

Comprehensive Solution of Low-Carbon Energy on Oil and Gas Fields

Provide green energy solutions integrating green energy power generation (wind power generation, solar power generation, gas power generation, etc.), smart microgrid and energy storage for typical energy use scenarios such as oil and gas field drilling, fracturing, recovery and transportation, provide users with economic, efficient, green and stable power supply, and promote the green and low-carbon development of oil and gas exploration and development activities.

Meet The Energy Requirements of Oil and Gas fields

After deeply engaged in the oil and gas field for more than 20 years, the Group has a deep understanding of the typical energy use scenarios of oil and gas fields and a deep understanding of energy use requirements for different working conditions and different scenarios.

Digital and "Smart" Energy Use

With professional digital capabilities for the oil and gas industry, the Group accurately realizes intelligent optimization and adjustment of load to reduce energy consumption, improve power grid stability, and improve operational efficiency.

Owned Service Guarantee

The owned power construction service team, with perfect power (including wind power generation, new energy power generation, power transmission, power transformation) design and construction qualifications, has provided a number of electric power engineering services and new energy EPC engineering services for major oil and gas fields.



Electrical Power Equipment and Electrical Power Engineering Service

Actively promote and fully practice the "grid first" idea in oil and gas fields, and provide the power transmission scheme of drilling, completion, gas (oil) recovery and pipeline transportation around the development of shale oil and gas, tight oil and gas, and coal-bed methane blocks. The Group has a wealth of oil and gas field line construction performance, and the construction capacity to open new energy power generation access projects and integrated circuit projects.



Electric Power Engineering Design

Honghua has the design capabilities of wind power generation, new energy power generation, power transmission projects and power transformation projects of 110kV and below



Electric Power Engineering Construction

Electric substitution for oil equipment service
Wiring engineering service
Substation operation and maintenance service



Electric Equipment

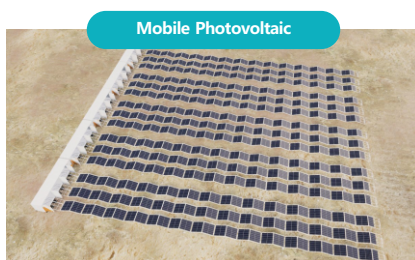
Pre-installed high voltage transformer and distribution skid
Voltage regulation room
Compensation room

Photovoltaic Power Generation ▼

With photovoltaic power station engineering design, engineering construction and other capabilities, Honghua can provide users with the full-scenario photovoltaic solutions in the oil and gas industry.



- Color steel roof
- Cement roof
- Inclined roof



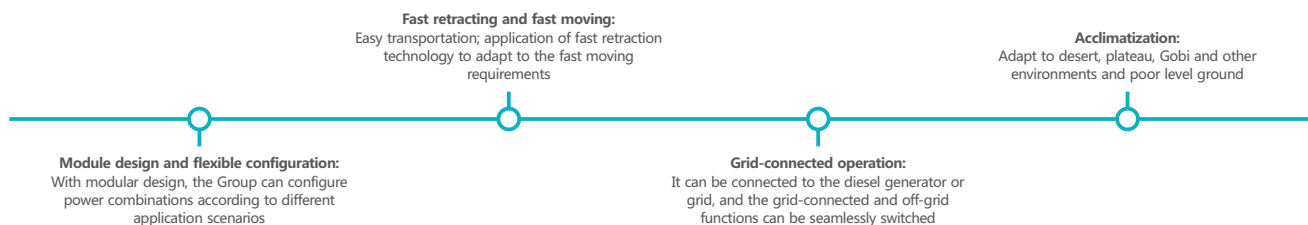
- Floor-mounted
- Spatial



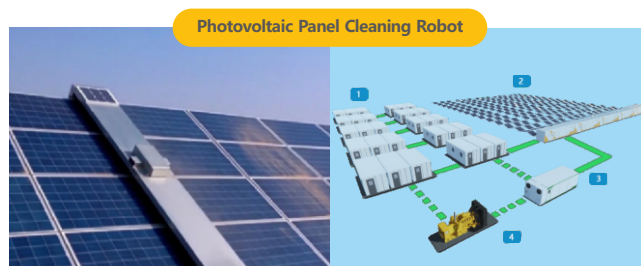
- Agricultural light complementation
- Forest
- Grassland
- Desert

Mobile photovoltaic

For the application scenarios of barracks, oil testing, workover, and geophysical exploration, Honghua has developed a mobile optical storage system with the installed power of 30kWp and 100kWp that can be deployed and moved quickly



- Data transmission through sensors for intelligent analysis, intelligent operation and maintenance
- Some ability to overcome obstacles



- Automatic reset and automatic charging
- Waterless cleaning mode, saving water resources

Wind Power Generation ▼

With relevant qualifications and professional teams, Honghua can provide wind power generation services for oil and gas fields, including planning and demonstration, anemometry, equipment selection, energy use planning and management, construction, commissioning, operation and maintenance.



Adapt to A Variety of Resource Conditions

Cover 1.5MW-10MW onshore wind turbines, and have direct-drive, semi-direct-drive and double-fed wind turbines to fully adapt to various regional and wind farm conditions.

Operational performance
 **15000+** units

Scale Manufacturing and Leading Self-research

Large-capacity generator technology and scale manufacturing advantages
 Industry-leading blade R&D and design capabilities
 Self-designed full range of electronic control systems

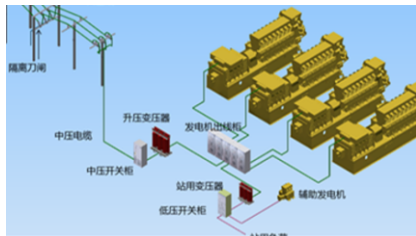
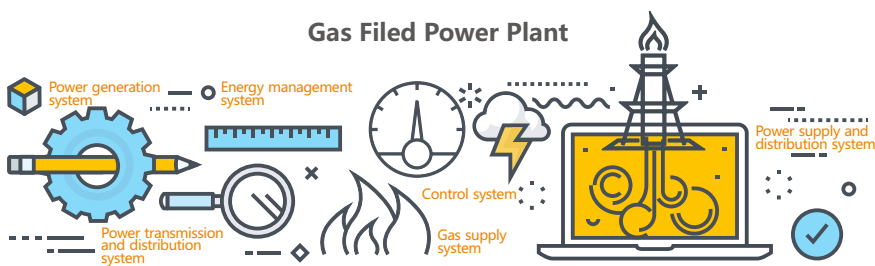
Installed capacity
 **34+GW**

5MW Wind Power Project by Sinopec is Under Construction on Site

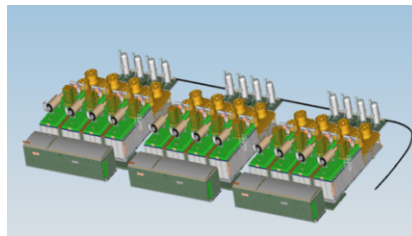


Gas Power Generation ▼

The gas power generation can use a variety of gas sources, including well head gas in the blocks where the grid capacity is insufficient or the grid erection is difficult. The wires radiate surrounding power platforms to supply the power alone or combined with the grid, providing a new model for the green and efficient development of oil and gas fields. Have the capabilities of independent design, complete set, installation and commissioning and operation management of gas power stations with the installed capacity of 100MW and below. At present, it has been applied in large scale in many drilling and fracturing platforms.



Power supply mode of central power station



Power supply mode of mobile power station

Imported Gas Internal Combustion Unit



Caterpillar 2000kW unit



Waukesha 900kW unit

Application Cases



A shale gas platform in Chongqing
the first full-gas power generation fracturing power supply platform in China



A block in Weiyuan
use the well gas to power the electrical fracturing pump unit

Energy Storage System ▼



The application of a battery energy storage system (BESS) with power management system (PMS) is used in drilling, fracturing, recovery and transportation can optimize the operation mode of the unit, optimize the energy distribution system, achieve stable and reliable energy use, and reduce carbon emissions

Energy storage converter
Bidirectional power conversion/grid-connected
synchronization/island operation

Energy storage battery
LTO lithium-titanate battery

Power management controller
Load distribution/optimization of energy efficiency

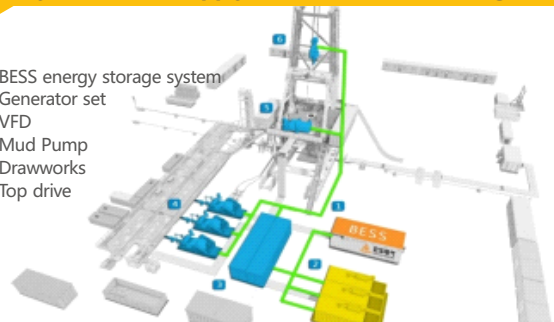
Air conditioning and fire protection
Battery temperature control/environmental
condition monitoring

Rig Energy Storage

It is applied to the hybrid power supply of the rig to provide auxiliary power supply, peak power elimination and dynamic support
Effectively reduce the low load running time of the generator, improve the fuel efficiency and reduce emissions
It can be used instead of the standby generating set to improve the electric energy quality, improve the safety and reliability of the power system, and improve the efficiency of drilling operations
It can be integrated into the rig control system UNISON® for integrated control

Hybrid Power Supply Solution for Oilfield Rig

1. BESS energy storage system
2. Generator set
3. VFD
4. Mud Pump
5. Drawworks
6. Top drive



Fracturing Energy Storage

It is applied to fracturing hybrid power supply to dynamically smooth the load fluctuations
It can be used as a fracturing emergency power supply to avoid sand blockage and other accidents caused by power failure
It can be integrated into the intelligent fracturing control platform iFracPlat for integrated energy management

Energy Recovery, Transportation and Storage

It can be used for high and low voltage switching to improve the load level and line safety
It can be used as a high-power and high-voltage UPS to solve the problem of online switching and backup power supply of the multiple feed system of the supercharger and improve the system reliability



The energy storage system + gas power generation is applied in a block in Chongqing to power the fracturing platform



A battery energy storage system (BESS) with power management system (PMS) powers the rig on a Total drilling platform
Achieve energy efficiency optimization control and reduce carbon emissions