Weathering the Energy Storm

When it seems all the elements are against you, how do you navigate your way and come out into the gleaming sunshine as a business?

Businesses in the UK have many elements which are against them. Rising operating costs, Brexit and the ongoing recovery from the pandemic. How and who will survive this storm is the question.

Whilst in 'survival mode' businesses will look to reduce costs in every area just to stay afloat but what about making significant cost savings and furthermore increasing profit? It makes perfect economic sense to reduce costs in areas that have the most overheads, one of which is energy.

To cut down on energy costs the most obvious solution is to reduce energy consumption. However, if you are a large energy consumer whereby your product or service is reliant on a certain level of consumption and/or energy required 24 hours a day 7 days a week this is not an option, so the next direction involves exploring different energy solutions available in the market. In every direction you turn there are many options, Solar? Wind turbines? Heat pumps? All these technologies can provide savings in energy costs, however, in the case of solar and wind turbines the supply of energy is intermittent, when wind or sun are available the need for electricity and heat is not always there, equally when the need is there wind or sun may not be available therefore decreasing the efficiency of the system.

For many years industries with high heating or cooling demands have invested in Combined Heat and Power (CHP) systems because of the high efficiencies of self-generating power coupled with the utilisation of its by-product, heat. Traditional power stations generate a significant amount of waste heat whereas CHP systems recover much of the heat (which would otherwise be lost) during the process and use it to heat spaces, water or in-process heating. Alternatively, a CHP can be configured for combined cooling by adding an absorption chiller. The waste heat then creates chilled water for use in energy-intensive processes including refrigeration and process cooling, or for air conditioning. CHP systems of good quality are almost twice as efficient as using separate grid power and individual boilers, making CHP the most effective and reliable energy cost reduction technology.

It has been questioned whether CHP can provide significant financial savings due to the dramatic rise in gas prices and the extra fuel to run the CHP. Analysis has shown that because of the reciprocal rise in electricity prices the savings have improved, and in some cases, with a payback investment of just under a year with a lifespan of 15-20 years, a CHP system makes good financial sense. Reliability can play an important role in avoiding the risk of energy supply by providing a resilient off-grid energy supply.

The question still remains, how does a business survive the storm this winter? The answer is to stay afloat and invest in a reliable, efficient, and quick payback energy solution like CHP to survive and thrive for the winters to come, it is a practical long-term strategy for a future full of uncertainties, a future full of added costs increasing competitive disadvantage.

The increasing pressure to become a low-carbon company also looms over, however it is possible to save money with a CHP and also become ready for the future. 2G's standard engines can run on blends of gases, including hydrogen at up to 40%, before a simple engine retrofit is required to accommodate a higher percentage of hydrogen. Hydrogen-enabled CHP systems can use a blend of

input gases and enable a gradual entry into the hydrogen economy – the sudden decommissioning or start-up of large infrastructure projects is not necessary – and these systems can reduce operational costs and carbon emissions.

2G Energy AG is a leading international manufacturer of combined heat and power plants (CHP) for the decentralised generation and supply of electricity and heat. The 2G product range includes CHP systems with an electrical output between 20 kW and 2,500 kW for operation with natural gas, biogas, biomethane, hydrogen and other lean gases.

To date, 2G has successfully installed over 7000 CHP plants in 55 countries. The company is committed to promoting hydrogen as the future to achieve a carbon-zero world. 2G is an active member of the European Clean Hydrogen Alliance as well as COGEN Europe in order to support the global fuel switch with our technology and experience. 2G is proud to be an award-winning company, achieving several awards for its 100 percent hydrogen CHP including 'CHP of the year 2019' for its Hassfurt project, 'Handelsblatt Energy Award' and winner of COGEN Europe Technology & Innovation Award

German Energy Agency (dena)

The German Energy Agency (dena) is a centre of excellence for the applied energy transition and climate protection. dena studies the challenges of building a climate-neutral society and supports the German government in achieving its energy and climate policy objectives. Since its foundation in 2000, dena has worked to develop and implement solutions and bring together national and international partners from politics, industry, the scientific community and all parts of society. dena is a project enterprise and a public company owned by the German federal government. dena's shareholder is the Federal Republic of Germany. www.dena.de/en

German Energy Solutions Initiative

With the aim of positioning German technologies and know-how worldwide, the German Energy Solutions Initiative of the Federal Ministry of Economics and Climate Action (BMWK) supports suppliers of climate-friendly energy solutions in opening up foreign markets. The focus lies on renewable energies, energy efficiency, smart grids and storage, as well as technologies such as power-to-gas and fuel cells. Aimed in particular at small and medium-sized enterprises, the German Energy Solutions Initiative supports participants through measures to prepare market entry as well as to prospect, develop and secure new markets. www.german-energy-solutions.de/en

Renewable Energy Solutions Programme (RES Programme)

With the RES programme, the Energy Export Initiative of the Federal Ministry of Economics and Climate Action (BMWK) helps German companies in the renewable energy and energy efficiency sectors enter new markets. Within the framework of the programme, reference plants are installed and marketed with the support of the German Energy Agency (dena). Information and training activities help ensure a sustainable market entry and demonstrate the quality of climate-friendly technologies made in Germany. www.german-energy-solutions.de/GES/Redaktion/EN/Basepages/Services/dena-res.html

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