Sugar Factory Power Station
Capacity: 2 x 2000KW @ 13.8KV, 60Hz, 600rpm

The Challenges:

Provide multi-functional use for peak time power, blackstart system, and combined heat and power (CHP) system.
Meet client's strict fuel consumption rate demand.

What we provided:

2 sets of 2000KW medium speed Ningdong diesel generator set, HFO fuel, with high voltage alternator.
Full addition of electrical and mechanical equipment for the power station.
On-site service and training.
Customer engineer training courses.



Project: 4 Solar & Diesel MINEA Power Plant
Capacity: 12 x 800KW @ 400V, 50Hz, 1500rpm

The Challenges:

The whole project includes total of 8 hybrid plants scattered in various area in Angola.
To meet the critical lead time, 4 units were shipped by air cargo plane to the site.

What we provided:

- 12 units of 800KW diesel generators, built in standard ISO container
- On-site commissioning service.
- Customer engineer training courses

Partners



Partners



Expertise

6. Independent Power Producer
Providing new business model opportunities



1. Customised Solutions
We listen to your needs

5. Operation & Maintenance
25 years of proven track record



2. Manufacturing & Procurement
We can build it for you

4. Construction & Commission
Comes in one package



3. Design & Engineering
Our proudest trait





Thank You

www.caigate.com



FossilPower



HybridPower



HeatPower



Caigate

Hybrid Power Solution