

Meeting The Industrial Heating Challenge

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There is a quiet revolution going on in industrial Britain, as businesses look to meet their heating requirements in a range of industrial applications.

From firing furnaces and kilns at the optimum temperature in metal processing to powering industrial ovens that bake the perfect crunchy biscuit, there is a fundamental need for an affordable, efficient and environmentally friendly fuel source to keep the production lines moving. Whereas businesses in towns and cities have a number of fuel sources to choose from, those located off the gas grid have fewer alternatives and hence need to consider their options more carefully.

It is true that energy consumption levels among manufacturing businesses have fallen considerably during the past three or four decades, with industry losing its crown as the highest energy user to the

transportation sector. However, it still accounts for one of the most significant areas of cost for the majority of industrial businesses – especially those with heat-intensive processes. There is also constant pressure on this sector to reduce emissions and, with many organisations having exhausted their energy efficiency measures, the only option is to find a cleaner heating source.



Renewables have enjoyed much of the limelight when it comes to clean energy, however, they don't suit all environments and need to be assessed in terms of reliability for the type of applications they will be required to support. For industrial applications, security of supply is paramount and can sometimes rule out a renewable solution.

With much-publicised constraints on the availability of electricity to service future energy needs, gas is becoming an increasingly popular solution for servicing businesses with high heat demand. The rise in energy efficient technologies to deliver gas across a range of industrial applications and growing interest in on-site generation to improve resilience means that LPG (liquefied petroleum gas) usage is attracting a growing number of advocates.

Indeed, it comes as no surprise to hear our membership of LPG suppliers is currently reporting a surge in demand, with many citing as much as a 50% increase. For some time, LPG has been

quietly delivering carbon reduction and improved cost efficiencies in a range of industries, from food manufacture and processing to kilns and furnaces, but with new drivers affecting businesses' choice of energy, LPG is being heralded as the ideal solution. For off-grid locations that need a reliable, convenient and clean fuel source it can have a transformational impact.

LPG has a low carbon to hydrogen ratio, which means that it will generate lower amounts of CO₂ while producing the same amount of heat as alternative options. It also has a comparably high heating value, which means that it contains more energy per kilogramme than most competing fuels, making it ideal for companies with a high energy usage.

But why are so many businesses making the switch now?

The benefits and cost savings delivered by LPG have been well-documented for some time, so there must be other factors at play.

Alongside cost, legislation is often the other key driver for changing behaviours among businesses; and it is certainly driving the current trend towards fuel switching. Last September the EU's Energy-related Products Directive (ErP) came into force, mandating that all heating and hot water products with heat outputs between 70 and 400kw are as energy efficient as possible. This new upper limit has meant that this directive now applies to commercial boilers that were not previously included. With few oil boilers available that meet the efficiency requirements and the upgrade work required to make existing boilers compliant, oil is fast losing its appeal as a long-term solution and businesses are starting to look at other viable alternatives.



Electricity may be heralded by some as the solution, but the infrastructure required to meet the growing heat and energy needs of our manufacturing base has the potential to gridlock the UK landscape – literally. Grid connections are in short supply and the investment in new generation to replace decommissioned power plants is undergoing a period of uncertainty.

Consequently, it is now widely accepted that gas will be a key part of the future energy mix and, as a highly flexible, low-carbon fuel source, LPG is already delivering both costs savings and energy efficiencies to thousands of diverse manufacturing businesses.

When a leading UK packaging manufacturer wanted to reduce both its costs and carbon emissions they decided to make the switch to LPG. Unlike many other infrastructure projects, the benefits were visible within a matter of weeks. After just two months, their fuel costs were reduced by £42,000 and their carbon footprint was down by almost one third.

Compatibility is also a big part of the increase in demand. In short, LPG is the right tool for the job in many industrial processes. For example, it is widely used in many food processing systems because its clean burning properties deliver a higher quality product, particularly in baking. In metal

processing, where some heat treatments require a highly controlled atmospheric environment, LPG-powered furnaces help to create a higher quality end product.

A variety of opportunities...

The applications are so diverse and LPG is often found in the most unlikely places. When a new microbrewery was being established in Ireland, finding the right fuel source to power the steam boiler, which would boil the malted barley – and heat the premises – was a key challenge. Following a survey of the options available in this rural, off-grid location, LPG came out on top in terms of cost, efficiency and environmental impact. For this fledgling business, the option to use LPG significantly reduced operating costs.

The consistency of product quality is vital and never more so in food manufacture where the risk of produce being tainted during the drying process is especially damaging for high-value crops such as herbs. Not only does LPG dry the crops perfectly, ensuring that yield is optimised, but as a multi-purpose fuel, it also powers all of the other commercial and industrial applications on site and minimises the risk of food products being contaminated by soot and other pollutants.

Many companies with sites on the gas grid are looking for comparable systems for their sites that are located off the gas grid to ensure consistency of manufacture across the board. LPG behaves in an almost identical way to natural gas making it a valuable part of their multi-site energy mix.

With the capability to cut carbon emissions, deliver cost savings, enhance production and energy efficiency for industrial businesses, it is clear to see why more and more businesses are choosing LPG. This has been further spurred on by the regulatory obligations impacting on commercial boiler usage making LPG a more energy efficient and cost efficient choice. Having spent almost two decades in the LPG market, I am proud to see it being recognised as an increasingly significant part of the energy solution for so many businesses.