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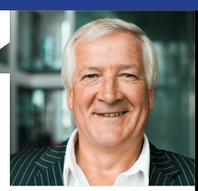

Career in Energy Management

The Energy Managers Association aims to encourage and enable more professionals to enter the world of energy management and environmental roles. Being an energy manager may not seem like the most obvious career for many. The EMA has taken on a challenge of changing the perception of energy management, by raising the sector's profile and sharing its members' – leading energy managers - insights into their career progress and achievements. In this issue, we have asked Paul Boreham about his career and views.

When did you first hear the term 'energy management'?

When I started my career in electrical engineering, energy management was not commonly known as a separate role as it is today. This was partly due to the relatively low unit cost of energy, that was almost constant each year and that the duties of an energy management were usually incorporated into other engineering roles. This was around the time of privatisation in the 1990's, when the Central Electricity Generating Board was being broken up into three separate companies, creating competition. The only organisations that warranted an Energy Manager at the time were major energy users, such as steel or chemical works, where energy costs were very significant.

What made you choose energy management as a career?

I was working in an engineering department for a water company and I was interested in remote communications and control systems. Better control and understanding of systems, usually leads to efficiencies and often a consequential saving in energy and costs. This led to my interest and passion for the management of energy and the identification of waste through data analysis or audits.

I see that my career in energy management was a natural progression, driven by my early experiences, coming across many inefficient control systems.

As the energy supply industry was changing with privatisation and businesses needing to reduce costs, my career and the role of Energy Managers became important to many more companies.

How did you progress through the profession to your current role?

My various roles have been new learning challenges with different businesses covering different sectors from industrial, retail and property. Each of these had specific energy requirements that needed to be managed and controlled.

> "MY VARIOUS ROLES HAVE BEEN NEW LEARNING CHALLENGES WITH DIFFERENT BUSINESSES COVERING DIFFERENT SECTORS FROM INDUSTRIAL, RETAIL AND PROPERTY."

During my career, I studied at University and gained an MSc (distinction), in energy related subjects. Having a good technical background in various sectors from my electrical and electronic training, allowed me to bring fresh ideas and strategies to businesses to make genuine savings.

I consider that my career in energy management has been very good as I still have the same passion for the subject that I originally had in my first role as Energy Manager. This enthusiasm and my knowledge gained over the years has allowed me to progress through various energy management roles.

How did the energy managers' role and the industry evolve during your career?

In my career, I have been fortunate, being involved from the start of energy being recognised as a major cost to companies, coming with an environmental burden of emissions.

Early in my career, energy costs were regarded as almost a fixed overhead, rising by RPI each year by many companies. This attitude encouraged systems consuming energy to be disregarded and have minimal monitoring. Identifying wasted energy through monitoring and analysis is a key skill for Energy Managers. During the time since privatisation, the energy sector has developed with new emerging companies and roles from risk management, energy trading, emissions trading, demand management, energy auditing, project management, corporate reporting and environmental management. As energy costs have risen and energy management has become more complex, Energy Managers have evolved from engineers, facility managers and financial managers to cover an ever-widening brief. To keep up with this evolution, regular training and a genuine interest in the subject is essential. This interest has driven my career from working as an engineer in a water company with an interest in control systems and electronics to managing millions of pounds of expenditure in different sectors from retail to property.

I have been involved in installing energy management systems as existing building management or control systems often only collected some engineering data such as temperatures and pressure but ignored fundamentals such as energy and power. Fortunately, this has now changed as the cost and relative importance of energy information has increased. The latest control systems collect and display energy data in easy to understand graphical displays. This information allows people to realise the importance of managing energy by highlighting issues or failures early.

The proliferation of web based products, offering instant control and monitoring from your phone should lead to fine control and the minimisation or elimination of waste. This technology led evolution in the domestic sector parallels the industrial, commercial sector where following privatisation and rising costs, systems were developed to allow users to avoid expensive tariff periods. Energy costs vary during the days and costs could reflect this to encourage more efficient use of energy. I believe that data and information is crucial to the role of the Energy Manager and understanding the fundamentals of energy is important.

> “ENERGY MANAGEMENT REQUIRES AN ELEMENT OF DETECTIVE WORK, WHERE YOU SUSPECT AN ISSUE, ANALYSE THE DATA, LOOK FOR CLUES, AND MAKE A CONCLUSION BASED ON THE DATA OR EVIDENCE.”

Often, sophisticated control systems show information that needs interpretation. I have seen systems displaying ambient temperatures that have been wrong due to their position, requiring simple repositioning to correct. Sufficient attention may not be taken to providing accurate sensors that have large influences on control systems, leading to waste energy and costs. I have been heard many times, saying “back to basics”, as information coming from systems may not seem right. The ability to roughly estimate is essential.

What is your biggest achievement to date?

Whilst I have made large financial savings for many businesses, they are soon forgotten. Energy Managers can all quote savings due to contracts, billing errors and projects, but I consider that my best achievement is with recruiting and inspiring young Energy Managers. There is nothing better than to see ‘one of my team’ doing well and enjoying the same success that I have had.

What is the best approach to attract new talent into energy management sector?

It is difficult in 2017 for people to know what career path to take as technology seems to be able to carry out all functions without the need for professionals to get involved. After all we can now control our heating from our phone! Unfortunately, I often come across systems that promise a lot but have failed due to being not set up correctly, obsolete or fundamentally showing the wrong information. We live in an era of constant and rapid change and many of these systems are very complex. There is a need for new professionals who can understand complex systems and first principals to be able to realise when energy information is suspect or wrong. This requires a special type of person with drive and passion for the subject along with a good technical understanding. I believe that once this interest is triggered, most people can be involved to deliver energy management, at all levels.

What advice would you give to someone looking to become an energy manager?

I have recently given advice to an enthusiastic potential energy manager and suggested first joining the EMA and enrolling on courses. The EMA has a large membership of experienced energy managers in all sectors who can advise and recommend opportunities to follow a career path to become an Energy Manager. After this, I would recommend a professional qualification.

What qualities should a good energy manager possess?

A good Energy Manager needs to be interested in many things as the subject is very wide. If understanding how systems and processes work does not appeal, then the financial aspects of projects or data analysis, are important skills to have.

It is easy to assume what is going wrong with a system due to the data but it is prudent to not jump to conclusions, until the evidence has become overwhelming. Above all, interest and drive to understand and resolve, are essential.

The subject of managing energy has become significant to many more businesses now as unit costs have risen and environment emissions are being reported and managed. Energy costs and carbon emissions need to be controlled. Controlling these costs can involve purchasing through contracts and employing hedging strategies to avoid the volatility of the market. Once energy has been purchased at the lowest rate, its use should be managed and monitored to ensure all waste is minimised. As an ESOS Lead Assessor, it is a concern that many companies still do not closely monitor energy.

Energy consuming equipment and processes need to be monitored, maintained and managed. Identification of methods to reduce consumption, generate or manage the loads should be considered. A good background of financial knowledge is useful for appreciation of projects and demonstrating their benefits.

Finally, in business today corporate reporting is essential so that shareholders, employees and customers can see that business is behaving responsibly. Energy production and the environmental burden it carries through its conversion is already a significant issue and businesses need to recognise this, report it and make plans to reduce. This reporting covers all areas of waste from energy, water, carbon and waste materials.

I consider that energy management covers all of these and can therefore provide careers in many different areas all related under the role of energy management.

Today, the role of Energy Manager is no less demanding and often incorporates environment and sustainability. Remote monitoring using web based meters can create vast amounts of data leading to just a monitoring and reporting role. Systems to collect, display and analyse this data are crucial. The secrets and answers are contained in the data, if it can be manipulated and displayed quickly and easily.

We all complain about spreadsheets but data manipulation today is very easy with data being dragged into applications with ease. Once in an electronic form, it can be normalised, looking for exceptions and patterns.

Energy Management requires an element of detective work, where you suspect an issue, analyse the data, look for clues, and make a conclusion based on the data or evidence.

Finally, I have met and worked with many great people during my career as an Energy Manager and I hope that these people and companies do well with their careers or business in the future.