CHAUVIN ARNOUX

Rocketing energy prices driving efficiency improvements

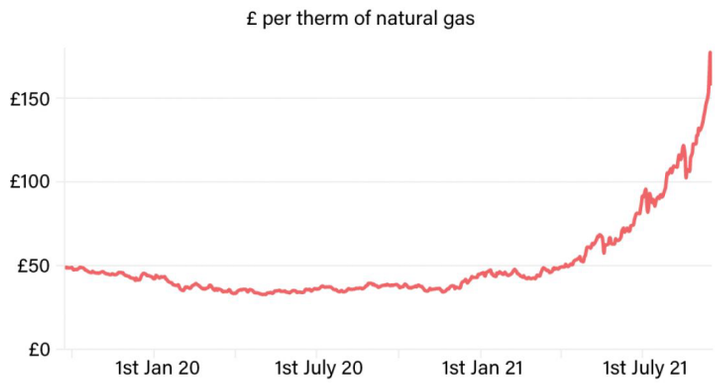
For a while now we have been promoting the advantages and opportunities, both financial and environmental, of reducing energy consumption in an installation through the measurement, identification, and resolution of electrical issues. These include a variety of solutions for improving equipment efficiency, as well as other factors such as the identification of "out of hours" electricity use, and the effects of harmonics, load balance, and power factor.

Its been clear to see that a relatively simple process, requiring minimal investment, can yield significant reductions in electricity consumption, often in the order of 20% or more. This, in turn, then equates to substantial financial savings, and contributes to reducing CO2 emissions and assisting the UK in its pursuit of Net Zero.

Now, according to **Julian Grant** of **Chauvin Arnoux** it appears the need to get on and embrace such actions, and benefit from doing so, is getting demonstrably more urgent as recent global issues have sent wholesale prices for gas soaring.

The cost of gas for suppliers has increased by 250% since the start of 2021, with a 50% rise since August, which has been caused by a number of factors. As the world comes out of "lockdown" and economies open back up we are seeing an increase in global gas demand, made worse by a particularly cold winter in some parts of the world. The resulting high demand from the US and Asia has meant that less has been available to the UK, and this has been made worse by various maintenance projects rescheduled due to coronavirus, that are now impacting production.

Since Britain generates around a third of its electricity from burning natural gas this has also pushed up wholesale electricity prices. The average power prices in 2021 have been more than double the average 2019/20 price, with a daily average price that at one point was eight times the 2019 average.



Source: Refinitiv / ICE Futures Europe
UK natural Gas Futures / Oct 2021

While on one hand this threatens the profitability of every business and facility, as we grapple with factoring in higher energy costs, in doing so it also highlights and increases the potential savings to be made, and the urgency to make them.

Thankfully, determining your electrical energy use, including where and when it is being used, as well as identifying energy inefficient equipment, has never been easier thanks to Power and Energy Loggers, or PELs as they are known.

Modern PELs are compact, lightweight, electronic monitoring instruments used for collecting electrical data. They can be temporarily placed in distribution panels or around the facility without difficulty, and without the need to

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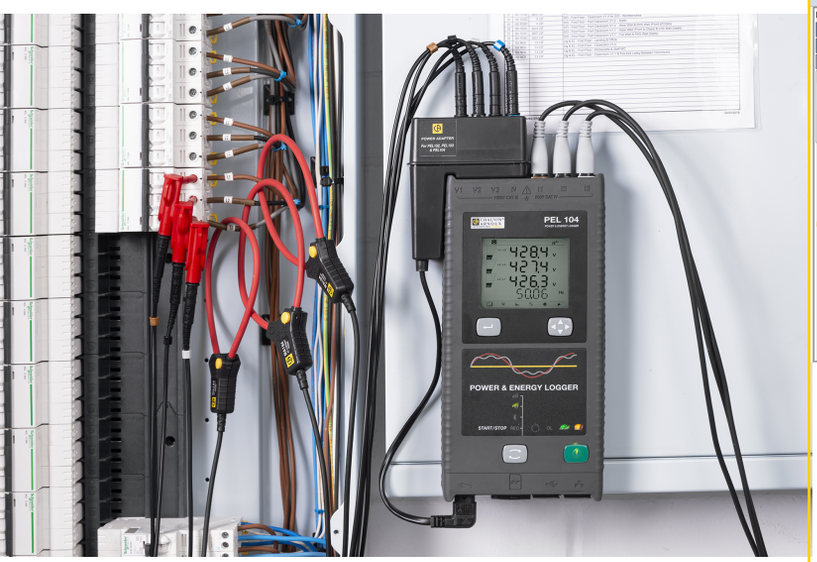
interrupt the mains supply or shut down the installation or office building first.

A PEL measures a whole range of electrical parameters, such as voltage, frequency, current, real power, reactive power, harmonic levels and more. Crucially, the PEL doesn't only measure these parameters, it also stores the results over a period of time that can range from a few minutes to months. This is essential, as some key issues, such as inadvertent out of hours energy use can only be identified by looking at time-stamped energy usage records.



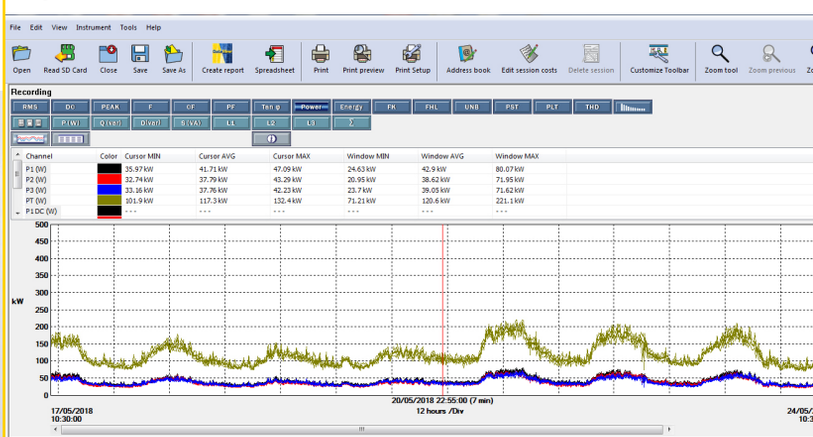
PELs are capable of storing millions of readings, and data can be retrieved locally or remotely via Bluetooth, WiFi, 3G/ GSM, USB or Ethernet. It's even possible to combine a number of PELs together to track several consumption points around a facility or multiple facilities, and without the expense of travel to retrieve the data.

With super slim designs and magnetic backs, the PEL103 and PEL104 from Chauvin Arnoux are able to be semi permanently stuck to the inside of a cabinet at the source of supply, where flexible current coils can be looped around the incoming phases, and magnetic voltage probes stuck to screw heads on MCB's, or wired in for added security of connection. For more demanding situations there's the PEL106 with its IP67 all-terrain casing.

These PELs can be self-powered from the installation they are connected to and once installed you can access it remotely, so that you can safely and conveniently monitor energy usage and all of the other parameters it records from the comfort and security of your own home – or, indeed, any other location where you have internet access.

The remote access feature is easy to set up using the PEL Transfer software package which is available free- of-charge from the Chauvin Arnoux website.

There are many ways of reducing energy costs and environmental impact, in addition to the often quoted advice of seeking a greener and cheaper energy supplier and installing additional thermal insulation. However, to understand what's going on and make effective changes you need to measure.



Measure existing performance to pin down issues and identify areas for improvement, measure performance after making changes to confirm their effectiveness, and continue to measure thereafter to ensure that the changes you've made continue to be appropriate and effective.

Chauvin Arnoux has an extensive range of products that make these measurements easy to perform, and our experts will be happy to give advice on choosing the instruments that will best help you reduce your energy bills and your environmental impact.

We have also recently created an energy guide in association with Energy Manager Magazine which is all about measuring and monitoring. This is vital information you won't want to – and can't afford to – ignore!

www.energymanagermagazine.co.uk/Energy-Guide-Chauvin.pdf

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