

CROSS CHANNEL METERING

The definition of a metered estate in the UK is generally more than one user of lpg, supplied by a bulk vessel through a networked pipework system. Meters then apportion the cost of the delivered stored fuel to each user by periodic meter readings. However, in France, this can mean something different, as Kaz Dziamarski, sales & marketing manager at Clesse (UK) Ltd explained.

Dual Fuel Gas Tariff measured in cubic metres

Reading period 4 Apr 07 to 6 Jul 07

	previous	latest	units	kwh	kwh split
Gas used	13862 A	14048 E	186	2066	first 1156
					next 910

4 Apr 07 to 15 Jun 07

Lpg will need to be measured with greater accuracy and referenced to kilowatts of energy.

To demonstrate why French metered systems are evolving in a different direction, we need to look at the current situation in the UK, where site owners tend to operate the networked pipework and meter system of a metered estate. The site owner technically becomes the gas supplier, leaving the lpg distributor to deliver the fuel and supply and maintain vessels and pressure regulating equipment.

The site owner therefore pays for the litres of lpg delivered into vessels and later recovers cost through the meter reading in cubic metres. One is measured in mass – litres – and the other in volume – cubic metres.

However, if a reconciliation exercise is done between what goes into the vessel and meter readings, reconciliation is almost impossible, often as much as 15 per cent adrift.

The traditional conversation factor of 3.65 litres to the cubic metre just doesn't add up to the quantity delivered, and often leads to site operators questioning the accuracy of distributors' tanker metering, or potentially overlooking a leakage of lpg. Of course, distributors understand that temperature, pressure changes and differences in barometric conditions affect lpg, but this is something that has been overlooked at the gas meter.

Recognising this, French gas distributors asked Clesse Industries – one of the largest meter box manufactures in

France – to develop an automatic system that compensates for the variations in temperature and, more recently, barometric conditions, to give precise and reconcilable metering systems. Clesse developed the temperature-compensating regulator. Those who attended AEGPL 2007 in June will have seen examples of this on the Clesse stand.

The Clesse regulator, RATAC (Regulator with Automatic Temperature and Altitude Compensation), monitors temperature and atmospheric pressure, then alters the gas density by adjusting



Clesse's RATAC regulator.

intermediate gas pressure before it passes through the meter. A final pressure reduction occurs before the gas reaches the appliance.

This means that cubic metres registered on the meter will have a constant mass, enabling an accurate conversion to litres and assisting reconciliation with the delivered lpg. More importantly, the end user will be able to accurately convert meter readings into kilowatts of energy. Lpg is then sold for its energy content, giving direct comparisons to other fuels.

It is worth pointing out that a meter registering gas below 15°C is recording gas that is of a higher density, therefore possessing a higher energy value. The meter still reads one cubic metre, but this time it might have taken up to four litres of liquid to give one cubic metre of gas. The RATAC adjusts for this and, with temperatures over 15°C, it tops up the density of the gas so the end user gets the energy they pay for.

In France, this is now becoming a popular way to sell lpg – by cubic metres or kilowatts as opposed to litres – and is extending beyond multi-user networked sites to single premises tank installations. This enables more accurate comparison to other fuels and gives the gas supplier more confidence to price his product with greater accuracy.

Increasingly over the coming decade, our day-to-day existence will be benchmarked against a carbon footprint; travel, work and home will be monitored for energy consumption. Lpg will therefore need to be measured with greater accuracy and referenced to kilowatts of energy.



Clesse's P1040588 meterbox.

In the UK, Clesse has recently introduced a meter box for small domestic and holiday home use. To complement this, a further version will be available – a G4 sized meter supplied by either a selection of standard regulators or the new third stage 75mb UPSO regulator.

With the UK Clesse box, we have used our experience in design to bring together some of the solutions from France and the aesthetics and functionality of the UK market. We have specially designed and manufactured the pipe and fittings to minimise assembled joints and potential leak paths. Even the test nipple has been redesigned to give a reliable and quick method of testing gas pressures. The boxes for the UK are also manufactured and components assembled and tested using the same production line in France as the RATAC system.

We don't have any immediate plans to introduce temperature compensated regulators in the UK, but I'm sure that this will come in the future, should the market demand.

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