

# Still Reliable!

The diesel generator segment in India has seen steady rise and unreliability of electricity grids is one of the major factors driving this market.



Photo courtesy: Sterling & Wilson Powergen Pvt. Ltd.

**P**ower is one of the most critical components of infrastructure and crucial for both economic growth and welfare of the nation. The existence and development of adequate infrastructure are essential for sustained growth of the Indian economy.

India is a rapidly growing economy which needs the energy to meet its growth objectives in a sustainable manner. The Indian economy faces significant challenges in terms of meeting its energy needs in the coming decade. India's power sector is one of the most diversified in the world and is undergoing a significant change that has redefined the industry outlook.

Sustained economic growth continues to drive electricity demand in India. The Government of India's focus on attaining 'Power for all' has accelerated capacity addition in the country. At the same time, competitive intensity is increasing at both the market and supply sides.

The Indian power sector has an investment potential of ₹15 trillion (\$223.67 billion) in the next four to five years, thereby providing immense opportunities in power

generation, distribution, transmission, and equipment, according to the union.

Electricity grids, which are already operational in India, are not able to withstand heavy rainfall, earthquake, and fire, which lead to power outages, have created the need for installation of gensets across the sectors.

"The unreliability of electricity grids is one of the major factors driving the market. The need for uninterrupted and continuous power supply has led to increased adoption of gensets across the industrial, commercial, infrastructure and residential sectors," shares **Sanjay Jadhav, President, Sterling and Wilson Powergen Pvt. Ltd.**

Meanwhile, **Ramesh Pasarija, Chairman, Technical Committee, Indian Diesel Engine Manufacturers Association** was cautiously optimistic, "The growth rate for DG sets in the past two years has been flat. This is majorly because of the dip in industrial growth and improvement in power management by the discoms. Going forward, the variable speed gensets will attract more demand over the constant speed generators, as the former has price and cost advantages over the latter."



## “Unreliability of electricity grids is a major driving factor”

Sanjay Jadhav, President, Sterling and Wilson Powergen Pvt. Ltd.

### What role do diesel gensets play in India?

Power is one of the most critical components of infrastructure and is crucial for both economic growth and welfare of the nation. India's power sector is one of the most diversified and is undergoing significant change redefined the industry outlook. GoI's focus on 'Power for all' has accelerated capacity addition in the country. At the same time, the competitive intensity is increasing at market and supply sides. Unreliability of electricity grids is a major factor driving the market. Electricity grids, which are already operational in India, are not able to withstand

heavy rainfall, earthquake and fires, which lead to power outages. The need for uninterrupted and continuous power supply has led to increased adoption of gensets across sectors. With the implementation of CPCB-II norms and stringent emission norms, there will be a substantial improvement in the quality of exhaust gasses being discharged into the atmosphere making the diesel gensets into completely eco-friendly options.

### Where does India stand on the global scale?

The global generator market is highly competitive; the technology used is maturing and replaceable,

and there are pricing challenges. However, in the past decade, the market grew 40 per cent, and by 2025, it is expected to grow by another 50 per cent. The market growth during the forecast period will largely depend on the market growth in the Middle East and Africa, and Asia-Pacific attributed to be mainly driven by the oil and gas and mining industries in this region. India easily ranks among the top 10 marketplaces globally. There is a large requirement of diesel generators in India and Sterling and Wilson Power Gen Pvt. Ltd, being the most dominant player in this segment will get benefit from it.

*(For full interview, log on to [www.powertoday.in](http://www.powertoday.in))*

Furthermore, with the implementation of CPCB II and stringent emission norms, there is expected to be a substantial improvement in the quality of exhaust gasses being discharged into the atmosphere making diesel gensets an eco-friendly option.

### APPLICATIONS

There are two classes of diesel engines: two-stroke and four-stroke, with the latter being more common. Generator sets produce either single or three phase power. Most home-owners require single phase whereas industrial or commercial applications usually require three phase power. Diesel engine generators are recommended due to their longevity and lower operating costs. Modern diesel engines are quiet and generally require much less maintenance than comparably sized gas (natural gas or propane) units.

Considering the impact of significant revenue loss, the economics of investing in standby power is compelling. To illustrate the point: If a retail business averages \$1000 an hour at the cash register, the loss of revenue during an extended outage will be very high, not to mention the cost

of having employees idle during that time. However, diesel powered generators eliminate the risk of a blackout. Add the advantages of being open while competitors without backup power are shut down and the cost/benefit analysis looks even better. Investing in generators is a simple way to safeguard revenue, maintain security, avoid losses, and protect the bottom line.

Most modern generators are engineered to meet emergency power needs. These units continuously monitor the electrical current and automatically start up if power is interrupted and shut off when utility service is returned. In industries, during critical processes, generators can supply emergency power to all vital and selected loads as desired.

### GLOBE COMPARATIVE

The global generator market is highly competitive; the technology used is maturing and replaceable, and there are pricing challenges. However, in the past decade, the market grew 40 per cent, and by 2025, it is expected to grow by another 50 per cent. The market during the forecast period will largely depend on market growth in the Middle East



## “We expect 8-10% market growth next year”

Sameer Gupta, Chairman & Managing Director, Jakson Group

### What are your offerings in the India market?

Jakson has a complete range of generating sets from 7.5 kVA to 3,750 kVA – to meet the energy requirements of customers across residential, commercial or industrial segments. The products are designed to meet specific requirement of specific segments and the product features offered by us positions our gensets uniquely in Indian market.

### What technologies have you applied specific to India?

We are at the forefront of adopting innovative technologies. Powered with Cummins engines, our gensets lead on emission

technology. Likewise, we have the know-how to bring down noise pollution by about 10 per cent. The electronic controls provided on the gensets have unmatched features like remote control and telematics. The generating sets are best in class in terms of life-cycle costs.

### What are your strategies for the India market?

We have significant market share in India and for some products it is as high as 75 per cent plus. The key strategy is to defend or increase market share by ensuring that we have low cost and fit for market products. Jakson-Cummins gensets offers ‘value for money’ and ‘peace

of mind’ to customers, which positions us differently in Indian market. We have enough installed capacity to take care of market growth over next five years. We are geared to launch next generation gensets with full authority electronics which will lower both emissions and fuel consumption.

### How do you see the industry in the next 2-5 years?

We continue to be positive about the Indian market and expect it to grow at around 8-10 per cent in next year and in the subsequent year the growth to be around 12 per cent or higher.

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and Africa, and Asia-Pacific regions attributed to be mainly driven by the oil and gas and mining industries in this region. India easily ranks among the top 10 marketplaces globally.

Adds Sameer Gupta, CMD, Jakson Group, “Globally, the diesel generators market is expected to grow at a CAGR of over five per cent till 2020. In India, the growth is expected to be in double digits - around 10 per cent - considering focus on infrastructure and services. Due to the various initiatives launched by GoI, we expect manufacturing to pick up, which can further boost demand.”

In India, power supply from the grid is often insufficient to meet power requirements across various sectors. Consequently, diesel gensets play a pivotal role in providing reliable and high-quality power backup during power cuts as well as stand-alone power generation systems.

The construction segments both commercial and residential purpose and increasing industrialisation cumulatively accounted for a majority share in the country's diesel gensets market. The most popular segments in this vary from 125 kVA to 3,000 kVA.

“There is a large requirement of the diesel generator in India and Sterling and Wilson being the most dominant player in this segment will get benefit from it. The segment is set to grow steadily is projected to grow at the fastest rate,” observes Jadhav.

This growth is attributed to rising demand for uninterrupted power supply and increasing industrialisation. Frequent power outages and increasing power demand unmet by existing grid are driving the diesel generators market in the region.

Various end-user sectors such as healthcare facilities, pharmaceutical industries, manufacturing facilities, transportation and communication systems, data centres, fuelling stations, and water and sewage facilities require the consistent power supply to ensure seamless operations.

### ECO-SAFE

The new CPCB II emission rule is a breakthrough legislation which will certainly help control release of polluting gasses into the atmosphere and result in overall healthy living. CPCB II norms aim to reduce levels of

nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM), which are the two main pollutants in diesel engines.

With the implementation of CPCB II and stringent emission norms, there is expected to be a substantial improvement in the quality of exhaust gasses being discharged into the atmosphere.

Adds Jadhav, "The new norms will have a positive impact that will ensure favourable actions by companies. The implementation of these norms will certainly help control release of polluting gasses into the atmosphere and result in overall healthy living."

Talking about renewables having an impact on the DG market, Pesarija feels, "In India, renewable sources are yet to grow to a level where they can have impact on DG sets' market. It is true that some of the segments are opting for renewable energy over DG sets. However, the instability in output from renewables is a concern."

So, DG sets still continue to be the backbone of many operations, while also progressively moving towards cleaner and greener energy solutions.



DG gensets market growth in India is expected to be ~10% till 2022, due to focus on infrastructure and services.

**CHALLENGES**

Without a doubt, the Indian power sector had witnessed exponential growth during the past decade. Changing trends in technology remain the biggest opportunity, as these will make it more viable and reduce dependence on subsidies.

"People often talk about addressing the customer need but we need to understand that there are different aspects to this customer need. Our aim is to create a product that is technically superior, represents the latest technology and makes customers feel that they have taken the right decision in buying this product," shares Jadhav, adding that the products also have to be cost competitive as India is a price sensitive market.

**Diesel Generators in Power**

- **Electrical Island:** One or more diesel generators operating without a connection to an electrical grid are referred to as operating in island mode.
- **Grid Support:** Emergency standby diesel generators are widely used to support the national grids at times for a variety of reasons.
- **Parallel Load:** A generator running a continuous unvarying load, or paralleled with the mains and feeding power at the maximum permissible level, including sets used for peak shaving / grid support.
- **Fuel:** Diesel engines can work with the full spectrum of crude oil distillates to fuel oils and some larger engines sometimes use heavy oils, essentially tars.

According to Pesarija, the reasons for any decline in usage of DG sets can be traced to the products not being subsidised anymore; or improvement in power management by the discoms; and lower number of power-cuts this summer.

**TECHNO CHECK**

Any product which offers increased productivity, fuel efficiency, minimal maintenance and more importantly have cost competent drives the choice of customers towards superior products. Load characteristics though does not influence the choice of DG sets, it definitely defines the operational efficiency of that particular product. The ability to maintain a stable load ensures the efficiency and longer operational life of the DG sets.

"We predominantly focus on fuel efficiency and emission controls and have products compliant to CPCB II norms and even Euro IV standards. Availability of such products drives the customer towards purchasing and utilising DG sets which are far more superior to the alternatives which were available," points out Jadhav.

Recently, the enhanced small engines are giving higher power output and there is higher demand for engines with improved efficiency. Earlier, DG sets faced the problem of overheating, this is because to give an output of 250 kVA internally the engine had to produce 325 kVA. Now the new engines internally produce only 45 kVA to give an output of 400 kVA.

"That means there is a considerable decrease in the internal frictional power. This is a favourable factor as the fuel cost is on a rise," points out Pesarija.

- JOCELYN FERNANDES