



## **CARBON FREE ENERGY GUIDE**

### ***NAVIGATING THE ENERGY CRISIS***

**How to strategise your energy to help control costs, become energy independent and meet net zero goals**

# CONTENTS



Introduction



The energy crisis



Your understanding



About us



# Introduction

Multiple challenges are currently being experienced within Energy-intensive industries, such as:

- Unprecedented price volatility
- Insecurity over energy supply
- Record energy price increases
- The risk of enforced downtime, with the resultant productivity loss & possible damage to equipment

During one of the most difficult periods in living history, businesses are also being faced with pressure to produce a workable net zero strategy and take action to reduce their scope 2 emissions.

Businesses need an energy strategy in place to tackle all of these challenges, which protects them from energy related risks that may threaten their operations as well as bringing them into the 21<sup>st</sup> century with climate action.

All these challenges are connected and can be solved together; we will explain within this guide what companies should do in the short, medium and long term in order to:

- Protect themselves against rising energy costs
- Meet net zero targets
- Gain energy independence and security



# The Energy Crisis

We have seen unprecedented volatility in the energy markets within the last few months. Europe-wide gas shortage meant the wholesale gas prices were already hitting record highs before the end of 2021.

Russia's invasion of Ukraine and Germany's pause on approval of the Nord Stream 2 gas pipeline fuelled further volatility in the markets and raised questions about the UK's future security of gas supply.

Sadly, energy analysts Cornwall Insight have predicted that “boom-and-busy energy pricing” could remain a problem into the 2030's and beyond, unless the UK government step in to create a more resilient energy system.

There is also growing pressure on the looming climate crisis. As of April 2022, private companies with over 500 employees and over £500mil in turnover are now required, by law to publicly disclose their climate-related financial information.





# The Energy Crisis

This requires understanding business risks and opportunities related to the changing climate and reporting them in line with recommendations of the Task Force on Climate Related Financial Disclosures (TCFD).

Investors, customers and other stakeholders apply more powerful pressure to engage with climate issues.

Last year, the Institutional Investors Group on Climate Change (IIGCC) called for businesses to be held accountable on their climate strategy.

The IIGCC is not a fringe environmental group; they represent investors who between them manage over \$14 trillion of assets.

Energy-intensive businesses require solutions that will prove they are serious about decarbonising their operations.



# Your Understanding

Reducing consumption through energy efficiency measures is an obvious first move, however if your company's main activities are energy-intensive then you will have a significant level of demand remaining, even with the most efficient equipment and processes in place.

Businesses need a way to ensure that the energy they consume is less exposed to market volatility and decarbonised as much as possible. This way you have a strategy in place focused on taking control of your energy, having clarity on where it comes from and also what it consists of.

## **REGO's (Renewal Energy Guarantees of Origin)**

A key requirement for a truly green supply is the element of additionality; contributing to the creation of new renewable energy capacity that otherwise would not have existed. Most supplier contracts, including the ones labelled "100% renewable" do not meet this requirement.

Each REGO certifies the origin of a unit of renewable energy, but these are only "matched" to consumption on an aggregated annual basis.

The current rules allow suppliers to trade in these certificates separately from the energy itself. This means it is perfectly legal for a supplier to get its energy from fossil-fuel sources then buy REGO certificates at the end of the year and market its supply as "100% renewable".

The link between renewable power generation and the energy consumers wanting greener energy is severed.

Modern Energy System	Current UK System (REGO's)
Designed to meet the needs of today's market	Designed in 2003 – renewable were just 3% of total production
Incentivises customers to manage their electricity consumption better	Little incentive – rewards are not transparent
Tracks renewably sourced energy on HH basis	Tracks renewable by matching consumption with green energy certificates towards end of the year
Customers to support the generation of new renewable	Confuses customers by making it legal to market “renewable” energy” without transparency on sourcing

### **On-site generation**

Before the current energy crisis, a survey carried out found that a quarter of businesses in the UK & Ireland had invested in some form of on-site electricity generation and a third were considering it.

Although majority of business opt for Solar, it is worth also taking into consideration fewer common options such as wind turbines, air/ground heat pumps and anaerobic digestion. Any decisions made should be based on the specific circumstances and needs of the business

### **Demand management**

Taking full control of your energy means working smarter with the way your business uses energy, rather than just reducing consumption. A sophisticated energy strategy uses behavioral change to maximise use of self-generated power and reduce emissions per kWh by greening supply.

Another key tool in maximising your energy strategy is to store energy, reducing your reliance on the grid and allowing you to take full advantage of renewable sources. In light of rising energy prices, if you have ruled out battery installation due to being too expensive previously this is worth re-evaluating.

### **Renewable CPPA's**

A further option is to sign up to a corporate power purchase agreement (CPPA). An indirect CPPA allows businesses to sign a contract with a generator without physically connecting supply.

An advantage of this is that renewable generation infrastructure doesn't need to be anywhere near the site of your business. An agreement between your business, the generator and your chosen energy retailer means that you pay the generator, the generator feeds energy into the grid and your supplier delivers that energy to you.

By signing an indirect CPPA means that you can agree a fixed price per unit directly with the generator, usually below market price. This price can be fixed throughout the duration of your contract, so you are protected from the unpredictability of wholesale energy prices.

### **CPPA's: downside**

Careful consideration is needed when opting for a CPPA. There are 3 types of CPPA however none can guarantee that your electricity supply will be 100% renewable.

The key takeaway is that all CPPA's involve some "creative administration", so they are able to claim that they offer a 100% renewable supply.

Reform of the system is in the pipeline with the government working towards the introduction of a more transparent framework.

CPPA type	How does it work?	What is the problem?
Direct/private wire	Renewable asset is based on or near your site & connected directly to your business (bypassing the grid)	Renewables can't provide 24/7 power, you will require some grid power to compensate for the mismatch between generation & consumption.
Indirect	Renewable asset doesn't need to be on site. A three-way contract between generator, retailers and consumer means the generator supplies the grid and the grid supplies you	Same as above – the need to manage the natural intermittency of renewable generation, using grid power to fill in the gaps.
Virtual	Business has an energy supply contract with the retailer and their only connection with the generator is to buy enough REGO's to cover consumption	No connection between consumer and generator expect the purchase of REGO's. All power comes from the grid. The secondary market in REGO's means that the green power who certificates you're paying for might not even be generated in the same country.





## **Why not switch to a different type of gas?**

“Green gas” is made through a process called anaerobic digestion which uses bacteria to break down organic materials (like food or farm waste) to release bio-gas. Bio-gas is purified and turned into biomethane, which is then injected into the gas grid.

However, the amount we produce in the UK is not enough to cover even 1% of our gas demand, we simply don’t have enough to go round.

Hydrogen was mentioned in the UK government’s energy security strategy as “a low carbon super fuel of the future”. As it stands, over 90% of global hydrogen production involves fossil fuels which can produce up to 12 tonnes of carbon emissions for every tonne of usable hydrogen.

# About Utility SwopShop

**Utility SwopShop was formed in 2014 with a vision to bring visibility, transparency and open energy supply contract trading to the UK utility brokering market place.**

**Address:**

Utility Swop Shop,  
Suite G03, Unit 15,  
Olympic Court,  
Boardmans Way,  
Whitehills Business Park,  
Blackpool, Lancashire,  
FY4 5GU

**Tel:** 0333 9000 246

**Email:** [info@utilityswopshop.co.uk](mailto:info@utilityswopshop.co.uk)

