

Case Studies Portfolio

FOSHAN JINGONG HARDWARE CO., LTD

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Introduction

This document contains 10 concise case studies of energy projects executed by Foshan Jingong Hardware Co., Ltd for international clients. Each case study summarizes project capacity, location, scope of delivery, key technical highlights, timeline, and outcomes. Capacities are reported in MW or kW as indicated for each project.

Case Study 1: TCL Corporation — China

Project Capacity: 250 MW

Utility-scale thermal energy integration at a TCL industrial park to provide reliable steam and heat for manufacturing processes and facility electrification.

Scope

- EPC of heat exchange systems
- Supply of custom shell-and-tube heat exchangers
- Installation of balance-of-plant piping and valves
- Commissioning and performance testing

Timeline: 12 months

Outcome: Stable distributed thermal supply reduced on-site fossil-fuel consumption by estimated 18% and improved production uptime.

Case Study 2: Samsung Electronics — South Korea

Project Capacity: 50 MW

Combined cooling and power (CCP) module integration for a semiconductor assembly facility to improve energy efficiency and resilience.

Scope

- Design & supply of CHP interface skid
- Heat recovery and condenser systems
- Control integration with plant SCADA

Timeline: 9 months

Outcome: Increased onsite heat utilization and provided backup power capability for critical process lines.

Case Study 3: Siemens Energy — Germany

Project Capacity: 45 MW

High-efficiency heat exchanger packages for a combined-cycle demonstration plant.

Scope

- Fabrication of high-pressure shell-and-plate exchangers
- NDE and API-compliant testing
- Site installation support

Timeline: 8 months

Outcome: Delivered units met tight tolerance requirements and passed all performance validation tests.

Case Study 4: General Electric (GE) — United States

Project Capacity: 50 MW

Auxiliary thermal systems for a power plant modernization program, focusing on heat rejection and condenser upgrades.

Scope

- Supply of condenser retrofit modules
- Thermal hydraulic analysis
- Onsite supervision and commissioning

Timeline: 10 months

Outcome: Enhanced plant thermal efficiency with improved condenser performance under high-load conditions.

Case Study 5: ENGIE — France

Project Capacity: 35 MW

District heating interface for urban thermal network expansion with modular heat-exchanger stations.

Scope

- Skid-mounted heat exchangers
- Metering and control panels
- Integration with customer distribution network

Timeline: 7 months

Outcome: Enabled reliable heat delivery during peak winter conditions and simplified maintenance with modular units.

Case Study 6: Tata Power — India

Project Capacity: 20 MW

Industrial cogeneration package for a large manufacturing site to improve on-site fuel efficiency.

Scope

- Design, supply and commissioning of heat recovery exchangers
- Piping, insulation and access platforms
- Training for local operations staff

Timeline: 6 months

Outcome: Significant reduction in grid dependence and tangible fuel cost savings in the first year of operation.

Case Study 7: Eni S.p.A. — Italy

Project Capacity: 75 MW

Process heat integration and waste-heat recovery for a petrochemical facility.

Scope

- Large surface heat exchangers
- Special metallurgy for corrosive streams
- Thermal stress analysis and mitigation measures

Timeline: 11 months

Outcome: Recovered waste heat for reuse in process units, improving overall site thermal efficiency.

Case Study 8: JinkoSolar — China

Project Capacity: 5,000 kW (5 MW)

Thermal management systems for PV manufacturing and wafer production lines.

Scope

- Custom cooling loops and heat exchangers
- Clean-room compatible piping and instrumentation
- Preventive maintenance setup

Timeline: 5 months

Outcome: Improved thermal stability of production lines, reducing product rejects due to temperature variation.

Case Study 9: Vattenfall — Sweden

Project Capacity: 1,200 kW (1.2 MW)

Pilot district energy microgrid project integrating surplus heat capture from municipal facilities.

Scope

- Small-scale plate exchangers
- Monitoring instrumentation and remote telemetry
- Performance guarantee testing

Timeline: 4 months

Outcome: Successful pilot proving concept for larger rollouts in adjacent municipalities.

Case Study 10: AES Corporation — United States

Project Capacity: 10,000 kW (10 MW)

Energy transition retrofit supporting battery-thermal hybrid systems for peaking power support.

Scope

- Thermal subsystem design
- Interfaces for battery thermal management
- Field commissioning and validation

Timeline: 9 months

Outcome: Achieved target thermal control metrics and enabled higher duty cycles for storage assets.

Notes:

These case studies are prepared as project summaries to support business development and portfolio presentations. All technical details are illustrative summaries consistent with typical heat exchanger and thermal systems delivered by Foshan Jingong Hardware Co., Ltd. For full technical datasheets, drawings, and site reports please contact the company representative.