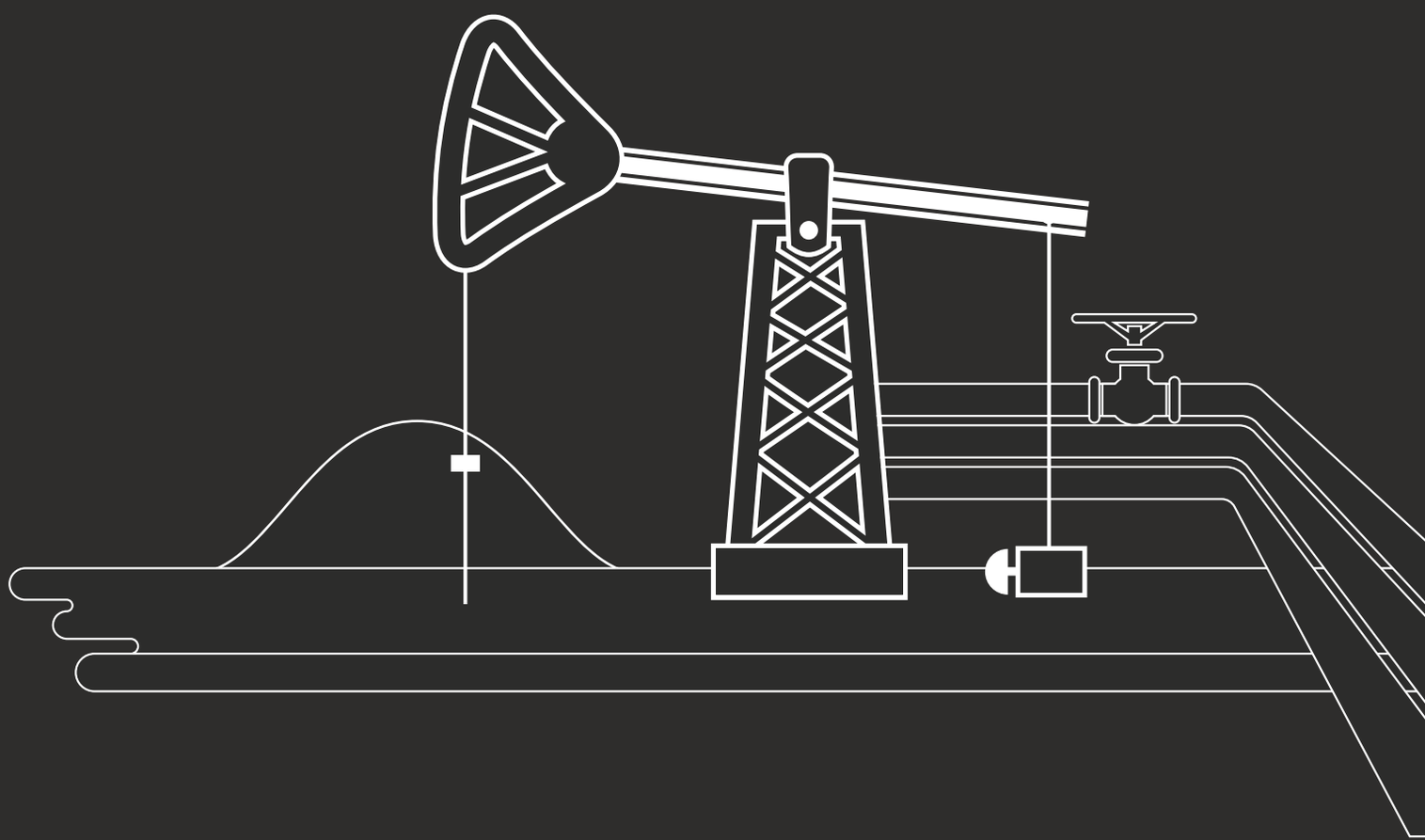
CASE STUDY: OIL & GAS



OIL & GAS

GCC COUNTRY, MIDDLE EAST

Custom built containerized solution for off-grid power in a remote desert area

The Case

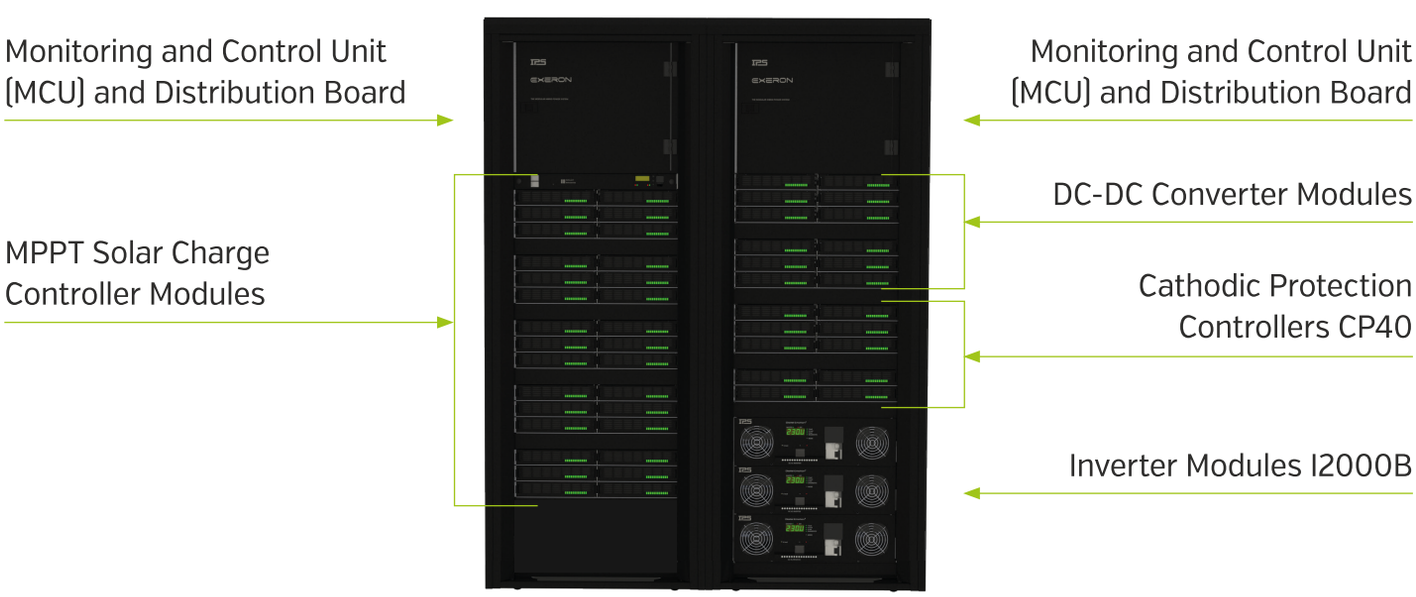
Our client, a leading oil producer in the Middle East, required an autonomous PV power supply system for the existing pipeline cathodic protection, RTU communication units and an artificial list system at one of its unconventional gas wells. The equipment had to be able to withstand the extreme weather conditions in the region, reduce the overall OPEX and provide additional security to the otherwise vulnerable infrastructure.

The Challenge

Most of the company's oil infrastructure is located in desert regions exposed to extreme weather conditions on a daily basis. Sand and dust storms can hit at any time without prior warning and the average daily temperature significantly exceeds the optimum operating values recommended by most battery manufacturers. All these factors lead to quick deterioration of the equipment, frequent maintenance visits and much higher overall OPEX throughout the design-life of the installation.

The Solution

IPS designed, built and commissioned a special container for extreme desert applications. The installation is equipped with anti-solar shielding to reflect the sunlight and prevent it from overheating. There is a special battery compartment with passive cooling inside the container that maintains a temperature of no more than 30 degrees Celsius. IPS also developed a high security locking mechanism with anti-vandal keyless entry feature. In the heart of the installation is our EXERON all-in-one smart modular power conversion system equipped with our own ultralight CP40 cathodic protection controller.



The IPS Configuration

Turnkey Solution

System Requirement	Exeron CM Configuration
PV Input: 60 kWp monocrystalline	30 x 2 KWp MMPT Charge Controllers SML2000
Daily Load: 105 KWh	4 x 0.90 kW DC-DC Converters
Battery: 48V/ 6700 Ah (2 days backup)	3 x 2 kW Cathodic Protection Controllers CP40
Output Voltage RTU & CP: 24 / 48 VDC	24/7 Network Control and Monitoring Centre
Peak Output Power ALS: 4 kW (3-phase)	3 x 2 kVA Inverter Modules I2000B

Optimal System Performance

The Exeron system and the special container achieved the desired goal to provide reliable off-grid power for the cathodic protection, RTU equipment and the unconventional gas well facilities in the desert. The battery life was increased by 800%, the costly DG use was entirely eliminated and the overall site visits were reduced to a minimum. The fully integrated CP controller is a new generation device that has the highest level of reliability and fine tuning. Every component is now locked safely and securely inside the special IPS container with the system being remotely monitored & controlled 24/7.

Anti-Solar Shielding

PV Installation