Power generation solutions

Involvement at every stage of the project
Industry-leading efficiency

- **600 KW PER CYLINDER**
- **EXCEPTIONALLY LOW FUEL CONSUMPTION AND EMISSIONS**
- **A MODULARISED CONCEPT**

Rolls-Royce’s medium speed engines operate at high levels of environmental quality and can reach up to 50 per cent efficiency in open cycle. In combined heat and power they can reach a total efficiency of more than 95 per cent. The world-class level of efficiency brings considerable savings in fuel consumption. Rolls-Royce also provides the advantage of multi-unit configuration to optimise the output of the plant and match specific requirements of varying loads. This enables you to operate all engines at optimum efficiency. By installing a heat recovery system and steam turbine, you can increase power production by up to eight per cent with no additional fuel consumption. For intermediate peaking and base load operations, this reduces the cost of electricity and increases the economic benefits of the plant. The Rolls-Royce cogeneration concept allows this option to be included in the design, or for the steam turbine to be added later. Our engines are extremely robust and reliable, ideal for operations in the most demanding industrial environments. Output derating for altitude, or in hot ambient conditions, is minimal.
Which operational mode do you require?

**Baseload**

Our generator sets supply continuous power to the grid with up to 98% availability. Service downtime is easily catered for with an N + 1/ N+ 2 configuration, ensuring 100% power plant output 365 days a year.

**Grid support**

To compensate for intermittent renewable generation, fast back-up power is key. The fast start and ramp-up capabilities of our generator sets ensure that the grid stability is managed efficiently, both at high and low loads, giving you optimal fuel economy and low emissions.

**Hybrid mode**

At hybrid plants, percentage of produced electricity varies between renewable energies, generating sets and energy storage. Based on calculated power output from renewable energy sources, our engines can be installed for firm capacity supply, or as a part of a micro grid application.

**Peaking**

Fast power supply to meet heavy demand, perhaps only on an infrequent basis, is efficiently met with our fast-start mode.
A scalable power plant concept

- **FAST DELIVERY AND INSTALLATION**
- **MODULAR DESIGN**
- **GRADUAL CAPITAL INVESTMENTS**

A complete power plant based on our medium speed generator sets can be built in less than 12 months, including areas with poor infrastructure. If additional power is required, our modular concept makes it easy to extend the power plant, simply by adding more engine modules. Hence, capital investment can be done gradually, as the need for electricity rises.

Secure your financing

To help secure financing for our customers, we collaborate with export credit enterprises that provide competitive debt financing. This also includes assessments that cover both political and commercial risks associated with exports to most countries. Guarantees from such enterprises will increase the banks’ capacity to provide financing and risk cover, and can reduce the risk of a loss in payment and delivery.
Thermal energy recovery

Make sure you make the most of your investment by optimising fuel usage with a combined heat and power solution. Waste heat from the engines can be efficiently used to generate steam or hot water for industrial processes, or to drive a combined cycle with a heat recovery boiler and a steam turbine.

Hot water can also be used for district heating, and by means of an absorption chiller, cooled water can be used for air conditioning. Another way to increase the overall efficiency of the generator sets is by reusing cleaned CO2 to boost plant growth in greenhouses, or to produce carbonated drinks. Efficiency of the power plant will then exceed 95%, a benefit for your business and for the environment.

Hybrid power plants

Hybrid power plants are a result of combining fossil fuels, such as diesel or gas engines, with renewable energy, such as solar or wind, to create an integrated power generation unit.

For customers in remote areas and difficult terrain, or for those that are subject to an unreliable grid, hybrid plants are a source of energy security. Lower costs, due to a decreased reliance on traditional fuels, are an added benefit of hybrid plants as well.

Due to falling costs of renewable energy sources in the global market and technical advances, hybrid power plants have become a more economically feasible and common installation. Rolls-Royce, a leading supplier of integrated power systems, is well positioned to be your hybrid plant solution provider. Our medium-speed gas and liquid fuel power plants are well suited for hybrid applications.
A long term partner

- MAXIMISED PLANT AVAILABILITY
- PREDICTABLE SERVICE COSTS
- REDUCED DOWNTIME
- TECHNICAL SUPPORT
- ON-SITE TRAINING
- PEACE OF MIND

We believe in standing by our customers throughout the entire service life of their equipment. That is why more than 80% of our installations around the world are covered by our Long Term Service Agreements, which provide planned and unplanned service support from highly trained and experienced Rolls-Royce service engineers. In fact, many of these customers have power plants that have been maintained and successfully operated for several decades - a testament to the effectiveness of our service and maintenance concept.

Every service agreement is tailored to suit the unique operational needs of the customer, configured to meet the characteristics of the application they serve. Our service scope ranges from nearly independent customer operation to full operational reliance on Rolls-Royce. See the different levels on the next page.
Web based customer portal

Our digital solutions make equipment monitoring easier. Remote troubleshooting by our technical support team is an excellent way to reduce operational costs and maintain maximum availability. You can choose the level of digital services you need for your business. We deliver everything from local digital monitoring of operational parameters, to cloud-based data processing with an advanced analytic platform.

Woldwide capability, wherever you are

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