

JCB's new G331 genset, powered by a MTU series 1600 six cylinder engine.

**The generator set market is becoming increasingly crowded as traditional genset manufacturers increasingly see competition from engine OEMs as well. Murray Pollok reports.**

# Power crowd

**Y**ou can tell that a market is becoming more important when a manufacturer like JCB starts to invest. JCB established its Power Products division in 2006 to add gensets and lighting towers to its range of equipment, and now the division is poised for a major expansion as it benefits from its parent company's in-house engine development programme as well as the strength of its global distribution network.

It would be fair to characterise Power Products' activities so far as conservative, with just 60 dealers currently selling the gensets and towers, but that is set to change in a big way with the division planning to increase the number of dealers to 240 within five years.

Jonathan Garnham, who took up the post of director and general manager of the business in January this year, said the experience gained by the existing dealers over the past six years could now be used to encourage other JCB dealers to take on the generators and lighting towers.

"We've learned about what is required to be a successful dealer in Power Products", said Mr Garnham, who has worked at JCB for 13 years, "Globally, our dealers who have taken part have had

their eyes opened to the opportunity."

JCB's 750 construction equipment dealers worldwide are the natural target for the Power Products division, but it will also consider third party dealers who are specialists in power generation.

Power Products has not yet marketed its products in North America, but Mr Garnham said the aim would be to have a presence there within five years, although there are no firm plans.

As the company plans its expansion it is also growing its product range, with new LED lighting towers being launched as well as improvements to its range of generators, which are now using new digital controllers.

## JCB's own engines

JCB uses its own four-cylinder engines in around 15-20% of its gensets, in the 60 to 140 kVA range, but it intends to use the recently announced six-cylinder engine by the third quarter of next year, taking the JCB-powered genset range up to around 200 kVA. The full generator line comprises 114 models from 8 to 2700 kVA.

JCB sources its gensets and towers from a third party supplier, believed to be Himinsa of Spain, although this is not confirmed by JCB. JCB said the products are built to its technical brief and specifications.

Most of its gensets from 30 to 600 kVA are available with Stage III engines - although there is a gap in the 150-200 kVA range at the moment and JCB says it is ready for Stage IIIB when that becomes a requirement in Europe.

Also new from JCB is the use, for the first time, of MTU's 1600 series engines, which will be available on units with outputs from 300 to 700 kVA, alongside the existing 275-600 kVA Scania powered units, which will still be available. The MTU engines are all Stage IIIA.



Jonathan Garnham (left), JCB Power Products director and general manager, with Dave Hardwick, product manager.

Product updates to the range include the option of Deep Sea controllers for its engines above 650 kVA. That will allow the sets to be synchronised easily. Dave Hardwick, product manager at Power Products, says one of the benefits of the Deep Sea system is that it can be used to synchronise machines in mixed-brand fleets.

Also focusing on engine emission issues is Atlas Copco Portable Energy. Ben van Hove, vice president of marketing at the company, says the company is working hard on issues relating to new engine regulations, with generators in the US requiring Tier 4 interim engines and now moving the Tier 4 final. Although these emission levels are not yet required in Europe, Mr van Hove says the work being done in the US will serve it well when the same emission limits come into force in Europe.

The shift to new emission levels in US has not been without market complications, and Mr van Hove says the move to Tier 4 Final represents another challenge, with rental buyers not wanting a wide variety of gensets with different Tier levels in their fleets. He says there is a possibility that some rental buyers will wait until Tier 4 Final arrives, bypassing Tier 4i, before investing again. Instead, he says, some may choose to refurbish existing machines.



Atlas Copco's new QAS 250 genset. Below: Ben van Hove, vice president of marketing at Atlas Copco Portable Energy.





Belgian rental company Delta Rent has been using Europower EPSR rental generators with Volvo engines and in parallel configuration.

Meanwhile, Atlas Copco Portable Energy, which has created a technical centre of excellence for generators and lighting towers at its Spanish facility (the former Gesan factory), is pushing its digital AVR system, which allows a generator to accept high start-up currents when a piece of equipment is turned on, but without having to size the set for that higher current. The company says this can mean that a generator half the size can be used.

Mr van Hove says digital AVR is a kind of "next step" following the introduction of paralleling technology, which allows banks of smaller sets to be used in series instead of a single large unit, thereby reducing fuel use and allowing sets to run at efficient loads. This practice, typically for 150 kVA gensets and above, is already popular in Europe, and Mr van Hove thinks it will become so also in North America, although there is more unease in that market about how easy the process is.

### Portable Power gensets

Doosan Portable Power is also meeting European Stage IIIA emission regulations with its latest generators, the G80-IIIA (80 kVA prime power) and G100-IIIA (100 kVA prime power).

Sharing a similar design and characteristics to the larger G150-IIIA and G200-IIIA models launched in 2012, Doosan highlights an innovative fuel tank frame design offering a containment base integrated as standard in the frame, ensuring 110%

The G100 genset from Doosan Portable Power.



## Altaaqa Global powers up

Altaaqa is another name that we will have to get used to in the international power projects (IPP) market. One of five partners with Caterpillar for IPP projects, Altaaqa Global is the new international power rental business from Saudi Arabia's Zahid Group, which is one of Cat's biggest dealers.

Zahid has been operating a power rental business in Saudi since 2004, called Altaaqa Alternative Solutions ('Altaaqa' means energy in Arabic), but the new venture is a separate operation, headquartered in Dubai, and targeting work outside Saudi Arabia.

Peter den Boogert, the former general manager of Rental Solutions & Services (RSS) joined the business in May 2012 as global business development director, working with Steve Meyrick, managing director, an experienced Zahid manager.

"It's the first company outside of Saudi Arabia for Zahid", says Mr Boogert, "But being a Cat dealer it is already used to working with multi-national customers. The step to Dubai was not difficult, but it's a significant one. They really believe in what we are doing, and they have a well thought-out business plan."

Working alongside the Saudi Arabian business, which already has a fleet of 700 MW of power, Altaaqa Global will target large projects throughout the Middle East, Africa and elsewhere. "We're concentrating on the Middle East and Africa...but we have the licence from Cat to go global, so if there are opportunities in South America or Asia, we will surely go there."

### Competitive strength?

Of course, there are a number of players in the IPP market, so where does Altaaqa see its strength? Mr den Boogert says the configuration of its power plants will be very efficient, using a mix of Cat diesel powered units offering 1360 kVA and 2000 kVA as well as a gas powered Cat 1475 units.

So far the business has invested in 79 of the Cat XQ2000 units and 12 1360 kVA sets, and enough transmission and switchgear equipment for 120 MW of power. Mr den Boogert says its diesel generators will be the most efficient of any large IPP rental player, and that it aims also in the future to compete with Aggreko's recently launched HFO (heavy fuel oil) gensets "We have started a programme - in the very preliminary stages - for HFO. We are looking at it, and might have it within a year...They [Aggreko] have an HFO engine, but not at the scale that we are looking at."

Just as important, he says the Altaaqa equipment has been designed to be quick to install; "We are using the newest equipment, and engineered for IPP projects. The transmission equipment have protection systems integrated that you find in sub-stations, so we can connect directly to a grid without sub-stations. It makes us more flexible. We are focused on IPP business with or without transformers." The company has recently undertaken its first job, a 24 MW contract in Oman that was installed in just four days.

Mr den Boogert says the aim is to have a fleet of around 700-750 MW within five or six years. "We have the financial capacity", he says, "The Zahid family does not get into adventures. That gives both parties - us and our customers - a lot of confidence."



Peter den Boogert, global business development director at Altaaqa Global.



Engine manufacturer Scania has formed a new division to market gensets in the 250 to 600 kVA range.

fluid containment capacity. The generators have a standard fuel capacity offering a minimum of 12 hours of autonomous operation (at 75% of the load), while a 24-hour onboard fuel tank configuration is available as an option.

A digital control panel version, offering extended parameter measurements and historical storage of events and alarms, is available as an option. Doosan says the output performance stability of the generators is ensured by a powertrain featuring a combination of John Deere Stage IIIA engines and Leroy Somer alternators.



Andy Mead, founder and managing director of Firefly.

Competition in the power sector continues to grow. In addition to established players like Himoina, Atlas Copco and many others, increasingly the market is seeing engine manufacturers enter the fray. Cummins and MTU, for example, both offer ranges of gensets (and Cummins has recently launched a new series of sets specifically for the rental market) and now, with a launch in February, comes Scania.

The company's new division, Scania Gensets, is offering a range of open or in closed canopy sets in the 250 - 600 kVA (50 Hz) and 280 - 665 kVA (60 Hz) sizes. The engines are available in fuel optimised versions or Stage IIIA compliant.

The company says customers in the mining and construction industries, often operating on remote sites, already get Scania's support with products such as trucks and Scania-powered off-road equipment, and now also gensets.

"Scania's solid reputation for operating economy and durability, coupled to easy installation and emission compliance fit perfectly in power generation," says Lars Eklund, Scania's sales director, power generation engines. "With the support of Scania's global sales and service network, it's a strong and flexible offer."

Belgium's Europower, meanwhile, continues to invest in its business. It tells *IRN* that the success

French pump and power rental company Delta Service Location (DSL) has added 80 Atlas Copco QAS and two QAC 1250 generators to its fleet. The company has 650 generators and 1500 pumps, operated from six depots in France. The gensets meet the requirements of Electricité Réseau Distribution France (ERDF) for sets that can be used for emergency power management, a key requirement for DSL. Philippe Javerliac, DSL technical director of DSL, said; "In addition to compliance with ERDF requirements, Atlas Copco was also willing to work with our fundamental specification of controller standardisation. Using a standardized controller is a significant benefit for us."



Firefly's new Cygnus Hybrid Power Generator.

of its new range of generating sets from 60 up to 325 kVA, in open, silenced and rental versions, is prompting the company to add a new building to its facility.

The investment, which will boost the facility to 27000 m<sup>2</sup>, of which 9000m<sup>2</sup> is covered, will allow Europower to increase its stock levels, both in components and finished generators. Construction of the new building will start in August 2013 and is planned to be ready in the middle of 2014.

The company reports some recent orders with rental companies including Loxam in Belgium, which is adding trailer mounted 20 and 33 kVA rental specification units, and Delta Rent in the Netherlands.

#### Delta in parallel

Delta Rent has been using Europower EPSR rental generators with Volvo engines and is now offering parallel operating 85 and 100 kVA sets to their rental customers. The sets are equipped with Deep Sea Electronics control modules.

SDMO is expanding up in sizes with its recently launched RC1650 'portable power station', offering

## DEIF celebrates

Danish genset controller specialist DEIF celebrated its 80th anniversary in June this year and continues to expand its business. The company now employs more than 500 people and has sales and training facilities in 12 countries in Europe, Asia and the Americas.

Most recently the company opened a new sales, service and support centre in Singapore, a liaison office in Istanbul, Turkey, and a sales and support office in Naucalpan outside Mexico City.

The Istanbul office will help the company serve the fast growing Turkish genset manufacturing sector, with forecasts indicating annual genset production rates of 15000 units.

1450 kVA of prime power in a 20 ft (6 m) ISO low cube container. The French-based company says the set has compact dimensions "and is designed to provide major back-up power for factories, hospitals and/or sites that require continuous electricity at short notice and where available space is limited."

What is interesting about the genset market, however, are the growing number of companies offering hybrid or alternative energy gensets. Bredenoord in the Netherlands is well known for its fuel cell powered sets, but in the UK there are two companies, Off-Grid Energy and Firefly Solar Generators, now selling hybrid battery/diesel sets.

The concept of the hybrid technology is for a battery pack to take over power duties when demands are low - providing quiet power and using no diesel - with the diesel set being used when demands increase (at which time it will also recharge the batteries in preparation for their next use.)

Off-Grid Energy has already made progress with its Grid to Go system (winner of the rental product of the year award at the recent European Rental Awards), while Firefly has been using its extensive experience in the events rental sector - its origins are as an events rental company - to develop a range of solar powered and hybrid power solutions.

Andy Mead, founder and managing director of Firefly, tells *IRN* that its Hybrid Power Generator (HPG) is now available in three sizes, 12, 18 and 24 kVA. Hybrid power systems up to 100 kVA are possible, but then the battery pack is so large that it ceases to be a practical mobile unit for rental.

He says the sweet spot for hybrid power systems for the rental market is currently up to 30 kVA, and that they come into their own where power loads are asymmetric, in other words, when there is a wide variation on power demands and where you want to avoid running a larger diesel set at low and inefficient loadings.

As well as continuing to develop its hybrid power solutions the company is also planning to launch an LED lighting tower with a hybrid power system, with a February launch likely.

Although with a background in rental the company is now targeting sales of its hybrid sets in the UK and internationally. "Our mission is to make sustainable energy available to everybody", says Mr Mead, "The strategy in the long term is to grow through product sales - both bespoke and off the shelf systems."

How long before the big names of power generation start to get into the alternative energy sector? You can be sure they are watching closely.

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