

# Energy Management Trends for 2021

As we look forward to energy management in 2021, many of the trends will be informed by the past 12 months. Whilst, the pandemic continues to impact budgets and consequently projects, the net zero aspirations and electric vehicles infrastructure keep everyone eager. However, the notion is that to achieve the green targets there is a need for clarity, skills and knowledge.

Inspired by our annual membership survey on energy management trends, some of the participants set out what, in their opinion, are the most important trends that will transform energy management processes and profession this year.

**Andrew Fletcher, Managing Director, Carbon Control Limited**



## Role of energy management profession to transform net zero from fiction to reality

Back in June 2019, the UK government enshrined in law the UK's commitment to reduce greenhouse gas emissions (GHGs) to net zero by 2050. In December 2020, the government released its long-awaited energy white paper and plans for a "green industrial revolution". In November this year, the UK will host the 26th UN Climate Change Conference (COP 26). Government's announcements surrounding the UK's commitment to deliver net zero have

been followed by a deluge of announcements and press releases signing up to net zero and declaring ever shorter deadlines to achieve. Whilst many organisations have sought to proclaim their carbon neutral credentials for a number of years, with few notable exceptions, the vast majority have sought to rely solely upon offsetting through planting of trees or a range of other global schemes. However, with greater scrutiny of such schemes and their efficacy being called in to question, a shift in emphasis has emerged.

We are now seeing a shift towards Science Based Targets and verifiable evidence of reduction in Scope 1, 2 and 3 emissions over time. Additional requirements on

quoted companies to calculate and report on global energy use and information relating to energy efficiency, coupled with the implementation of Streamlined Energy & Carbon Reporting (SECR) legislation for large unquoted companies, have further placed action ahead of merely box ticking.

I strongly believe that now is the time for the energy management profession to step forward. As the custodians of much of the data required to accurately calculate GHG emissions, coupled with the knowledge of how to reduce emissions, we must seize the opportunity to show how to deliver a realistic transition to net zero. Energy managers will attest that setting such a course must be

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underpinned by the principles of eliminating energy wastage, enhancing energy efficiency and switching from fossil fuel energy sources to renewable energy sources and / or on-site renewable energy generation. Similarly, Covid-19 enforced changes to working practices provide the opportunity to re-evaluate vehicle fleet policies in favour of Electric Vehicles (EVs) and challenge the need for historical norms allied to UK & overseas business travel. Spearheaded by those of us involved in all aspects of the energy management profession, will enable organisations to transform progress towards net zero from fiction to a reality.

**Andy Creamer, Energy Manager, Mapeley Estates Limited**



Blow the trends - just keeping the business afloat is current priority! In normal times, however, I would have said:

**Self-generation**

The expansion of photo-voltaic panels into the UK buildings estate is essential to keep the growth of non-centralised generation ahead of the curve. The emphasis seems to be on wind power, but in recent years the hottest and coldest days (in general) have been among the least windy. Perhaps this could be an opportunity to replace lots of

duff building cladding (remember Grenfell) with a beneficial alternative. Odds on this has been thought of by better than I – so why not to do it? Ground Source is already seen as a viable alternative – vis a vis the communal roll out in Oxford (and, no doubt, others), on the TV recently. We all know of CHP to generate heat and power (and CO2), but as Fuel Cells develop and scale up then the investment will become quite compelling as before without the CO2 to offset....and pay for. Further help can be in the form of Building Regs and Planning approvals for these types of installations being easier to achieve.

**Self-Storage**

The energy we all produce in the multifarious ways to reduce the carbon is not always conveniently timed – the wind blows at night and being still in the day is not helpful; likewise a hot but cloudy day!! Saving and storing the energy is what we as a species need to do to speed up the reduction in long term climate (as opposed to weather) damage. Whether this is by battery or solid state, or means yet to develop, saving the energy reduces waste and will make the infrastructure more efficient and effective .... which is certainly going to benefit my budgets.

**Power Cell H2 generation**

Fuel (Power) cells are being vaunted as the saviour of hybrid EVs to increase range and load by assisting the batteries under heavier load – and that’s fair enough. But as above, anything with an internal combustion engine (ICE) can run (with adjustment) on hydrogen (H2), after all it’s a primary component

of all those Hydro-Carbon fuels with harmless emissions. I am sure this is going to be the saviour of HGVs, buses, railway shunters, ships (or boats if you prefer) and anything where batteries alone are inadequate (for now). And from my point of view, hydrogen is also a valuable alternative to Natural Gas for CHP systems going forward and a substitute fuel to existing installations.

But of course, none of this will come to fruition without tax breaks, planning permission and investment grants, in order to make the leaders investing into any such technology’s development more palatable and thus attractive. Remember the Brexit bus £350M a week slogan? 3 weeks’ worth of this is over a billion quid...quite a fillip to the investment funds to help preserve our children and their children’s futures I think.

**Warren Pope, Retrofit Project Manager, RetrofitWork Limited**



**General Confusion**

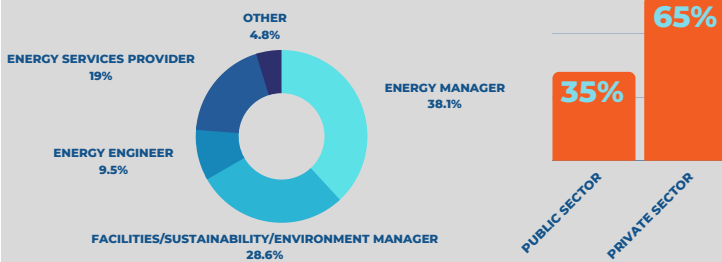
A lot of people are publicly giving their views on reducing carbon, but most are ill informed. In quick succession I have seen the summary of two government working groups, one on the use and inclusion of modular housing, and one of the futures of climate change. The first

# THE ENERGY MANAGEMENT TRENDS 2021

## VISUALISATION OF SURVEY DATA

ORGANISATIONS ARE ADAPTING AND MANAGING ENERGY IN A RADICALLY DIFFERENT WORLD. LET'S HAVE A LOOK AT WHAT ENERGY MANAGEMENT PROFESSIONALS PLAN TO FOCUS ON AND WHAT DRIVES THEIR FOCUS, AND FIND OUT WHAT THEIR PERSPECTIVE ON ENERGY MANAGEMENT TRENDS IN 2021 IS.

### RESPONDENTS

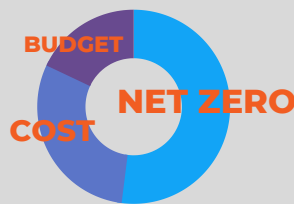


### PUBLIC SECTOR

#### FOCUS

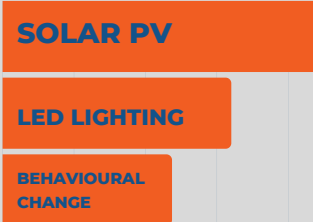


#### DRIVERS

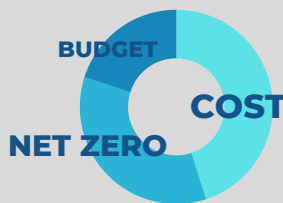


### PRIVATE SECTOR

#### FOCUS



#### DRIVERS



### TOP 3 TRENDS TRANSFORMING ENERGY MANAGEMENT IN 2021



group decided that Modular/Modern Methods of Construction (MMC) was the future to resolve housing shortage and should be encouraged and supported. The climate group reported that the use of Modular housing would result in excessive deaths of occupants due to overheating and should be banned from the housing market.

Others rush for the removal of fossil fuel cars and enforce electric only, with no thought to the availability of electric cars, or how the physical network would deal with the power demand to charge vehicles, and let alone the current cost of the cars which would take them out of reach of many people.

Further issues relate to refurbishment of domestic properties, to provide best carbon and energy savings. Interventions need to be sequenced in a specific manner, the quality of work can be suspect, specifically with external wall insulation. It is imperative that a level of quality control is used from properly trained retrofit staff that will coordinate good quality best practice based on science and proven trials.

Over the past year I have read a lot of articles stating that electric cars should be banned as they are more polluting than fossil fuel cars, that road building should be stopped due to particle pollution from tyre wear. However, evidence is in short supply combined with miss information campaigns.

### Government Confusion

I have seen ministers and MPs on prime TV promoting the installation of heat pumps to existing wet based radiator emitters, claiming it's a straight swap for a gas boiler. It's not correct, they may not work properly without consideration of insulation levels, yet the government continues to talk rubbish without the first clue of how little they know.

Those with a public presence need to be more mindful regarding the recommendation

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of technology, often with no technical knowledge equipment is recommended. While it is possible to put some heat pumps on a house, a straight swap is not best practice.

### Race to Net Zero

Lots of local authorities are stating they will achieve Net Zero, but do not acknowledge the true cost that is required.

There appears to be a race as to which local authorities can achieve Net Zero the earliest, main thoughts seem to be with offsetting and changing to “green energy”. Most have changed to LED but have not looked too much further. Local authorities need to be more innovative with finance, perhaps bulk purchase with a call off regime, repurposing building use, local refurbishment competitions for new technology.

A recent KTN webinar showed that some authorities shy away from innovation, which leaves a gap between normal and improved savings. But last of all, how about having clusters of local authorities working together to combine buying power, possibly even opening localised manufacturing centres and re-training the recent surge in unemployed for manufacturing low carbon technology at cost for use on local domestic and authority buildings?

**John Kyffin-Hughes,  
Business Engagement  
Manager (Low Carbon SMEs),  
Aston Business School**



### Better understanding of carbon footprinting for influencing speed of implementing energy conservation measures

This year more than any other year will see the political winds blowing strongly in favour of acting on climate change; culminating in latest UN Climate Change Conference (COP 26) in November.

The clamour for action arising from public concern and political opinion will, I am sure, accelerate the cascade of organisations setting net zero targets. The exercise of target setting will reveal the enormity of the gap between where an organisation is presently, to where it needs to be to meet its net zero commitment. For organisation stepping up to fill this gap, this will necessitate an increased pace of roll out of energy conservation measures.

The experience of how organisations have responded to the pandemic in terms of finding new ways of working hopefully will not be lost. This should enable organisations to question more fundamentally how they deliver their products and services with net zero commitments in mind.

### Greater competency in energy management within businesses

To rise to the challenge of meeting net zero commitments there needs to be a step change within organisations in terms of understanding and enhancing their energy management performance.

Those involved in the implementation of energy conservation measures will need to possess as a minimum, basic skills and knowledge of energy management techniques. So that the increasing awareness, of need to do act to reduce energy use, turns to prudent and impactful action.

Areas I would consider as crucial in improving competency are in setting up proper monitoring and measurement systems, developing and internally selling business cases for energy efficiency projects, understanding and installing varied energy conservation measures and verifying the benefit of implemented actions.

Hence my prediction that improved competency in energy management will be an important trend over 2021. If only, to determine if the sales pitch by a representative of a technology provider is credible for your organisation's circumstances.