

Gas engines - out of the shadows

With gas back in vogue as the fuel of choice for power generation, gas engines are newly resurgent as a power source. Plentiful supplies of natural gas and the increasing availability of 'alternative' gases such as biogas and anaerobic gas is driving the take up of localised power, reports Michael Herson of The Strategy Works.



Energy security has climbed to the top of the business agenda, as shifting government policies towards other fuel sources are persuading industrial users to invest in localised gas generation.

The economic case is compelling. Combined Heat and Power (CHP) has become one of the most profitable ways that companies can use to reduce their energy bills, providing heat to the site and achieving cost savings of between 15% - 40% over conventional electricity. (Source: CHPA).

Manufacturing plants and major new office buildings which strive for security from the grid, can embed gas engines on site, positioned close to suitable heat loads and / or sources of low cost fuel.

It is in Europe where the use of gas engines for power generation is growing rapidly.

Andrew Stone, Director of Energy Solutions at Cummins, says EMEA is their biggest sales region for gas engines globally.

Stone believes in keeping the proposition to new customers simple. He says: "We are not selling an engine, we are selling a solution."

Richard Holdsworth, Global Marketing Manager, Lubricants at Shell believes there is a shift towards independent back up power and a real move away from heavy fuel towards gas. He believes LNG will become an alternative option to heavy fuel in many parts of the world.

But the focus of this particular research is on the expanding use of gas engines for the power generation market in Europe, where two thirds of all gas engines are sold, accounting for some 3800 MW of power. (Source: TSW).

To study whole of market, The Strategy Works conducted interviews with companies involved in different parts of the supply chain split into these defined sectors:

- O&Ms (operating and maintaining fleets of gas engines);
- OEMs (manufacturers of gas engines)
- Gas Engine Oil Manufacturers (selling lubricating oil for gas engines);
- Gas Engine Oil Additives Manufacturers (selling additives to gas engine oil manufacturers).

There is no reliable public domain data for sales of gas engines as trade statistics are not (discretely) logged.

Also engine manufacturers are now understandably nervous about sharing data

because recent acquisitions have tended to concentrated manufacturing capacity, prompting a 2011 EEA monopolies investigation.

Combining desk research with interviews conducted, TSW estimates that global annual gas engine sales (over 500kW in power) exceed 6,000 MW per annum, of which 64% is in EMEA at over 3,800 MW. (Chart Source: TSW)

In fact Europe, apart from accounting for two thirds of global sales, is also the epicentre for production of gas engines with CAT having relocated their excellence centre (for gas engines) to MWM in Mannheim and GE confirming that 90% of their worldwide sales of gas engines are manufactured by Jenbacher in Austria. Another large USA manufacturer Cummins has 42% of its gas engine sales in EMEA.

Germany is a particularly important market for biogas with rapid take up because of feed-in tariff incentives. This is confirmed by Sharanie Patterson, Category Portfolio Manager for Power Generation, Natural Gas Engine Oils at Petro-Canada. She comments: "Our largest market would be Germany, which is the biggest market in biogas, followed by the UK. Germany has large potential with some 7,000 gas engines right now running on biogas. Our focus is going to be on Germany, UK, France, Spain, Italy. Gas Engines is a category that is growing double digit every year"

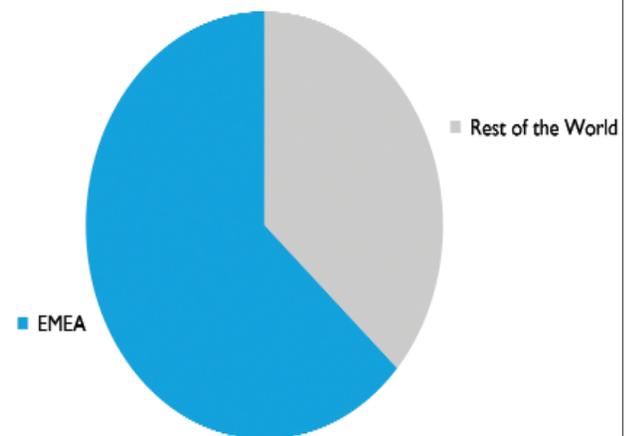
The growth in biogas is recognised by Philippe Poudou, Product Line Manager IEO Specialities EAME at Oronite "In Germany the production from biogas increased by almost 20% in 2011" Source: Biogas Barometer, EUROBSERVER December 2012.

Kirill Chervyakov, Industrial Marketing Advisor, Mobil Industrial Lubricants, agrees: "Germany, Italy and Benelux are our main markets for gas engine oils in Europe. Germany has developed a strong biogas market and Benelux is using gas engines extensively for their greenhouse operations."

Frank Merbitz, (Chief) Applications Consultant at Addinol echoes these views in a recent interview:

"Europe is most important to us as there are more gas engines than in other places, especially in Eastern European countries like the Czech Republic, Bulgaria or Estonia, but also in Italy and in Germany". Nowadays it accounts for a large share of our total turnover

Annual Sales (in MW) of Gas Engines over 500kW = 6,000 MW/year



"The two big markets now are natural gas for combined heat and power and the anaerobic digestion biogas markets."

- David Burke, Service Director of Clarke Energy

and it's growing still."

Michael Wagner, Marketing Director of leading engine manufacturer Jenbacher explains: "Western Europe and secondly Eastern Europe are still our traditional segments. Germany and Italy are historically among the important segments for us"

Maxim Donde, LLK (Lukoil) General Director in Russia also sees the growth in gas engines. "The dynamics of sales is positive. Market volume of these oils around the world is growing at about 5% per year, which is associated with an increase in the number of working gas engines"

David Burke, Service Director of leading O&M Clarke Energy who maintain 300 engines in the UK and has installed units with over 2,750 MW capacity worldwide, confirms the drivers in the UK "The two big markets now are natural gas for combined heat and power and the anaerobic digestion biogas markets."

"In general we see that there is a lot of growth in gas engines and especially on the natural gas side." says Mark Hensen, Senior Product Line Manager – Energy, of Q8Oils.

TSW estimates that total installed capacity of gas engines in EMEA is 40GW and is growing at around 8% per year.

Based on average oil consumption figures this equates to over 270 million litres per year for gas engine oil within EMEA making the EMEA market alone worth around £500m (US\$750m) for lubricant.

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