Clarke Energy

Engineer - Install - Maintain

Distributor & Service Provider
Gas Engines

Remote Power

Remote Power

Clarke Energy is the authorised distributor and service partner for GE Energy's gas engine division in a growing number of countries across the world. In addition to providing high-efficiency, reliable gas engines we combine this with the expertise and resources to deliver unbeatable product support.

Whether your requirement is for the supply of a single gas engine generator or a complete turnkey power generation facility, we can meet that need. Our ability to add value by offering an end-to-end service, from initial proposal to reliable long-term maintenance, has led to us becoming a multi-national company with operations in ten countries across the globe. Our company prides itself on integrity, delivering only the highest quality products whilst providing a reliable accountable localised service.

Benefits of working with Clarke Energy
Clarke Energy provides flexible solutions for your gas generation projects. Our services range from the supply of a gas engine generator, through to the complete turnkey installation of a gas powered generation facility. Clarke Energy has a dedicated, top-quality team of sales, engineering, project management, commissioning and maintenance staff to meet your needs. We also offer long-term maintenance contracts backed up by a strong balance sheet, giving peace of mind with respect to the long-term performance of your GE gas generation equipment.

Power Generation in Remote Areas

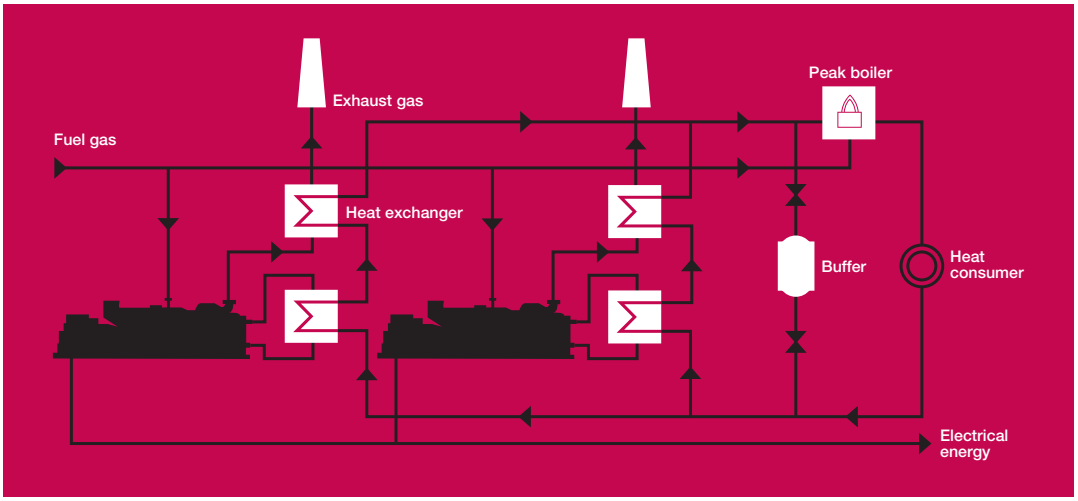
In large sparsely populated countries the main electricity grid is typically focused around the major centres of habitation. This can cause challenges for developers looking to build facilities away from these localities. In those areas not serviced by a main electricity grid, locally generated electricity is ideally suited as a cost-effective way of meeting the surrounding electricity demand while reducing significant network installation or upgrade costs.

Gas engine-based power plants generate stable base-load power locally to the remote installation. Through supply of energy directly at the load, it is also possible to reduce or avoid altogether the transport and distribution losses. Producing electricity from gas is highly efficient and losses reduction is of paramount importance.

Benefits

- Reduced energy costs
- Reduced/eliminated transmission losses
- Highly efficient technology with minimal de-rate in locations with high ambient temperatures
- Turn-key service reduces operation and maintenance expenses
- Standardised design allows rapid design, easy transportation and flexible installation
- Modular unit configurations allow scalability of installed plant capacity and cost-effective redundancy levels for guaranteed power delivery

Cogeneration Schematic



Cogeneration & Trigeneration

Cogeneration (or combined heat & power) and trigeneration can also be used in remote areas. Cogeneration is the simultaneous production of electricity and thermal energy from a single fuel source, whereas trigeneration adds the production of cold water. A reciprocating gas engine is used to drive a generator to produce electricity; the waste heat from the engine exhaust can also be recovered and provided directly to the customer or used in a boiler to produce steam. This enables the supply of electricity and steam or heat to customers. Additionally the waste heat can be used to drive an absorption chiller. This results in the production of cold water for use on-site.

Proven Solution

In a number of countries such as Australia, there are many large, sparsely-populated areas which cannot be economically serviced by the main electricity grids.

The Clarke Energy pre-engineered high ambient temperature 'cookie cutter' power station model has been designed for remote-area power plants and are designed to operate on natural gas, coal gas, flare gas, biogas or landfill gas to economically meet the needs of remote operations.

The model features a modular design which facilitates the earliest possible power generation given work can start immediately upon award, saving critical design time at the front end of the project. The proven model also allows the steady augmentation to coincide with the electrical load development of the supplied operation. This means that generation can begin with as little as 500kW and then grow this output to tens of megawatts as the operational load comes on line.

Generators can be utilised for a variety of remote power applications:
- Parallel with the grid supply
- Island power
- Dedicated special purpose loads
- Water treatment plants
- Gas compressor stations

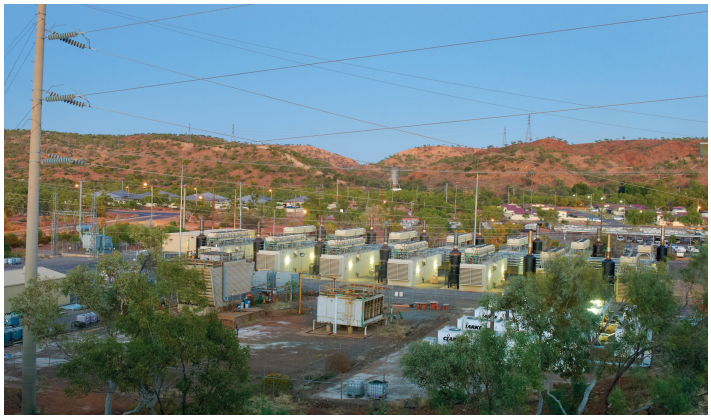
During the operating life of the equipment, Clarke Energy will service and maintain the generators offering fully comprehensive operation, maintenance, repair and overhaul packages including remote monitoring and guaranteed availability. The overall installation, operation and maintenance of all GE Jenbacher gas engines installed in our territories is performed by factory trained, dedicated local Clarke Energy commissioning and service engineers.

Our Competence

Clarke Energy has comprehensive experience of the generation of electrical and thermal power from gas in a variety of remote locations. Most notably our Australian operations have installed hundreds of MW of generation capability in remote, arid locations.

The GE Jenbacher gas engine is known for having the highest levels of electrical efficiency on the market. When coupled with a contractual maintenance agreement with Clarke Energy, it will give peace of mind to the customer that they will achieve the highest levels availability and hence consistent returns from their biogas plant.

Mt. Isa, Australia, natural gas powerplant



Cliff Head, flare gas project, Dongara, Australia, 3 x JMS612

If you would like to find out more about how Clarke Energy can help you develop your power plant project, please contact your local office for more details.

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