THE EMA MAGAZINE

www.theema.org.uk | ISSUE APRIL-JUNE 2022

Security of Energy Supply

My Role in Tackling Climate Change

Practical Guide to Net Zero

BESPOKE COURSES

VIRTUAL OR ONSITE

ENERGY & CARBON INSIGHT

Set an understanding across your organisation of the link between energy use and carbon, and equip relevant stakeholders with basic knowledge of what can be done to improve energy management practices .

Course objectives:

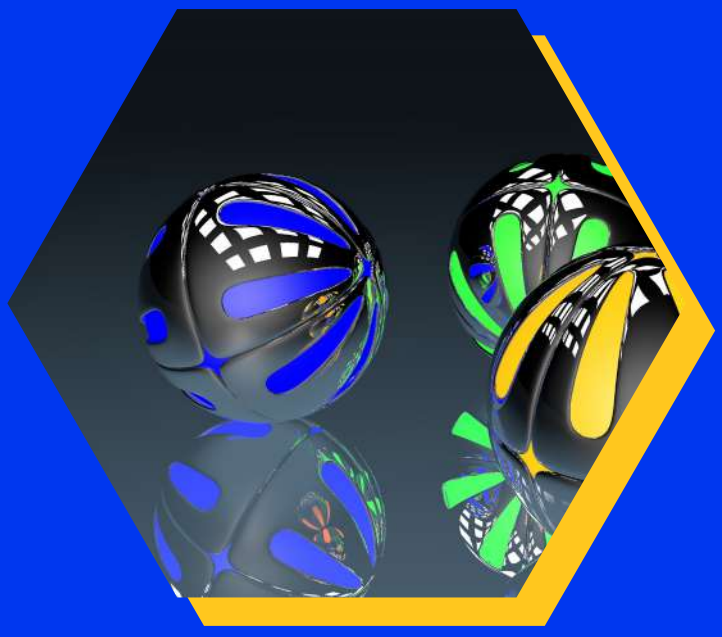
- Relationship between energy use and carbon - global, national and organisational overview
- Energy efficiency drivers
- Actions to reduce energy consumption

ENERGY AWARENESS

Equip stakeholders with the practical skills and knowledge required to reduce the energy consumption within their working and domestic environment.

Course objectives:

- What is meant by energy and carbon emissions
- Link between energy consumption and usage of equipment
- How employees can reduce energy use through taking simple action in the workplace



enquiries@theema.org.uk

+44 (0) 203 916 5516

We trained:

contents

FEATURES

CAREER & TRAINING

INDUSTRY FOCUS

ADVERTORIAL

THE EMA MAGAZINE

Dear Reader,

As we have entered the spring months, the consequences of the winter's unprecedented events in energy markets and geo-political landscape that this period will be remembered for, are here to stay for a while. Energy managers, and other energy management professionals with responsibility for energy management in large organisations, are well versed in juggling multiple responsibilities and enjoy that not one day is like another, two points mentioned countless times in our career interviews. As is true for many significant instances, even this recent 'perfect storm' has created challenges and opportunities, and highlighted the importance of those managing energy. Whether it is the company finance director or company Board members who are suddenly keen to have extended discussions about the energy market, or perhaps those energy efficiency or electricity generation projects which have been in the pipeline for a while are now finally getting some traction, or your organisation and Board being ready to demonstrate real commitment to carbon emission reductions, you may suddenly find yourself to be the one who is expected to know the answer to all the questions.

The one piece of advice that everyone offers, is to be prepared. This is where the EMA can offer a helping hand and support you in staying up to date with relevant developments, or become that highly effective and skilled energy management professional. If you can spare only an hour a week (make it a Wednesday between 11am and 12pm) to catch up on energy management matters, or if you have a budget for some professional development, our wide range of training courses can help you develop aspects of energy management that are new to you, or refresh your understanding of already familiar aspects. Through the pages of this issue of The EMA Magazine you will be able to self-assess your knowledge and skills that are needed for a well-rounded energy management professional, as more than ever organisations need those who can understand their energy needs and steer businesses towards solutions leading to compliance, resilience and set targets.

We hope that you will find this issue helpful.

Best wishes,
The EMA Team

PUBLISHER
The EMA Magazine is published quarterly by the Energy Managers Association (EMA).

EDITORIAL
The Energy Managers Association
www.theema.org.uk
Tel: 0203 916 5516

CONTACT
Edita Krupova; Editorial Enquiries & EMA Membership Services Manager
edita.krupova@theema.org.uk

CONTRIBUTORS:
John Wilson, Sean Prior and Edward Barlow

The EMA would like to thank to the above contributors for their time and effort in providing the content and making this issue possible. Their willingness to share experience and knowledge is exemplary and inspiring, and we hope it will encourage others to come forward and contribute in the future.

ADVERTISING SALES
The EMA Team
Tel: 0203 916 5516
enquiries@theema.org.uk

ABOUT EMA
The Energy Managers Association (EMA) was set up in February 2012 and represents Energy Managers across all industries. Our priority is to improve the position of energy management experts and their profession and act as their united voice. We aim to develop the skills, knowledge and experience of professionals through our training, high-quality peer to peer guidance and best practice exchange.

EMA CORPORATE PARTNERSHIPS

AFFILIATION PARTNERSHIP

ACCESSIBLE PROMOTION OF YOUR PRODUCTS AND SERVICES >>>

CORPORATE PATRONAGE

EFFECTIVE INVESTMENT IN THE FUTURE OF YOUR BUSINESS >>>

KNOWLEDGE PARTNERSHIP

PROGRESSIVE APPROACH TO REACHING YOUR NET ZERO AMBITIONS >>>

E: ENQUIRIES@THEEMA.ORG.UK **T: 0203 916 5516**

by John Wilson, Lead Process Engineer, Totaltime Energy & Engineering Ltd and Sean Prior, Energy Manager at Alfa Energy

Security of Energy Supply

The turbulent area of energy price increases is here. If you are following the energy market developments closely, you are aware that it's been here for almost a year. But never have been energy prices and security of supply scenarios discussed in such abundance than in light of the sanctions imposed on Russia, and the Europe-wide aim to wean the countries off the Russian gas.

Whilst the UK's dependency is marginal, the wholesale energy market is affecting the UK prices and consumers, forcing the government to rethink energy supply and publish the British Energy Security Strategy policy paper[1] with plans to boost home energy production and reduce dependence on expensive fossil fuels.

John Wilson and Sean Prior, EMA Members and ESOS Lead Assessors, share their opinion on what the supply solution could be at the start of this energy transition.

New Energy Crisis – Thoughts and Solutions

John Wilson, Lead Process Engineer, Totaltime Energy & Engineering Ltd

The environmental imperative is well established and today few would doubt the science. Unfortunately, the environment has become a religion with public and politicians disbelieving the facts and ignoring observations which do not support the latest creed. Two decades ago, "renewable heating and transport" meant wood stoves and bio fuels. Now, those are frowned upon despite still being zero carbon renewables, electric vehicles and heat pumps are in favour instead, and will no doubt remain so until other realities unfold. In many articles I read, some by energy professionals, containing the terms "kilowatt" and "kilowatt hour", it becomes clear the writer cannot clearly distinguish the terms. That's like a transport expert unable to distinguish the terms "mile" and "mile per hour", it's worrying.

I know about Cambo and Jackdaw gas fields, having done work relating to both projects. They both received a fierce resistance to their approval and are now shelved in the interest of CO_2 reduction. Looking for others on the internet I find an article in The National[2] newspaper referring to 29 new oil and gas projects and complaining that the UK is letting Scotland down by failing to cancel them; they are not shelved yet but the article reflects the political climate. The article claims the projects will cause lifetime emissions of three times the UK annual figure. Put another way, this means that those projects alone could supply the UK total carbon-based energy demand for three years.

The national net zero target does not alter the fact we need oil and gas right now, and if civilization survives, we will continue to need it for many centuries to come, albeit (hopefully) in much smaller amounts. Why do we suffer such a lapse of logic as to discontinue our own oil and gas production to buy the same commodity from elsewhere? By shelving our projects, we just reduce competition and force up the price. It's not the extraction that causes the

[1]https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy

[2]https://www.thenational.scot/politics/19819842.plans-29-new-north-sea-oil-gas-projects-pipeline-despite-cambo-delay/

pollution, it's not the oil companies, it's us driving the children to school rather than letting them walk, it's us heating the house when we could wear a jumper, it's us taking a bath or a shower before we really need one. Whatever the demand is, it will be met by someone, somewhere on the planet. But if demand exceeds supply or threatens to do so, the price increases steeply.

Low-Cost Solutions

The first immediate thing we can do is to point out the above to the public, then ask them to economise as we did in the 70s when OPEC restricted the supply and increased prices during "The Energy Crisis". The public recently accepted Covid restrictions surely, they will accept request to switch off unnecessary lights, don't boil when simmer will do, don't overfill the kettle, switch the shower to 1 not 2 and be quick, don't use a stove ring or burner bigger than the pan, and various others. It's simpler than Covid-19 rules.

The second immediate step is to allow the "oven ready" oil and gas projects to go ahead, and looking to the slightly longer term to stop vilifying the oil companies and create a climate in which they wish to invest in the UK rather than elsewhere. Another slogan for the public with that finger-pointing logo "Why do we have oil and gas companies? Because you demand the products". No demand would mean no oil and gas production.

High oil and gas prices are self-correcting because when the price is high, new projects become economic and the companies are prepared to invest if they are permitted to do so. If we allow them to develop in the UK, we will be paying our own people and saving the transport costs and emissions due to importing from other countries, some of whom have, let's say, unfriendly foreign and social policies which we would not support.

Long-Term Solutions and Investment

Around the globe much gas is being flared for disposal purposes. It's an abominable waste. One reference[3] stated that 50 billion cubic metres (BCM) is flared annually. That is about the same number of kilograms of gas generating about 157 million tonnes of CO_2 and wasting about 625 billion kWh of energy. Averaged over a year, that is enough to continuously generate about 30 GW of electrical power. Despite this, Iraq has recently imported gas to fuel its own power generation, presumably due to infrastructure availability. So, one medium-term solution could be to support projects which bring some of that gas to the market.

The European TAP pipeline project, part of the Southern Gas Corridor creates a route for gas from the Caspian Sea to reach Europe. A step in the right direction. It's most of the way to Iraq where 17 BCM of that 50 BCM is being flared. Iraq is seeking partnerships for projects to reduce flaring, with a positive attitude to oil and gas the UK and devolved government politicians might help facilitate them. Perhaps a future leg of the Southern Gas Corridor could draw from Iraq and nearby to keep the main line full as the current sources deplete. Projects which cross countries need huge effort to get the necessary agreements.

We are developing carbon capture and reinjection projects. The technology opens the possibility of putting some of the carbon currently being emitted elsewhere in the world back in the ground as well as using the energy currently being wasted. Longer-term energy storage options need to be developed and implemented to cover the long dark calm cold winter periods of low renewables and relatively high demand. Numerous technologies exist or have been proposed, none appears as most favourable. Development of technology and projects is required.

Short-term output swings from renewables are a challenge to

[3]https://www.ecomena.org/gas-flaring-and-venting-in-mena/

grid balancing which needs to be addressed. Electrolytic processes such as batteries and electrolytic hydrogen production have inherently very rapid response times. Both these could be engineered to peak lop renewables output, batteries could also fill the dips, but the engineered solutions do not seem to exist. Another area for development.

"Nuclear fusion power is always 30 years of development from being realised" but if it is realised, it can provide a lasting clean nuclear solution which can work alongside renewables. There are various projects around the world which continue to show promising progress, ours is the JET project in England. We could ensure that the project progresses as quickly as possible and is not constrained by any resource or regulatory issues.

We do not need to and should not eliminate the internal combustion engine to meet target zero. Biodiesel from vegetable oil is less favoured because it encourages replacement of natural forests with palm oil plantations, waste cooking oil is a feedstock which does not have that disadvantage but is only available in tiny amounts. The UK produces enough to generate about 230 MW of heat continuously, or enough to fuel about 200,000 cars out of the 39 million road vehicles on UK roads. Not good, but there are various technologies which can produce liquid fuels from solar energy by biological means, and liquid fuels can also be synthesised using renewable energy. We should pursue these as vigorously as the shift to EVs. Perhaps best done in cooperation with countries with high levels of sunlight and available land area.

There are still few roofs in the UK and elsewhere carrying solar panels. Infrastructure bottlenecks and other issues which currently limit solar deployment should be addressed. There are also opportunities to use off-grid solar for water heating and space cooling. These could usefully be supported alongside continued support for insulation and other energy efficiency improvements to buildings.

If we exclude the CO_2 emissions by other countries associated with our consumption, e.g. of products from China, the UK is only responsible for about 1% of the world's CO_2 emissions. The success or failure to mitigate climate change is almost entirely out of our hands. We should ensure that we have the resources of every type to cope with effects of climate change and sea level rises, since they are likely to occur whatever the UK does.

Author's Profile:

John is a process engineer (CEng, FIChemE) and ESOS lead assessor, also a science geek who has always had a strong interest in energy, energy economy and the environment. The last 37 years of his working life has been in the UK's (mostly) Oil and Gas industry working mainly in technical roles. Lately, John has taken on some work in energy and emissions' reduction.

For the Greater Good of Britain

Sean Prior, Energy Manager at Alfa Energy

I strongly believe that the U.K. should utilise the natural resources at our disposal to fund the transition to low and zero carbon technology and achieve energy security. That resource is of course shale gas and oil as well as nuclear energy and a host of technologies bundled together under the renewables or green branding. Shale gas is a critical element. It can have a short-term impact. Keeping lights on and people warm. Plus, it can provide the investment pot for nuclear and alternative energy solutions.

Secondly, and most importantly, that resource should be exploited by a U.K. sovereign wealth fund (SWF). The reason for this is simple. The whole country should benefit from, and indeed the whole of humanity hugely benefits from, cheap abundant fuel and heat. There are undoubted health benefits from living in well heated homes that are damp free. In addition, there are undoubted benefits from the wealth that industrialisation has brought humankind. There are down sides but the benefit of the ability to learn is that we can do things better.

For me, energy management has always been about doing things better. The comparison between Norway that has a sovereign wealth fund to manage the exploitation of oil wealth and the U.K., which does not, is stark. There are of course huge differences between the two countries. However, the U.K. sold much of the oil when prices were low, the tax yield was still lower. Oil companies were the principal beneficiaries. Norway did not.

The level of taxation on the commodity should be set to guarantee borrowing repayments. Like a war bond that pays investors a guaranteed dividend for 100 years. The SWF would invest in a range of U.K. owned and manufactured technologies that make the U.K. energy secure, produce cheap emission free power and heat for U.K. businesses and homes. The funding would support centralised, de-centralised energy production as well as insulation and demand management programmes. Over time, all U.K. generation would come under the SWF or it could be a funder and beneficiary of power purchase agreements. The SWF would be open to all investors and should be focused on small private U.K. investors who can buy shares and hold stock paying a dividend for up to 100 years. Individual private or corporate shareholdings would need to be restricted to a maximum, so no one individual or group hold too much influence or corrupt intent over the SWF policy and outcomes.

The fuel and electricity should not be exported, unless U.K. demand is met and the base price of fuel or electricity has not exceeded a cap. Onshore fuel and generations assets should be exploited by U.K. onshore industry, commerce and domestically for the benefit of all. This is unabashed. I do not approve of or want to see the impoverishment of the British people due to the abject failure of heavily regulated energy markets and environmental policy. My premise is that the U.K.'s energy policy and environmental policy have failed.

The U.K. has lost its energy security and the public is paying the price. We have a legacy of high taxes on energy. We export manufacturing and fiddle statistics to achieve carbon reduction and now net zero on paper. The U.K. imports high emission LNG to the detriment of the exchequer and the environment rather than use the U.K.'s resources. Solar panels and wind farms are built with public subsidy, but their environmental impact is high. The energy generated does not negate their environmental impact and energy used in the production, and little or no thought is given to the decommissioning or recycling of these technologies.

The cash a SWF would generate should be invested in renewable technology made by U.K. headquartered and on shored technology and manufacturing companies. Again, this is unabashed. If a company benefits, and why should they not, pay a little tax in the U.K. Secondly, the U.K. needs a level of skilled technologically advanced manufacturing to be resilient, viable and to provide a solid base for economic growth.

Companies need to pro-actively consider technology like evaporative cooling, air and water source heating, thermodynamic solar arrays, natural lighting and provide evidence for ruling out their use before considering more energy intensive solutions.

Small Modular Reactor (SMR) nuclear technology is necessary. We have to get over our fear of the Windscale era cold war nuclear technology. There is a core nuclear industry in the U.K. However, the U.K. needs a cheap reliable source of energy. SMR's can be rolled out in the shorter term and rely on passive safety system that will alleviate problems seen in the past. The industry is developing reactors that are fuelled on existing nuclear

waste. The technology cannot simply be dismissed. It has to be a part of the national plan. The technology is zero emission at point of use. It can be zero emission to build, install and decommission as well but we will need to put the effort in. A variety of scaled nuclear projects will go some way to alleviating the problem of balancing the grid with wind and solar assets' intermittent energy production. There will be a need to prevent undue subsidy of wind or solar. If those are not feasible nuclear is the choice. If wave is reliable and cost effective a mix of wave and nuclear should be considered.

Planning and nimbyism must be overruled. If we do not, we run the risk of log jamming nuclear technology, for example, in the planning process until 2050. That is not to say that we only look at nuclear technology. Offshore wind must be costed and considered as should wave technology.

If a technology consumes more energy and emits more emissions over their productive life cycle than they generate in heat and power, they must be ruled out. This can be reviewed periodically and as the market drives technological advances a technology should be reassessed. The same goes for the schemes like the river Severn Barrage, stalled tidal project. This needs to be reviewed and work begun if it passes the test.

This would take a national plan, national legislation. Everyone would benefit from the Sovereign Wealth Fund. The gas and power generated can still be marketed and sold using the existing model. Competition can drive down retail price. The SWF could pay for, at a basic level, insulation for all homes; not just the homes of special interest groups like the over 80s or unemployed.

However, it would be important that the SWF is an independent body, subject to House of Commons scrutiny and established by parliamentary legislation, but free from direct political control and no subject to the Party mire.

The national plan could simply state:

Goal by 2030,

- Extract shale gas & oil.
- Build SMR power station by 2025-2030.
- Construct Hydrogen infrastructure by 2025-2030.
- Tender process for U.K. companies manufacturing renewable heat and power solutions and low-cost insulation by 2023-2025.
- Phase I installs of low / zero emission heating in all new builds.
- Training of the workforce in the use of refrigerants and installing renewables must be encouraged. Apprenticeships open to all ages, including manufacturing apprenticeships where the SWF would be used to set wages at average U.K. earnings during training, partly through NI and tax exemptions whilst training for employers and staff.

Phase II 2030 - 2050

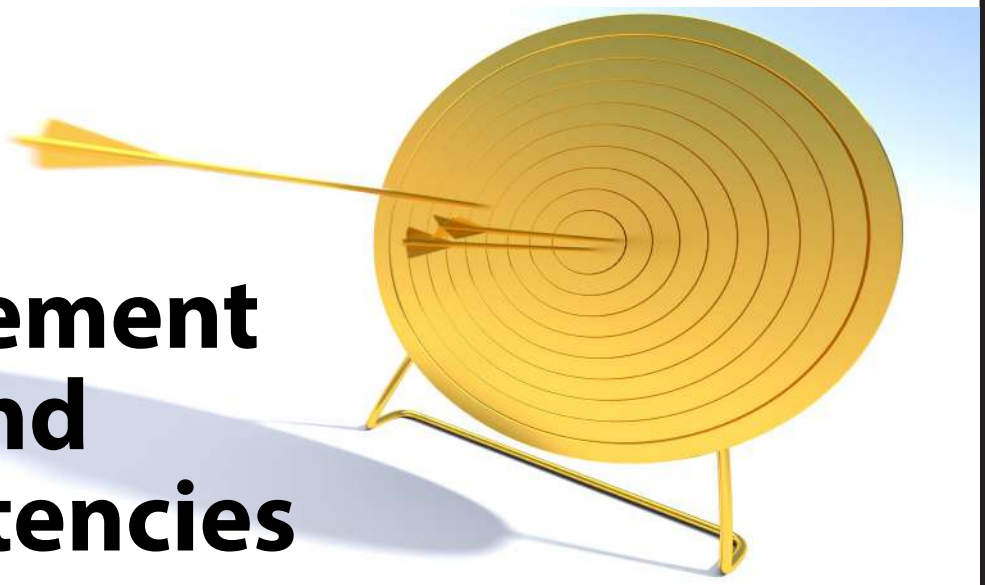
- Roll out of replacement of domestic heating systems with renewable heating technology. Natural replacement cycle as gas boilers fail and renewable technologies are used to replace them. Tendering process to benchmark technologies at natural gas boiler and existing HVAC technologies.
- Measures must include insulation, practical measures for replacing natural gas boilers over time. Thermodynamic solar arrays, a heat pump solar thermal hybrid can do this across the U.K. Older homes may need low temperature or additional radiators. The installation costs are lower. They will produce low temperature hot water even on the coldest U.K. day and they do not need to be installed on roofs which would reduce the installation costs.
- The national plan must re-imagine transport. Crucially, not by taking a stick to everyone enjoying the freedom of a drive in the family car. Rather by building the infrastructure to replace traditional internal combustion engines (ICE) with hydrogen fuel cells and ICE engines as well as electric battery engines. The U.K. can have a green hydrogen produced by electrolysis using nuclear fuel, wind, and wave technology. The cars can be manufactured at existing U.K. based plants working with existing companies if they use U.K. registered companies to pay a share of tax. For fans of mass transit, hydrogen trains and buses already exist, and a heat pump fireless steam engine has already been designed.
- The construction of decentralised SMR nuclear reactors would facilitate the decentralisation for the grid and negate the need for the wholesale replacement of the national grid at vast expense.
- The adoption of SMR technology and Hydrogen gas generation will mean that furnaces, steel working, the chemical industry, aluminium smelting, and manufacturing would be viable.

U.K. companies should be protected from dirty imports. A focused sales taxes, assuming VAT is scrapped, or import duties would need to be applied to manufactured goods that cannot prove the provenance of their renewable power and heat, and the provenance of their recycled raw materials and plastics. A sales tax on goods could be applied on a sliding scale. For example, goods manufactured in a sweatshop with wages at subsistence levels and poor or dangerous working conditions, which utilises fuel and power that emits more than the U.K. average would pay the highest rate of sales tax or import duties.

My last point is that every paragraph can be robustly contested, objected to, equally supported, and trumpeted. The point is, as free Britons in a free society we must debate openly and freely. There must be no room for threats, cancelations and twitter hate storms. I am strongly of the view that constant 'stick' and high taxation is not the way to achieve the migration to environmentally friendly fuel and power. The above is a practicable route to achieving readily available cheap energy and heat that will allow the economy and people to thrive in the U.K and around the world. This model is not perfect, but we can get it done.

Author's Profile:

Sean has worked in the energy demand management industry for nearly twenty years, and is currently a ESOS lead assessor for consultancies such as Alfa Energy.



Energy Management Skills and Competencies

The current period of a heightened focus on steep energy prices, climate change, organisational and national Net Zero targets and governmental strategies give energy management and associated practices a far greater urgency and exposure on nearly daily basis.

The job market for energy management professionals is following this trend, and there are many exciting roles being advertised for the professionals with the right skills and expertise. Whilst the role descriptions continue to vary, the skills required to deliver on the aims of the organisations advertising the vacancies remain similar across key energy management competencies.

Whether your role sits under sustainability, environment, engineering, facilities, maintenance or operational management, chances are that you are already competent in navigating these areas for the benefit of your employer.

How many areas of key energy management competencies are you already regularly involved in? This questionnaire will help you answer this question and identify areas for up-skilling that could be relevant to your current or future roles.

1) Technical and operational competencies

- Do you know where energy is generally consumed in different types of buildings within your remit?
- Do you know what type of major energy using equipment and systems (incl. control systems) are used in your business?
- Do you understand how energy consumption plays a role in the design, installation and commissioning of equipment, systems and buildings?
- Do you understand how good control systems and effective maintenance can be used to make equipment and systems efficient?

2) Energy audit and assessments (finding energy savings opportunities), measurements and verification

- Do you understand energy auditing process?
- Do you know how to prepare and carry out an energy audit?
- Do you know how to write an energy report?
- Are you able to calculate energy savings and return on investment?
- Do you understand basic metering types and the data they collect?
- Do you know how to carry out basic checks on bills and other recorded data to verify accuracy and repeatability?
- Do you know how to set targets in line with guidelines or trends?
- Are you able to explain reports against targets to a range of stakeholders?
- Are you able to compare energy assessment methods?

3) Behavioural change and motivation

- Are you able to identify

behavioural changes required to improve energy performance?

- Are you able to develop structures and strategies for change of stakeholders' behaviour to improve energy performance?
- Are you able to monitor and report on progress towards defined goals?

4) Regulatory & legal compliance and carbon management

- Do you understand key UK legislation relevant to energy and climate change?
- Do you understand economic incentives that may encourage energy generation or efficiency?
- Are you able to anticipate broad changes that might affect long-term organisational plans?
- Do you understand carbon emission scopes?
- Do you know how to assess simple carbon footprint?
- Are you able to factor the cost of carbon into business cases?

5) Energy management strategy/ plan

- Do you understand global energy trends and their impact on business operations?
- Are you able to determine suitable objectives and targets for improvement?
- Do you know how to develop a basic action plan around energy, carbon and water?
- Do you understand how success can be measured and verified?

6) Waste management

- Do you understand key challenges in dealing with waste streams?
- Do you understand financial advantages and opportunities of an organisation's waste stream?
- Do you understand possible use of waste as a renewable resource via recycling?
- Do you know how to undertake a basic waste audit?

7) Procurement

- Do you understand what may drive energy prices in the UK?
- Do you understand what makes up energy tariffs?
- Are you able to carry out simple procurement actions?
- Do you have a basic understanding of basic energy contracts?

8) Transport

- Do you understand the overall use of transport and fuel efficiency within an organisation?
- Do you understand what impact transport has on organisations, and potential ways to reduce its impact?

9) Water management

- Do you know how to undertake a basic water audit in your organisation, identify water using fixtures and fittings and suggest water efficient replacements?
- Are you able to identify water efficiency within processes?
- Do you understand the links between water and energy in your workplace?
- Are you able to develop behaviour change programmes and communications for water efficiency?

10) Information technology

- Do you understand the impact of ICT on energy consumption?
- Do you understand where energy and water are used by ICT in a workplace?
- Are you able to estimate the carbon footprint of an organisation's ICT infrastructure including offsite services?

If you have answered 'yes' to most of the above questions, then you may be eligible for the EMA Recognised Energy Manager status.

If you have identified competencies where you may need up-skilling, then check out the next feature for an overview of the courses in these areas.

Whichever answer you will end up with, or if still unsure where your current skills and expertise rank, you may consider the EMA Knowledge and Skills Gap Analysis Interview which is intended to help professionals to pinpoint areas that may need development.

The Interview is a professional discussion with other energy management professionals touching upon current areas of professional knowledge, whilst (at the same time) identifying any potential gaps, and suggesting ways to fill those gaps either through learning or mentoring.

If interviewees demonstrate all the necessary knowledge and expertise during the interview, they will be awarded the EMA endorsement of the Recognised Energy Manager. If not, they will receive a verbal and written feedback on how to develop their professional career further with advice and guidance on which areas of energy management to focus on in order to up-skill.

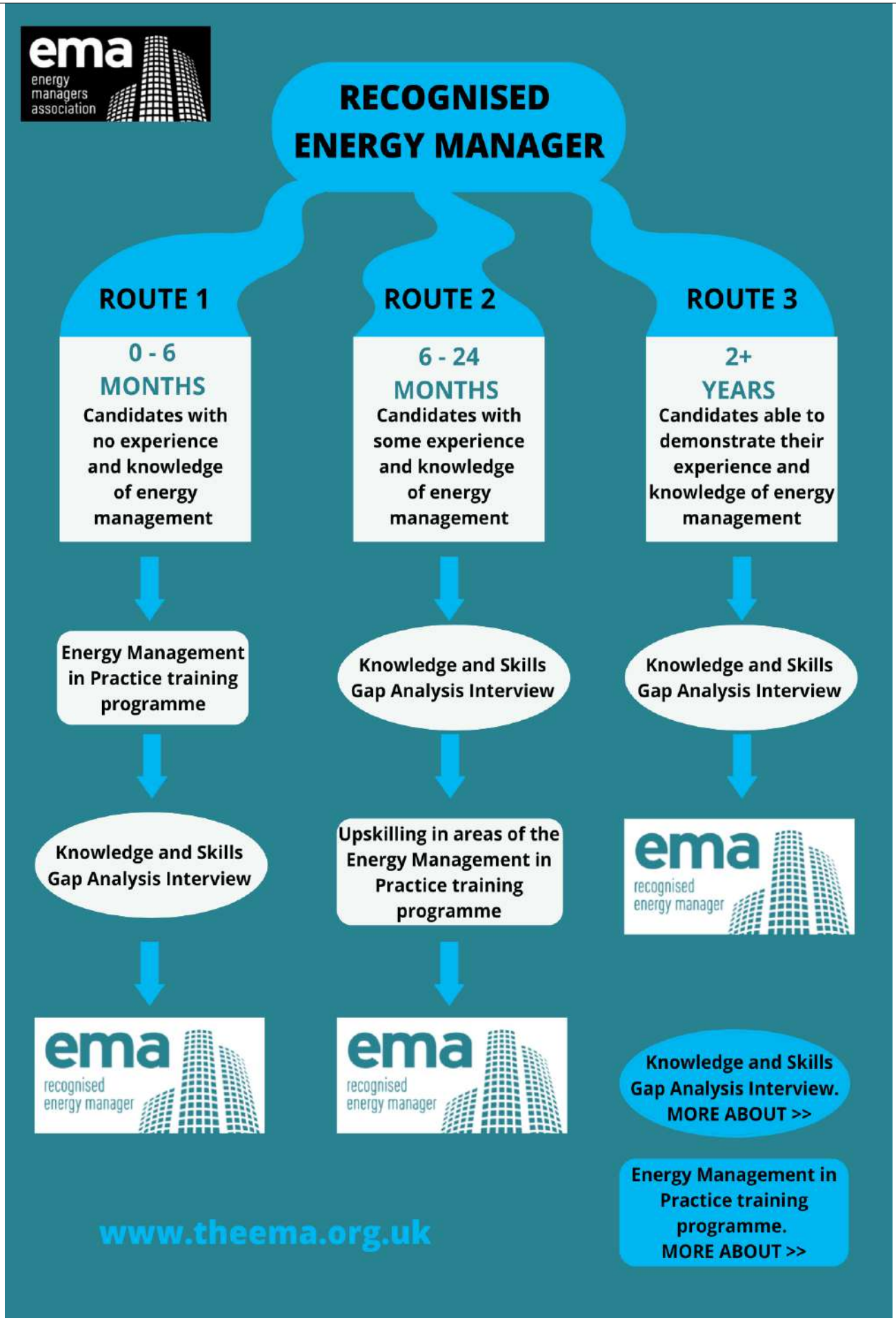
The Coolest Job in the World…we think so!

As the professional body for energy management professionals, it goes without saying that the EMA highly values those in the industry today and their importance in delivering crucial savings in energy and carbon which are enabling organisations to operate efficiently and deliver on set targets which represent commitments to public and local communities. These professionals, their skills and knowledge play, and will continue to do so for years to come, a vital part in the delivery of organisational and national energy efficiency and net zero targets.

The words 'job' and 'career' are interchangeable and whilst both mean working and receiving a wage, a career goes far beyond working hours and a payslip. A career represents hard work, commitment, passion, and above all an opportunity for personal and professional development. The roles in energy management are constantly evolving and are some of the least defined across various sectors. Whilst energy management professionals are required to 'wear many hats' and possess multi-disciplined skills, they are driven by their desire and ability to make a difference.

The EMA reflects on the constantly evolving role of energy management professionals and, with the aim of assisting in their professional development, we offer a range of courses that focus on every aspect of the energy management roles. Drawing on the expertise of practising professionals, our comprehensive Energy Management in Practice training programme has been developed to deliver learning outcomes and skills needed for a successful career, as well as to deliver the knowledge and understanding required for progression within an already established energy management career. Quality and applicability of the delivered learning content is our focus, and we make parts of the courses more relevant to learners by giving them the opportunity to discuss their own sites and challenges that their organisations face. Our courses are suitable for anyone seeking the opportunity for advancement in their career, considering to enhance their knowledge and skills of key areas or gaining an insight into a topic to be better equipped in dealing with service and product suppliers.

The EMA Recognised Energy Manager status provides an industry recognition for those who wish to formalise their professional development for their employment needs. Many energy management practitioners have the skills and knowledge but very few are professionally recognised as Energy Managers. Our three routes offer a pathway for anyone at any stage of their career.


ema
energy managers association
RECOGNISED ENERGY MANAGER
ROUTE 1
0 - 6 MONTHS
Candidates with no experience and knowledge of energy management
ROUTE 2
6 - 24 MONTHS
Candidates with some experience and knowledge of energy management
ROUTE 3
2+ YEARS
Candidates able to demonstrate their experience and knowledge of energy management
Energy Management in Practice training programme
Knowledge and Skills Gap Analysis Interview
Knowledge and Skills Gap Analysis Interview
Knowledge and Skills Gap Analysis Interview
Upskilling in areas of the Energy Management in Practice training programme
ema recognised energy manager
ema recognised energy manager
ema recognised energy manager
Knowledge and Skills Gap Analysis Interview. MORE ABOUT >>
Energy Management in Practice training programme. MORE ABOUT >>
www.theema.org.uk

0 – 6 MONTHS OF INDUSTRY SKILLS AND EXPERIENCE

Become a Recognised Energy Manager by undertaking our comprehensive energy and carbon management training courses. We have selected the most vital and essential areas of energy managers' competencies and offer to accelerate your or your team's learning to become competent and balanced energy managers able to tackle the carbon footprint of any organisation.

The Energy Management in Practice training programme (compulsory courses):

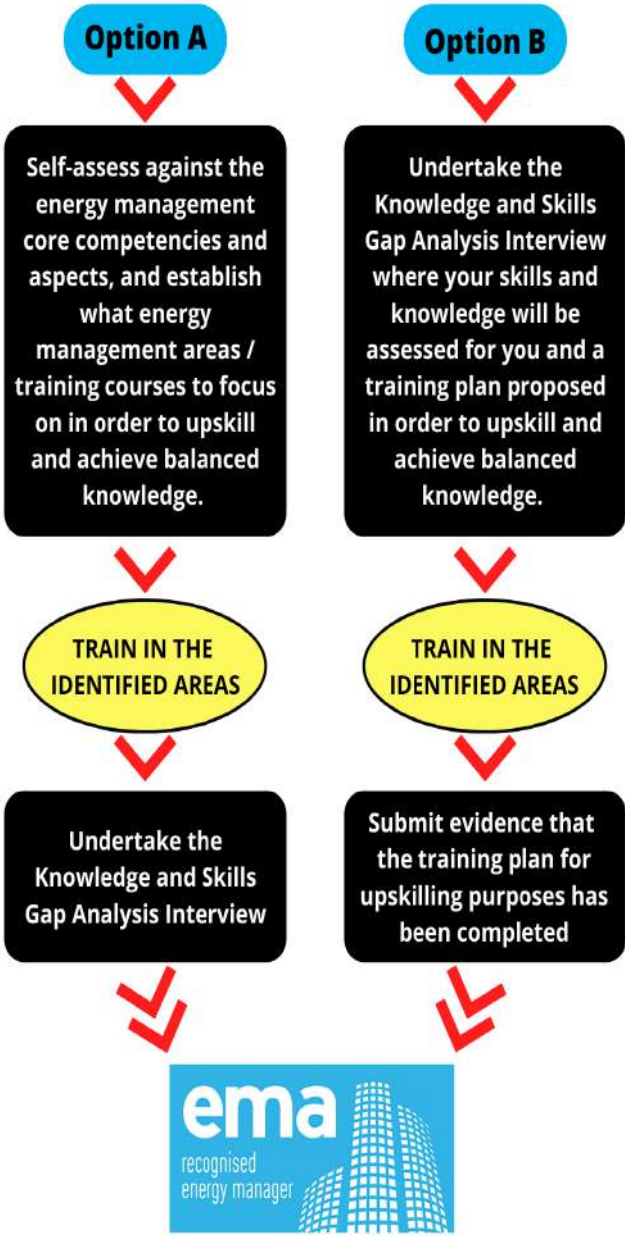
- Fundamentals of Energy Management
- Monitoring, Targeting and Validation
- Energy Auditing Techniques
- Energy Management in Building Services
- Understanding and Delivering Behavioural Change
- Waste Management
- Energy Procurement
- Net Zero Fundamentals and Strategies
- Reaching Net Zero
- Water Management
- Lighting - Basic Understanding
- Essential HVAC Control and Optimisation
- On-site Electricity Generation

The training concludes with an assessment consisting of a comprehensive knowledge test, on-site audit report and an interview. The participants that pass the assessment will be awarded the EMA Recognised Energy Manager professional status.

With this training we also offer an optional on-site practical training that includes an expert's visit to your plant room and walk around the site identifying possible measures for energy efficiency.

6 - 24 MONTHS OF INDUSTRY SKILLS AND EXPERIENCE

Become a Recognised Energy Manager through this route by choosing one of the below options. To upskill, any of the EMA training courses mentioned on pages 18 to 25 can be taken individually, not only as part of the entire Energy Management in Practice training programme.



2+ YEARS OF INDUSTRY SKILLS AND EXPERIENCE

Candidates confident in demonstrating and discussing their energy management experience and knowledge can achieve the EMA Recognised Energy Manager status by undertaking the Knowledge and Skills Gap Analysis Interview.

The interview will assess the candidates' knowledge and skillsets at any point in their career through an informal conversation based on their experience achieved to date.

As a result of the interview, the candidates, if successful, will be awarded the professional status.

Those candidates whose interview will not establish their overall energy management knowledge will receive a verbal and written feedback on how to develop their professional career further, and if necessary, they will be given advice and guidance on which areas of energy management to focus on in order to up-skill.

MORE INFORMATION ON THE EMA KNOWLEDGE AND SKILLLS GAP ANALYSIS INTERVIEW

ENERGY MANAGEMENT IN PRACTICE TRAINING PROGRAMME

Fundamentals of Energy Management Course (2-day course)

This introductory course has been designed to provide a comprehensive and practical overview of the key energy management tasks with an emphasis on the energy management knowledge and skills that are required from an energy management professional.

To understand energy management, it is important to recognise that it can differ across organisations. As the course unfolds the overview of regular energy management practices applied to manage and save energy, as well as to decrease energy related costs and emissions will be presented and discussed.

The goal of the course is to leave a lasting impression about what energy management practices can be applied within businesses, what can be done to increase energy efficiency and what skills and knowledge are required to deliver these.

The course will help you to understand:

- What energy management means for its practitioners and their organisations and/or clients
- Global and UK energy use
- Fundamental energy management practices
- Prime energy legislation and UK energy industry structure
- Energy use in buildings
- Basic monitoring and targeting principles
- Basics of energy auditing
- Basics of lighting
- Basics of heating ventilation and air conditioning
- Basics of renewable and low carbon on-site generation
- Relationship between all courses in LEC 3 Energy Management in Practice Training Programme

https://www.theema.org.uk/product/fundamentals-of-energy-management/

Monitoring, Targeting and Validation Course (1-day course)

This course introduces principles of monitoring, targeting and validating energy consumption. It is aimed at those needing an understanding of methods of gathering, using and interpreting data, as well as a range of available measurement technologies.

The course is designed to give guidance on creating value and setting energy baselines and benchmarking, validating energy savings and ultimately using M&T to sustain energy savings.

The course will help you to:

- Define what monitoring, targeting and validating energy consumption mean
- Identify methods of gathering, using and interpreting data
- Understand a range of measurement technologies available
- Interpret data and create value
- Develop energy baselines and benchmarking
- Validate energy savings
- Use M&T to sustain energy savings

https://www.theema.org.uk/product/energy-monitoring-targeting-and-validation/

Energy Auditing Techniques Course (1-day course)

Energy auditing is a relatively specialist skill but one that can identify and produce major savings in energy use and cost. While energy audits will always be specific to each building, this course provides the basic techniques and the key elements to look out for during an audit.

The course describes the basic techniques of energy auditing, from initial data analysis through to the on-site

process or equipment identification and operational review. It explains the main types of opportunities that are likely to be identified, the types of equipment that can be replaced or upgraded and will discuss the control of energy consuming process and equipment where much of the savings can be made. The course also covers the basic outcomes of an audit in relation to reporting and calculation of savings and return on investments.

The course will help you to:

- Understand the basic process for energy auditing
- Prepare and conduct an energy audit
- Scope and interpret site data before an audit commences
- Grasp auditing techniques that will be addressed for the systems below, but they can be applied to most energy consuming items:
  - »» Heating systems
  - »» Cooling systems
  - »» Pumping systems
  - »» Air handling systems
  - »» Lighting
  - »» Compressed air
- Identify appropriate control systems
- Gain understanding of basic reporting techniques
- Undertake basic calculation of savings and return on investment

https://www.theema.org.uk/product/energy-auditing-techniques/

Energy Management in Building Services Course (2-day course)

Energy in buildings is consumed in a large variety of ways and on many different processes and types of equipment. This course is designed to introduce many of the most common energy consuming systems found in existing buildings and their operations. Some of the basic legislation that may apply in buildings such as Minimum Energy Efficiency Standard (MEES) is also covered during the course.

The course begins with describing the types of energy used in buildings and the basics of how they may be conditioned, including explaining power factor, how power factor correction works, 3 phase load balancing and voltage optimisation. It then continues with how electricity and gas is consumed in various types of equipment, discussing the main areas of energy consumption and the possible opportunities to change and reduce how energy may be consumed.

The following areas are also covered during the course delivery: heating and cooling systems (including recovery of both), hot water systems, air handling and conditioning systems, lighting and their associated control systems as well as renewable and low carbon generation systems producing heat and power.

The course will help you to:

- Identify the types of energy used in buildings and how electricity may be conditioned
- Understand heating systems
- Understand cooling systems
- Understand domestic hot water
- Understand air handling and conditioning systems
- Understand lighting
- Review control systems for building equipment incl. BMS
- Understand renewable and low carbon generation systems producing heat and power such as solar and CHP
- Relate to how maintenance can impact energy management
- Identify and understand main applicable legislation such as MEES

https://www.theema.org.uk/product/energy-management-in-building-services-london/

Understanding and Delivering Behavioural Change Programme Course (1 day course)

This course not only provides participants with the knowledge of how to prepare and deliver a behavioural change programme, but more importantly with an insight into the psychology of people

and the way they behave which is essential in ensuring that any behavioural change programme is correctly structured and targeted in order to achieve a successful outcome.

The course will help you to:

- Understand why people behave the way they do, why people behave differently
- Grasp the psychology of persuasion, just how are we going to change people's behaviours?
- Identify the potential audience for change, who's going to make the biggest impact? Who will be your key allies?
- Identify your different options for a behavioural change programme
- Prepare a business case using tangible and intangible elements
- Gain approval to your proposal
- Plan how to make it happen, the key elements of delivering the programme
- Make sure that you are able to measure the success and report effectively on this
- Identify what next steps you should always take to ensure a successful completion to the current programme and setting the foundations for future programmes

https://www.theema.org.uk/product/understanding-and-delivering-behavioural-change-programme-london/

> "Perfect for teams and job roles that need to start engaging on energy change programmes. Helpful to those that need reminding how best to interact with teams and getting the best out of them and perfect if you're genuinely interested in the human psyche.
>
> - Energy Communications and Compliance Manager, Marks and Spencer

Waste Management Course (1-day course)

This course has been designed to offer a comprehensive overview of waste management. It focuses on waste legislation in the UK, waste disposal and recycling options. The course provides participants with all the essential knowledge of mapping waste streams, undertaking waste auditing, identify improvement opportunities and setting SMART waste targets and KPIs, as well as measurement, monitoring and reporting techniques relevant to waste data. The course programme draws on established practices of organisational waste management and helps participants to develop more waste efficient practices.

The course will help you to:

- Understand the benefits of managing waste effectively
- Identify the key components of current waste legislation in the UK
- Understand what happens to waste when sent for disposal
- Formulate how to carry out a waste audit to help identify improvement opportunities
- Recognise how to set suitable waste targets that are SMART
- Measure, monitor and report waste data

https://www.theema.org.uk/interest-form-lec-3-energy-management-courses/

Energy Procurement Course (1-day course)

This course guides participants through the essential procurement processes for electricity and gas in the UK. It describes how the electricity and gas industries are structured, and how this impacts the prices customers pay. It explains the main drivers of energy pricing in the UK and how electricity and gas tariffs are structured. It also explains the types of energy contracts that are available and the simple procurement processes that can be used by energy buyers. The course also includes information about how third party

intermediaries (TPI) work, how to get the best out of them, reveals how they get paid and how to minimise their cost.

The course will help you to:

- Understand the UK electricity and gas industry structures
- Understand what makes up delivered energy tariffs
- Identify what are the basic drivers of energy prices in the UK
- Understand the basic contract types available in the UK
- Formulate how to run a basic procurement exercise
- Understand what third party intermediaries do and how they get paid

https://www.theema.org.uk/product/energy-procurement-london/

Net Zero Fundamentals and Strategies (half-day course)

Many organisations have adopted Net Zero as a target to achieve carbon neutrality. But what does Net Zero mean exactly and how can it be achieved? This course will explain what Net Zero can mean, how different interpretations can be applied and the possible routes to achieving it. It will also explain the basics of what would be included in an organisation's carbon footprint, and how it can be measured using standard emission factors.

The course will help you to:

- Understand what Net Zero can mean for your organisation / client
- Measure and calculate carbon footprint, incl. data sources and collection
- Understand greenhouse gas and emission scopes 1, 2 & 3 with examples
- Create baselines and targets
- Set a strategy
- Understand formal and informal reporting

https://www.theema.org.uk/product/net-zero-fundamentals-and-strategies-course-online/

> A great opportunity to:
> - check certain doubts someone might have;
> - realise that you are not alone in trying to achieve the net-zero target and same questions/ worries are shared by the other participants;
> - build up your confidence that you're on the right track.
>
> - Assistant Product Manager, Certas Energy UK Limited

Reaching Net Zero (half-day course)

With climate action gaining momentum and Net Zero targets being set by many, reducing emissions to achieve Net Zero will require wide ranging changes to the way organisations use energy and invest into decarbonisation technologies and processes.

This course offers a step-by-step guide on how to prepare for and reach your Net Zero targets. It will outline a typical road map to achieving the desired targets and practical measures to achieve them. It will highlight where the carbon impact can come from, how to create a strategy for reduction of emissions, identification of the practical measures needed as well as auditing and verifying progress.

The course will help you to:

- Identify where the impact contributing to achieving Net Zero targets can come from within your organisation
- Scope relevant practical measures necessary for meeting the targets (incl. offsetting and insetting)
- Understand how to prepare a carbon reduction strategy and calculate the path for achieving it
- Audit and verify progress

https://www.theema.org.uk/product/reaching-net-zero-course-online/

Water Management Course (1-day course)

This course presents information about how the water industry is structured, how it works, how it prices its product and what businesses may be able to do to reduce cost. It also informs participants about the opening of the competitive retail market in England from 2017 and any developments since the opening. The course describes how water is metered and monitored and how to analyse consumption. It gives participants advice on carrying out a basic water audit, identifying likely areas of consumption and techniques that may allow reductions in water consumed. It also explains the link between water and energy use and identifies some techniques for raising staff awareness to help behaviour change towards water consumption.

The course will help you to:

- Understand the UK water industry structures
- Understand what makes up a water bill
- Understand the opening of the English water market to retail competition
- Review water metering and monitoring systems
- Identify basic techniques on how to undertake a water audit and what can be done to reduce water consumption
- Relate water to energy consumption
- Identify techniques to change behaviour to reduce water consumption

https://www.theema.org.uk/product/water-management/

Lighting – Basic Understanding Course (1-day course)

This course provides an understanding of the lighting systems commonly found in the UK, their general uses and guidance on how organisations can become generally more energy efficient with respect to lighting.

The course is also aimed at helping people to engage at a higher level with lighting suppliers who may be presenting them with information. This can quite often be complicated and misleading, and this course helps participants to understand what may be presented to them.

The course will help you to:

- Understand basic measurements for lighting output and efficacy to help participants gain knowledge and be able to engage with lighting companies/suppliers
- Identify and understand the common types of lighting currently found in the UK, their general uses and basic, pros and cons
- Understand the basic process for new lighting installations and upgrades with pictorial examples
- Understand basics of lighting design using free software to help participants be able to understand what information lighting companies may present them with
- Identify basic lighting control systems that can increase energy efficiency while maintaining required light levels and safe environments

https://www.theema.org.uk/product/lighting-basic-understanding/

> “The course was informative, useful and gave me confidence to challenge quotes and suppliers.
>
> - Energy Efficiency Manager, Parkwood Leisure

Essential HVAC Control and Optimisation Course (1-day course)

Heating, ventilation and air conditioning (HVAC) systems are an essential part of most modern buildings and can consume a large part of any energy used. This course aims to inform participants about the most widely used form of HVAC, their basic control and potential methods for optimising their operation for the least energy use while maintaining the comfort within buildings.

The course also covers:

- Basic operation and control of systems such as boilers, air handlers, fan coil units, chillers, pumping systems and air conditioning and relate them to energy consumption
- Potential control methodologies that can be used for optimisation such as speed, flow and differential temperature which can be used to optimise their use for lowest energy consumption while maintaining adequate temperatures and comfort levels. This will also include how many of these systems can be controlled via a BMS
- Implementation and correct use of variable speed drives across the range of HVAC systems
- The renewable versions of some of the HVAC equipment such as biomass boilers and heat pumps

The course will help you to:

- Understand the operation and energy use of the main types of HVAC
- Identify the standard control philosophies which tend to be used for the equipment
- Understand potential optimisation methods to reduce energy cost of HVAC and improve its performance
- Identify where to install variable speed drives on HVAC and optimise their use
- Control HVAC through systems such as a BMS
- Gain a basic understanding of biomass boiler use and heat pumps

https://www.theema.org.uk/product/essential-hvac-control-and-optimisation-technical-operational-london/

On-site Electricity Generation Course (1-day course)

On-site generation of electricity can be a good way of reducing grid consumption but the varying technologies, their suitability for implementation, income streams, ongoing costs and grid connection requirements can be complex and are different for every site.

This course aims to inform participants about the main types of on-site generation and provide information on how to effectively deploy it and gain commercial benefit. It describes how the most common forms of on-site generation such as solar, wind and CHP can be specified, installed and operated, how to effectively size the generation, how they would connect within an existing site and the financial incentives and mechanisms available to each technology.

The course also includes the process for applying for and obtaining permission from the local Distribution Network Operator (DNO) to connect any type of generation and to understand how to find out whether export provision may be available.

The course will help you to:

- Define the main technologies used for on-site electricity generation
- Identify the correct technology for deployment in a building
- Understand how to size the generation technology required
- Assess how and where to connect the generation technology
- Evaluate the financial incentives and returns available for each technology
- Recognise what may prevent on-site generation from being deployed
- Understand the process of dealing with DNOs to gain permission for generation and the possibility of exporting to the grid

https://www.theema.org.uk/product/on-site-electricity-generation-technical-and-operational-london/

Battery Storage for Business Course (1-day course)

Battery storage has been the subject of a substantial amount of publicity and market interest recently. This course provides a fundamental understanding of battery storage systems, the various battery technologies and their general use, how they can be deployed within buildings, charging and discharging methodologies, as well as looking at their limitations.

The course also looks at the financial incentives and electricity charge savings available, the energy contract type required to achieve savings and guide on how to evaluate the benefits of battery systems in businesses. The course equips participants with the basic knowledge, skills and tools to consider integrating battery storage systems into their organisations.

The course will help you to:

- Understand how battery storage systems work and can be integrated into buildings
- Be able to identify whether battery storage is suitable for your use and would be allowed
- Be able to perform a risk and mitigation analysis
- Be able to review your electrical system, usage, charging and discharging cycles, current energy contract and define your objectives and targets
- Be able to use tools to review the cost modelling for battery storage and establish what variables may affect viability at your sites

https://www.theema.org.uk/product/battery-storage-for-business/

Turning Data into Energy Savings Course (1-day course)

This course gives participants an opportunity to learn how to maximise the savings that can be achieved from the effective use of energy data. Using real examples this course helps participants to establish their data requirements and the different ways to deliver real measurable savings.

The course will help you to understand:

- Sources of data
- What is data commonly used for, what else could it be used for?
- How will you use your data within your business
- What do you really need:
  - »» Displays?
  - »» Dashboards?
  - »» Reports?
  - »» Alerts?
- Scoping data requirements
- The types & uses of metering devices
- Types of data analysis and performance indicators
- Identifying the opportunity
- Delivering the opportunity
- Real life examples

https://www.theema.org.uk/interest-form-lec-3-energy-management-courses/

SECR Compliance Course (1-day course)

Streamlined Energy & Carbon Reporting (SECR) extends reporting requirements to all large UK companies. This course aims to inform participants about the background and requirements of SECR regulation, and give guidance on how to complete the process effectively within organisations.

The course examines the basis of the regulation, which companies need to comply, and the legal requirements. Material covered after the introduction helps participants to understand the processes needed to collect and report appropriate data, methodology, and the measures needed to be undertaken. Finally, the course guides participants on how to present the information to company decision-makers, auditors, and the Companies House.

The course will help you to:

- Understand basic concepts contained within SECR
- Examine the scope of the regulations
- Identify data collection methods for energy, gas, and transport
- Understand the creation and use of intensity metrics
- Describe the stated methodology used
- Define and scope energy efficiency principal measures
- Compile the report for auditors, Board of Directors, and the Companies House

https://www.theema.org.uk/product/secr-compliance-london/

ENERGY MANAGEMENT ONLINE TRAINING SCHEDULE

Energy Management Theory Combined with Real-World Applications

JUNE

10th	SECR Compliance
17th	Water Management
24th	Essential HVAC Control and Optimisation
30th	Understanding and Delivering Behavioural Change Programme (in-person)

JULY

8th	On-site Electricity Generation
14th	Energy Procurement

AUGUST

12th	Reaching Net Zero

SEPTEMBER

9th	Net Zero Fundamentals and Strategies
16th	Energy Monitoring, Targeting and Validation
22nd-23rd	Energy Management in Building Services
30th	Energy Auditing Techniques

OCTOBER

14th	Lighting – Basic Understanding
16th	Battery Storage for Business

NOVEMBER

10-11th	Fundamentals of Energy Management

REDUCED PRICES

Group Training

The majority of the courses can be delivered virtually to teams or groups of stakeholders from the same organisation or industry in a standard format, or as tailored sessions (minimum 6 candidates). For a quote email **jana.skodlova@theema.org.uk** with your chosen course title and approximate number of staff. We can also develop new, bespoke material to fit your specific needs.

Knowledge and Skills Gap Analysis Interview

Understanding of a range of energy management competencies is required for professionals to effectively manage organisation's energy cost and consumption, monitoring and reporting energy use, as well as meeting energy efficiency requirements. The EMA can assess your knowledge and skills through the Knowledge and Skills Gap Analysis Interview. The Interview is an informal 60-minute conversation that concludes with feedback on how to progress your professional development and advance your career.

For an up-to-date list of all our courses visit our website at www.theema.org.uk

ema
energy managers association

- CPD awarded
- Practical advice
- Q&A sessions

TOPICAL WORKSHOPS

11 May

ENERGY EFFICIENCY & NET ZERO OPPORTUNITIES AT MARSHALLS

Achieving Net Zero by 2030 at Marshalls is a difficult challenge but one that the business has decided to undertake. Marshalls is a landscaping manufacturer and supplier of natural stone and innovative concrete products with the energy consumption of over 217 GWh across seven main fuels, and carbon emission levels of 57,878 tonnes from their baseline year of 2018. Along with a Net Zero target, Marshalls have held ISO50001:2018 since 2015 and have a challenging annual relative target in place. This workshop will define what meeting the Net Zero and energy efficiency target means for Marshalls and what opportunities and challenges the business faces to meet their targets.

18 May

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Given the inevitable increase in demand for reliable charging infrastructure, this workshop will examine how you assess your charging requirement; what are the pitfalls; why total kWh isn't the answer to working out kVA; how to optimise use of capacity; smart charging versus cheap capacity; smart charging – how it works; dynamic smart charging; the alternative to expensive grid upgrades and unpredictable pricing; security of supply – generating your own power (PV and battery storage); and the link between cost, demand and carbon – time shifting charging.

25 May

ENERGY MARKET UPDATE

The prices of gas and electricity have soared over the last 9 months resulting in multiple energy suppliers ceasing trading and consumers' costs increasing hugely, with the recent Russian invasion of Ukraine pushing rates even higher. This workshop will focus on reviewing the recent and current market prices for wholesale gas and electricity, what drives these prices and how they have been impacted by recent events. The session will also examine what the continued impact may be over the next year and what it will mean for organisations and energy management.

8 June

HOW TO SIZE ELECTRICITY GENERATION INSTALLATION AND OBTAIN A GRID CONNECTION

You might already be thinking about onsite electricity generation as a good way of reducing grid consumption, but the available technologies, their suitability for implementation, income streams, ongoing costs and grid connection are different for every site. This workshop will provide key insights into how to size an on-site generation installation such as solar or wind to ensure it can run effectively and the energy it generates can be used. It will also cover the process for applying for and securing permission from your local Distribution Network Operator (DNO) to connect your generation which will be a legal requirement for most installations.

What prompted you to undertake the EMA Knowledge and Skills' Gap Analysis Interview?

I have been working in this field for 10 years and achieved a number of academic and professional qualifications within this period. I wanted to find out the areas of skills and knowledge for my continuous professional development. EMA's gap analysis interview really gave me good insights.

Mohammad Rafique, Energy & Environment Officer, Surrey Police

I actually didn't think I was ready and was planning to wait another year. I was about halfway through a two-year plan working my way through the core competencies via a variety of training courses and workplace learning. I had already completed many of the training courses and had been heavily involved in almost all aspects of energy management at QinetiQ, and my manager at the time had a lot of belief in me and convinced me that I was ready to go for it.

Dewi Day, Energy and Sustainability Advisor, Aberystwyth University

I had attended some of the training sessions run by EMA and thought the next step would be to undertake the interview to become a Recognised Energy Manager. I found it useful to identify strengths and weaknesses to help plan my training needs.

Kirsty Rice, Environmental Manager, JTI UK

My degree is in Manufacturing Engineering, so much of my energy management knowledge has been picked up from experience, as well as from magazines, exhibitions and the internet. This left a nagging doubt in my mind, that there may be aspects of energy management that I know nothing about because I have just never come across them in my current role. The interview process was a great opportunity to review what I have picked up over the years, and it was reassuring to know that I have got all of the bases covered.

Charlie Cox, Energy Manager, University Hospitals of North Midlands NHS Trust

I have been in energy management for a few years, however apart from my experience I had nothing to demonstrate the skills I had learnt and the level of my competency. The EMA Knowledge and Skills' Gap Analysis Interview not only allowed me to gain some recognition but also highlighted areas where I needed improvement. In turn, this can only help to improve my ability to make a bigger impact on the industry in my career.

Joel Kirby, Energy and Environmental Manager, Celtic Manor Collection

More information on the EMA Knowledge and Skills' Gap Analysis Interview

What prompted you to increase your knowledge through training courses?

Paul Graham, Utilities, Waste and Sustainability Manager, Kingston Hospital NHS Foundation Trust

I started from a very low base knowledge, my previous seven and a half years were spent in administration and analysis for soft FM functions like telecoms, cleaning, post and catering etc. Also, expectations varied within the organisation. Some thought I was going to be an engineer, some an administrator, some a green champion. I needed to know what the job actually was from other professionals and how to do it well. Having initially completed the EMA's two-day foundations course, I thought that their approach was about right. Specifically, it helped to understand the need for energy managers who know what questions to ask of suppliers to signal good quality and to know how to explain technical benefits simply to management.

You achieved the professional status by combining the on-job practical experience with completing the entire training programme across all energy management topics. Could you suggest instances where you already applied the training to your organisation?

I found the practical focus of the courses very helpful. Whenever possible, I took at least one thing away from each which I could apply straight away.

- Following the procurement course, we've taken the bold move to move away from the main public sector buying framework for energy so we can explore other options which might deliver better value.
- The technical and operational modules equipped me for what to expect in plant rooms and what signals to look for that may indicate poor performance. I've also been able to advise management regarding what they can expect from electric vehicles and battery storage.
- The measurement, assessment and verification modules helped me to evaluate current performance and recommend specific high-use areas for the organisation to focus on.

Do you think that the EMA Recognised Energy Manager status will allow you to highlight your credentials as an energy manager?

Joel Kirby
Energy and Environmental Manager
Celtic Manor Collection

Absolutely, and this is one of the main reasons I wanted to become a Recognised Energy Manager. I would like to think that this also helps me to demonstrate competency to key members of staff within my workplace. It has not been long since I got the status, but it has helped from a confidence point of view if nothing else, knowing that your knowledge has been validated and that you do know what you are talking about.

Charlie Cox
Energy Manager
University Hospitals of North Midlands NHS Trust

I have been looking for some form of accreditation in energy management for some time now. Colleagues in more established disciplines have the option of chartered status, but there didn't seem to be an appropriate equivalent for energy managers. It is nice to have the official endorsement of the EMA, and I am sure that it will increase my profile both inside and outside of UHNM. My natural position is to think that it shouldn't matter what qualifications or recognition someone has, as long as they do a good job. However, in reality it is essential for an energy manager to be seen as credible by a broad spectrum of colleagues, in order to garner support for the important work that they do.

Kirsty Rice,
Environmental Manager
JTI UK

I think Energy Managers now are expected to also manage transport, waste and water – pretty much acting in some ways as an Environmental Manager. Having the EMA accreditation on my CV certainly allows me to demonstrate my professional aptitude in this area and a desire for continuing development which I think employers expect to see.

Paul Graham,
Utilities,
Waste & Sustainability Manager
Kingston Hospital NHS Foundation Trust

Yes. It demonstrates a level of competency and knowledge which I have used to assure my organisation of my abilities.

Mohammad Rafique
Energy and Environment Officer
Surrey Police

I believe this credential had given me a strong recognition of my skills and knowledge in this field. This is evidence of my continuous development journey that I am connected to current good practice and being up to date with knowledge.

Dewi Day
Energy and Sustainability Advisor
Aberystwyth University

I believe that an energy management training programme like this is an important aspect of my career development and has helped broaden my skillset. I have learnt a great deal from the modules that I completed as part of this programme as well as other professional training courses. Shortly after gaining the EMA Recognised Energy Manager status, I was recognised as a star performer in my department at QinetiQ. I also believe that having a recognised energy management qualification can strengthen a CV and help future career progression.

ema recognised energy manager

MORE INFORMATION

by The Energy Managers Association

My Role in Tackling Climate Change

The professionals in energy management, sustainability and environmental roles play a key part in organisations' plans to deliver on energy efficiency and Net Zero targets. By performing their everyday roles, investing in professional development and exchanging of ideas and experiences with others, they are contributing to tackling the risks of climate change on organisational as well as national level. With all the varied roles and tasks, we are keen to showcase our members' skills and day-to-day tasks. In this issue, we have asked Edward Barlow about his role as Head of Climate Change & Environment at Buckinghamshire Council.

What attracted you into the industry?

Firstly, that it is important work. During my career it has been great to see climate change and the environment more broadly go from somewhat niche topics to a mainstream issue all organisations are now responding to. The last 2 to 3 years in particular have seen a massive change in the importance they carry – it's felt like an overnight change but it's been 20+ years in the making.

Secondly, is that it's really interesting! There are rarely simple answers to many of the challenges I face, and I enjoy trying to find a good outcome from a difficult situation. Sometimes that will mean compromising, but I'm strong believer in not letting excellent being the enemy of the good.

How have you started and progressed through the industry?

My first significant role was at the Institute of Environmental Management & Assessment (IEMA) which was a really great opportunity. It exposed me to a real mix of environmental issues but importantly the work always had a pragmatic and pro-business viewpoint.

I joined what was then Buckinghamshire County Council in 2014 in an energy management role and progressed over the following years to become Energy Manager.

I gained experience in developing and delivering energy efficiency and renewable energy projects, as well as managing the day-to-day energy management functions and the procurement of supply contracts.

I also undertook some part time internal secondments, most interesting of which was managing the council's interactions with HS2 which passes through Buckinghamshire.

We went through a process of merging with other councils in our area and from March 2020 became a Unitary authority – Buckinghamshire Council (i.e., a single council providing all local services). My role continued to focus on energy but more explicitly picked up our response to climate change as well.

In late 2021, I secured an internal promotion and now manage the Climate Change & Environment Service. This includes the energy and climate team but covers a really broad mix of natural and built environment teams – 11 different disciplines in total.

What does your current role entail?

I lead the council's work on reducing emissions and hitting our 2050 net zero target which applies to both the council's operations but also the whole of Buckinghamshire.

For our own emissions, this essentially

includes work to reduce our emissions as far as possible (renewables, energy efficiency and fuel switching as the core) as well as our tree planting programme which will see over 500k trees planted over a 10-year period. One tree for every Buckinghamshire resident.

As a Unitary authority the climate remit extends into so many areas which help support how we address climate change. For example:

- How we address climate change in the planning process;
- What does our local transport planning work need to consider;
- How do we use our procurement processes to achieve reductions;
- What does a changing climate mean for public health and social care provision?

Climate change affects everything we all do, so leading this work in an organisation with such a wide remit is a great position to be in.

In your opinion, what role do you play in tackling climate change?

I'm biased, but I feel my role is central – around 30-40% of local emissions can be influenced by the functions of local government – transport and planning are good examples of where we have a bigger influence than our direct emissions suggest (we are less than 1% of emissions locally). So, leading on climate change in local government is a critical role for reaching net zero.

What makes this challenging is that its largely non-statutory. While councils have responsibilities in statue for example to collect waste, or provide social care, we are not required to reduce our own emissions or those of the area we serve. So, I work by influencing and encouraging action, and by tackling the challenges others face to make action easier. What I can't do is wave a piece of regulation around and force others to act!

> "I work by influencing and encouraging action, and by tackling the challenges others face to make action easier. What I can't do is wave a piece of regulation around and force others to act!

What are the main challenges in delivering Net Zero targets at your organisation?

Getting to net zero is a huge challenge for any organisation, particularly if your plan is not to just offset everything. I think I share many similar challenges to other professionals. Some of these I think are less problematic – for example, I know that moving the vehicle fleet to electric won't be easy. But the technology is rapidly falling in price and the lifecycle cost (even for larger vehicles) are just going to make electric the easy financial choice in the not too distant future.

Decarbonising heat is probably the hardest at the moment – and that is both for our estate but also for all the homes and workplaces across Buckinghamshire. While the technologies exist and are mature, the financial case is generally not there – big upfront costs, long paybacks if any, and buildings which often need a lot of disruptive works to install doesn't make these simple to take forward.

We also need to deal with a lot of uncertainty – the long-term impact of Covid on working patterns means we are not clear yet what the estate needs to look like. So, if a proposal comes forward with a 15-year payback, it is very difficult to justify that if we do not know what the future of that building is in the next 5 years.

In your opinion, what is the order of importance for the three key aspects of tackling climate change – finance, skills, technologies?

Tricky one – I would go skills, technology then finance.

Finance is clearly essential, but my experience is that when a proposal stacks up financially, the money is there. Skills are top as we need to select the right measures, in the right circumstance and at the right time. If you start off this part wrong, it doesn't matter how good the technology is or how much money you have, it won't be a good outcome.

I am also increasingly aware of the skills gap the UK faces in getting to net zero – in particular, the number of heat pumps systems which need designing and installing and for which the supply chain is just not there yet. It's a good example of where the technology itself is mature, but applying it at scale requires many more people to be skilled in its deployment.

> "Skills are top as we need to select the right measures, in the right circumstance and at the right time. If you start off this part wrong, it doesn't matter how good the technology is or how much money you have, it won't be a good outcome!

What is your biggest achievement to date that has contributed to tackling climate change?

I'll cheat and give two! I was really proud to lead on the installation of 10 solar PV systems in months ahead of the FiT being reduced back in 2015. With a fixed deadline and with the whole industry responding, it was a real push to get the systems live and registered in time. Those systems have had a direct impact on our emissions and so this is a really tangible achievement.

Though a document in nature, getting our Climate Change & Air Quality Strategy adopted last October was also a big moment. Developed in the new Unitary authority and working across such a big organisation to agree a plan on how we address climate change in so many different aspects wasn't easy and there was a lot of back and forth to get it agreed. We also spent a lot of time working the numbers to ensure our funding was aligned with the targets and we were able to show with confidence that this was achievable. Now just the simple task of delivering it!

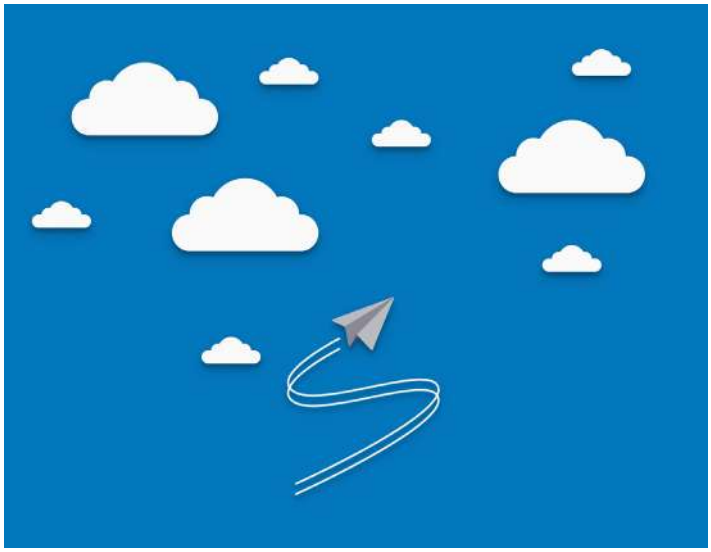
Thinking about your role and skills, how well equipped do you feel in your ability to tackle or contribute to tackling the climate change and deliver on Net Zero targets?

I feel quite well equipped for my role – I know the challenges we face well and can put these in a useful context for others. I bring people with me on the changes we need and, by and large, keep people motivated to make these changes.

I also know what I don't know – for example, I know I wouldn't be the right person to design a heat pump system, but I do know that it's important that a skilled person does!

Thinking about current Government policies and incentives in delivering on the UK's climate change promises and Net Zero target where would you like to see more developments and guidance?

I think increased focus should be put on domestic emissions – energy generation has massively decarbonised, and transport has a long way to go but the technology exists and is increasingly being deployed on a commercial basis.



Domestic emissions are in a different place – the technologies exist and are well established, but the paybacks are too long and the scale of insulation and fuel switching needed is enormous. There are around 27 million homes which will need retrofitting to meet net zero and we are not yet seeing the increases in delivery we need to. With recent gas price rises and the war in Ukraine, I think improving domestic energy efficiency is vital.

As big as the challenge is, I remind myself that it's only really been since the 1950s and 1960s that gas central heating has been widespread. Before this, most homes still had a fireplace and we saw a huge deployment of new technology over a relatively short period which gave us the heating systems most of us have today. So yes, it's a huge challenge to decarbonise this, but it's certainly not impossible.

What particular knowledge and skills do you see vital in reaching the national and organisational climate change targets?

At this scale I see us needing to tackle this in two broad areas.

There are the 'everyone needs' skills – just like health and safety was 40-50 years ago and GDPR was more recently, climate change needs considering in everyone's roles. This doesn't mean everyone needs to be an expert, but ground up identification of opportunities is really important and that means everyone knowing enough to think about climate change in their roles.

The second is the specialist side where we need people leading this agenda in each organisation. What the exact mix is will depend on the sector, but people who can manage emissions, lead projects to install renewable energy or energy efficiency measures, select and design the right technical solutions for a project and make sure they deliver the improvements they set out to.

What are your thoughts on greenwashing and how should it be tackled?

Greenwashing is a major concern – there is now so much marketing value to be gained by appearing to offer a lower impact/eco product that the pressure to put a green tint on

a product is massive. But often the reality is that the difference isn't that straight forward, and the 'green' option could well be more environmentally damaging.

The two common examples I see are reusable shopping bags and metal drinks bottles. Both are driven by a desire to reduce resource consumption and waste – but how many plastic bottles do you need to avoid using before the energy which went into producing a metal bottle is recovered? More than it will get used for in many cases.

Likewise, reusable bags – I'm sure I'm not alone in having an ever-expanding collection of bags for life, jute bags and alike. I also use more bin bags as I don't use old carrier bags as bin bags anymore. As with the bottles, I think few of us use these bags enough times for this to reduce the overall environmental impact.

I feel I should acknowledge that some of this is driven by the 'David Attenborough' effect of seeing the damage which plastic waste causes to the environment and the oceans in particular. Like anyone who sees those images, I too am moved by the pictures of the damage done to the environment. And undoubtedly the streets have fewer carrier bags being blown around in the wind now. But plastic waste in the ocean is a symptom of either inadequate or absent waste management systems in a country and I worry that greenwashing risks our response to one environmental problem making other problems worse.

So yes, we should absolutely reduce plastic use – but if the alternative is using metal for bottles and cotton for bags, which require much more energy and resources to produce, have we actually helped the planet?

What are your thoughts on offsetting?

I think it has its place, but at the bottom of the energy or carbon hierarchy of options. We are yet to purchase any offsets and any funds we would have to spend on it, I would prefer to invest in emissions reductions we can have complete confidence in and where we can reduce our energy costs.

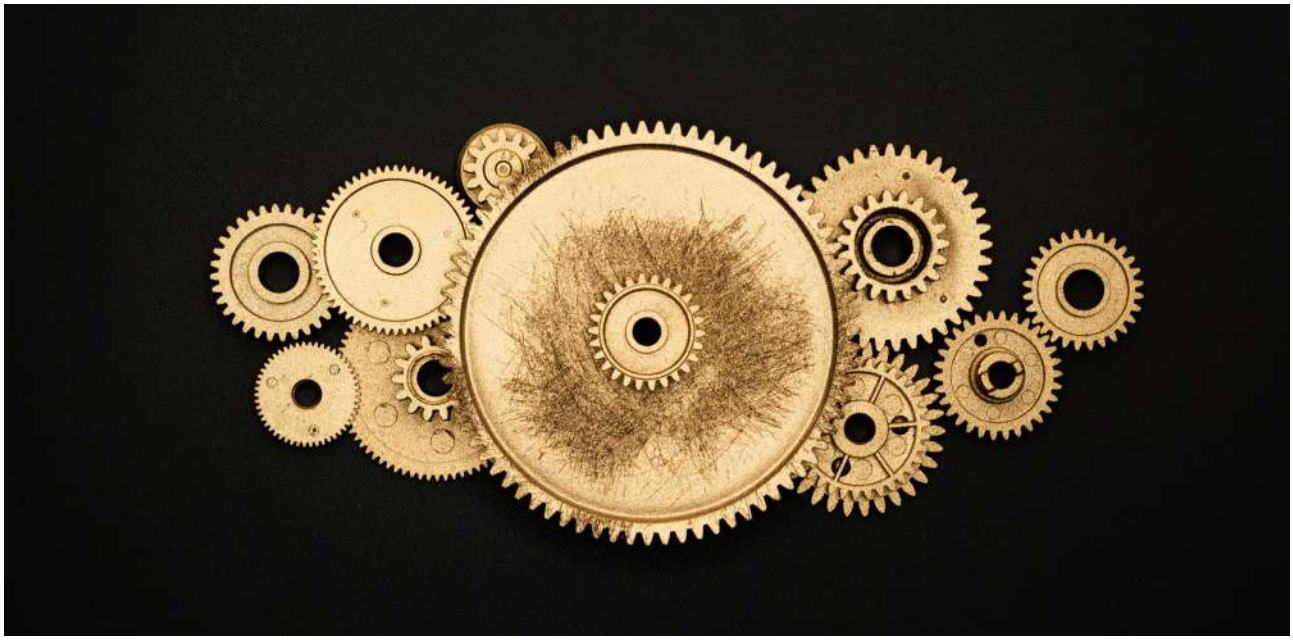
I do draw a distinction though between carbon offsetting and carbon sequestration. With offsets you are (typically) trading in an 'avoided increase' in emissions – be that a forest which was not cut down, or emissions from coal which was not burnt as wind turbine was built instead. So, you are only reducing the amount of carbon going into the atmosphere.

With carbon sequestration as you get with woodland carbon units, you are trading in a removal of carbon from the atmosphere and being stored away. This is essentially a negative emission and so where properly quantified and assurances of delivery are in place, this should be placed higher up the hierarchy in my view.

Where do you see your future within the sustainability sector?

I have no idea! I have not planned out my career so far but have taken the opportunities which I've come across and I think I'll continue to approach it this way. With climate change, the environment and sustainability having become such critical topics for all sectors, it's an area that there will be more opportunities for many years to come. So not knowing doesn't worry me.

I do really like local government though, as I get to work on so many different aspects of climate change and I don't think I could get that range elsewhere. So, if I had to guess, I'd say I'll be somewhere in that area.



ENERGY MANAGEMENT AWARDS 2022

ENTRIES OPEN IN JUNE

2022 Awards' Categories:

- **Energy Manager of the Year** - Private and Public Sector
- **Energy Management Team of the Year** - Private and Public Sector
- **Sustainability Manager of the Year** - Private and Public Sector
- **Utilities Manager of the Year** - Private and Public Sector
- **EMA Member of the Year** - nominated by the EMA
- **Young Energy Management Professional of the Year**
- **Net Zero Strategy of the Year**
- **Decarbonisation Project of the Year**
- **Energy Management Consultancy Partnership of the Year**

The EMA Energy Management Awards give prominence to those leading the energy management industry and inspire other professionals to follow in the same footsteps.

Energy Manager of the Year - Private and Public Sector

Nominees

We are seeking applications from professionals who have been working in energy management for several years. The entry should reflect the entrant's industry knowledge and experience, their achievements and initiatives to promote energy efficiency, and include overall savings and energy reduction achieved for their organisation. We are seeking entries from professionals who believe they meet these criteria and those who wish to nominate their colleagues and peers. Entrants will be expected to evidence their impact and achievements with examples and results.

Why enter?

This Award is a unique opportunity for professionals to showcase their expertise in energy management, celebrate their successes and achievements, and at the same time raise their profile in the energy management industry and within their organisations.

Energy Management Team of the Year - Private and Public Sector

Nominees

We are seeking applications from teams of two or more people who are engaged in daily energy management activities for their organisation or clients. The teams should be able to demonstrate clearly defined roles, collaboration between the roles that is beneficial to the performance of the team, development of individuals within the team and successful performance outcomes. We are seeking entries from teams who believe they meet these criteria and those who wish to nominate their colleagues and peers. Entrants will be expected to evidence their impact and achievements with examples and results.

Why enter?

This Award recognises the teams' contribution to their organisation or clients, celebrates their successes and achievements, and demonstrates the benefits of a structured approach to energy management.

Sustainability Manager of the Year - Private and Public Sector

Nominees

We are seeking applications from professionals who have been working in sustainability for several years. The entry should reflect the entrant's industry knowledge and experience in developing, implementing and monitoring company or organisation's sustainability strategies. We are seeking entries from professionals who believe they meet these criteria and those who wish to nominate their colleagues and peers. Entrants will be expected to evidence their impact and achievements with examples and results.

Why enter?

This Award is a unique opportunity for professionals to showcase their expertise in sustainability, celebrate their successes and achievements, and at the same time raise their profile in the industry and within their organisations.

Utilities Manager of the Year - Private and Public Sector

Nominees

We are seeking applications from professionals who have been working as utilities managers for several years. The entry should reflect the entrant's industry knowledge and experience, their achievements in the areas of energy, water and other supplies to sites. We are seeking entries from end-users who manage utilities for their employer and believe they meet these criteria and those who wish to nominate their colleagues and peers. Entrants will be expected to evidence their impact and achievements with examples and results.

Why enter?

This Award is a unique opportunity for professionals to showcase their expertise in utilities management, celebrate their successes and achievements, and at the same time raise their profile in the industry and within their organisations.

EMA Member of the Year

Nominees

This special category is nominated by the EMA team. This Award seeks to reward a member of the EMA for their support throughout the year.

Young Energy Management Professional of the Year

Nominees

We are seeking applications from professionals who have been working in the energy management industry for no more than three years. The entrants should be able to demonstrate their impact on energy reduction and achieved savings at their organisation. We are seeking entries from professionals who believe they meet these criteria and those who wish to nominate their colleagues and peers. Entrants will be expected to evidence their impact and achievements with examples, showcasing their role in the achieved results/savings.

Why enter?

This Award recognises new talent in the energy management industry, showcases and highlights energy management as a rewarding career option for new and upcoming energy managers.

ema energy managers association
Energy Management Awards
2022

Net Zero Strategy of the Year

Nominees

We are seeking applications from organisations with clearly defined Net Zero strategy and targets. The entry should include the organisation's short- and long-term plans for achieving the set goals, expected timelines, progress to date and any achievements so far. We are seeking entries that offer a clear pathway and consider all scopes of carbon emissions that occur directly or indirectly from the organisation's activities. Entrants will be expected to share their strategy documents as part of the submission.

Why enter?

This award is a unique opportunity for organisations to showcase their commitment to the Net Zero agenda, celebrate their successes and achievements, and at the same time raise their profile in the industry.

Decarbonisation Project of the Year

Nominees

We are seeking applications on energy, sustainability and/or engineering projects that have been successfully implemented and savings achieved can be demonstrated. All projects, including but not limited to, optimisation, upgrading, replacing or behaviour change that have been implemented and resulted in a reduction of carbon emissions for the organisation will be accepted. The project results should be able to demonstrate successful implementation, reduction and savings achieved.

Why enter?

This Award recognises the organisational effort that is needed for leading a decarbonisation project of any size, celebrates successful implementation and achieved savings.

Energy Management Consultancy Partnership of the Year

Nominees

We are seeking applications from in-house teams and service providers about collaborative partnerships of two or more parties that can demonstrate the benefits of delivering energy management in a partnership. We are seeking entries from partnerships that have been in place for a period of time that allows for the evidence to be presented. Entrants will be expected to evidence their impact and achievements with examples and results.

Why enter?

This Award seeks to recognise a successful partnership where a collaborative approach to delivering energy management has been successfully implemented. The Award offers a unique opportunity to showcase a successful partnership and highlight benefits for all parties.

ema energy managers association winner 2022

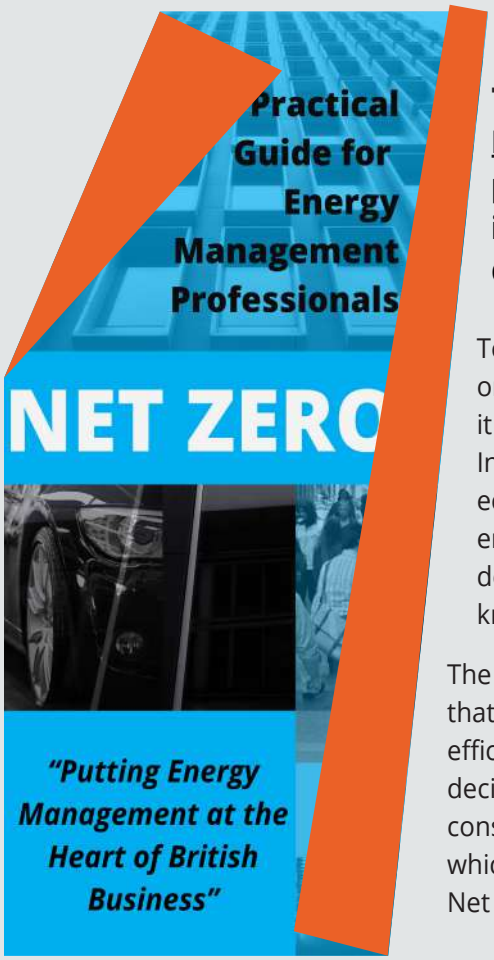
ENTRIES

Entries are free of charge and will open in June 2022.

ema ENERGY MANAGEMENT AWARDS 2022

WINNERS AND HIGHLY COMMENDED

The winners and highly commended in each category will be announced during a virtual awards' ceremony in November 2022.



The EMA's newest addition to the series of Practical Guides for Energy Management Professionals, the Guide to Net Zero was prepared by Members of the EMA Steering Group and is intended to provide a pathway for any organisation looking to deliver a Net Zero target.

To achieve Net Zero carbon emissions (carbon neutral) means that an organisation must remove as much in emissions terms from the atmosphere as it is creating through its use of fossil fuels and any releases of dangerous gases. In real terms, this means reducing energy consumption as far as practically and economically possible, changing to using self-generated forms of renewable energy and for those emissions that are left and currently difficult to decarbonise, removing an equivalent amount somewhere else on the earth, known as offsetting.

The path to reaching Net Zero will be different for every organisation, but it is clear that a successful delivery will require organisational culture change where energy efficiency and reduction of carbon emissions play the key role in all business decisions. **Chapter 3: POLICY – FORMULATION AND CREATION**, focuses on the considerations that should be examined and reviewed when creating a policy which would enable the organisation to realise its mission: in this case, achieving Net Zero and helping it to operate more effectively.

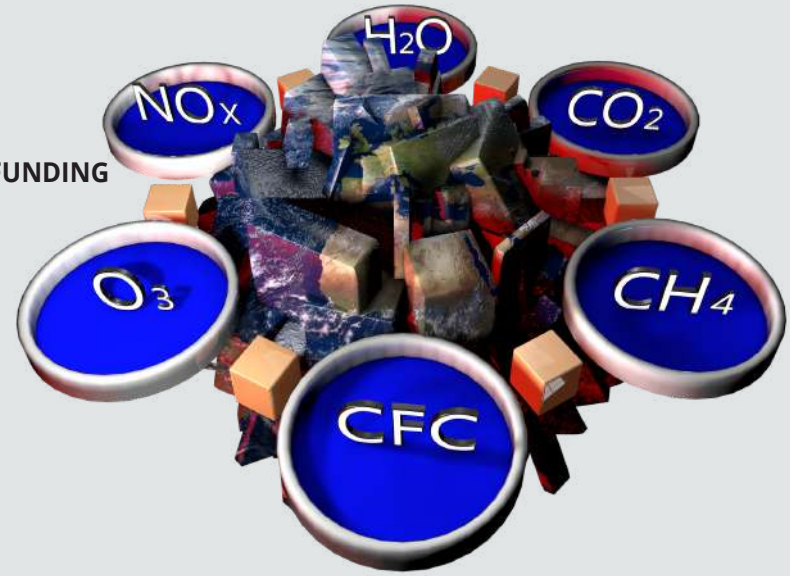
Another key area when it comes to organisational cultural change is covered in **CHAPTER 4: STAKEHOLDER ENGAGEMENT** which highlights the importance of the cultural and process changes at multiple levels of an organisation and how all stakeholders are identified, their needs, interests and level of influence are considered and understood.

Gaining approval for a Net Zero carbon plan is likely to require sign off by the top management of an organisation, for which a clear business case is crucial. **CHAPTER 5: MAKING A BUSINESS CASE AND SECURING FUNDING** considers the different approaches that can be adopted when gaining approval for an entire Net Zero carbon programme or individual projects.

Translating the aspirations into action will be achieved by having a robust and comprehensive strategy which the Guide covers in **CHAPTER 6: NET ZERO STRATEGY**. A Net Zero strategy should outline that an organisation is investing time, focus and energy in becoming a better, more sustainable entity and this chapters outlines the key areas which to take into consideration.

The full version of the Guide to NET ZERO which is available on the EMA website in the Resources section, includes sections outlined below.

CHAPTER 1: INTRODUCTION TO NET ZERO
CHAPTER 2: CARBON EMISSIONS
CHAPTER 3: POLICY – FORMULATION AND CREATION
CHAPTER 4: STAKEHOLDER ENGAGEMENT
CHAPTER 5: MAKING A BUSINESS CASE AND SECURING FUNDING
CHAPTER 6: NET ZERO STRATEGY
CHAPTER 7: NET ZERO ENERGY PROCUREMENT
CHAPTER 8: NET ZERO STRATEGY IN PRACTICE
CHAPTER 9: DATA COLLECTION AND ANALYSIS
CHAPTER 10: MONITORING & REPORTING PROGRESS
CHAPTER 11: DECARBONISATION OF HEAT
CHAPTER 12: RENEWABLE ELECTRICITY GENERATION
CHAPTER 13: DECARBONISATION OF TRANSPORT
CHAPTER 14: BEHAVIOUR CHANGE
CHAPTER 15: CARBON OFFSETTING



Dcarbonise EXHIBITION AND CONFERENCE 2022 11–12 MAY, SEC GLASGOW Co-located with ALL-ENERGY

STRONG MESSAGES BEING DELIVERED AT DCARBONISE 2022

Dcarbonise 2022 at Glasgow's SEC, the home of the COP26 Summit last November, is co-located with All-Energy, the UK's largest renewable and low carbon energy exhibition and conference, which this year celebrates its 21st anniversary.

Supported by the Scottish Government and Energy Saving Trust, Dcarbonise is aimed at the end-user, and has lowering carbon impact to improve sustainability at its heart, with the focus on the built environment in general and heat decarbonisation in particular with the majority of exhibitors in Dcarbonise focusing on various heat solutions.

For many years low carbon heat and energy efficiency played a role within the All-Energy exhibition and conference owned and organised by RX Global. That all changed in 2019 when they launched Dcarbonise, working with the Scottish Government, Energy Saving Trust and Zero Waste Scotland, as a stand-alone event, thus acknowledging the importance that both heat and energy efficiency play in the race to net zero.

Being held on 11 and 12 May 2022, the two events share plenary sessions – the First Minister of Scotland is amongst the speakers on the morning of 11 May, and will then tour the exhibitions – first stop, Dcarbonise! There is seamless, and free, access between both exhibitions and all conference streams, and all exhibitors at, and visitors to, both events are invited to the traditional Civil Reception and Giant Networking Evening at Glasgow Science Centre on 11 May.

The built environment in focus

Patrick Harvie MSP, Scotland's Minister for Zero Carbon Buildings, Active Travel and Tenants' Rights will get the Dcarbonise conference off to a flying start with a 'Meet the Minister' session in the Built Environment stream. Mike Thornton, Energy Saving Trust's Chief Executive will also be speaking in the session, 'Energy efficiency is heat efficiency' that follows, embracing the need to retrofit, considering the current landscape in terms of energy efficiency and introducing Business Energy Scotland.

The session also looks at retrofit through the eyes of an inspirational Accredited Conservation Architect who sees the opportunity and potential that PAS 2035 provides the construction industry to establish 'building passports' for every home in Scotland, and at successful retrofit projects and low carbon and sustainable new build solutions.

Introducing Business Energy Scotland

Previously known as the Energy Efficiency Business Support Service from Zero Waste Scotland, Business Energy Scotland launched at the beginning of April and is managed by Energy Saving Trust. It is funded by the Scottish Government to provide free, impartial support and access to funding to help small and medium-sized enterprises save energy, carbon, and money.

The service has found over £200 million worth of savings for Scottish organisations – with a 24% average energy saving per business. Through Business Energy Scotland businesses can also access unsecured interest-free loans from the Scottish Government to fund carbon-saving upgrades. Advisers will be on hand in the large Scottish Government and Energy saving Trust area in Dcarbonise to help SMEs take vital first steps towards net zero; it is where some dedicated presentations on topics such as X-tendo will take place as well as an introduction to Business Energy Scotland at a late afternoon reception.

Moving to heat

Scotland's Heat in Buildings Strategy sets out a pathway to zero emission buildings by 2045 and details a series of near-term actions, as well as a range of further, longer-term commitments to accelerate the transformation of the nation's building stock. Heat decarbonisation is the topic for the two conference afternoon sessions, again involving experts from Energy Saving Trust - Pilar Rodriguez, their Supply Chain Manager with an overview; and Anthony Kyriakides, their Head of Renewables looking at how to encourage adoption of heat pumps; as well as experts from across the industry looking at solutions ranging from heat pumps to hydrogen.

Throughout both days two show floor theatres, one dedicated to the 'Built environment' and the other to 'Heat decarbonisation' will be in action with practical advice and solutions on offer in quickfire sessions.

All-Energy covers all topics relevant to renewable energy generation through its major exhibition and wide-ranging conference programme featuring a panoply of luminaries. The Dcarbonise banner also encompasses transport decarbonisation with its full conference programme including a second 'Meet the Minister' session this time with Jenny Gilruth MSP, Scotland's Transport Minister in the hot seat, and a packed show floor theatre programme amid display of low carbon vehicles and smart transport technologies. There are also conference sessions and streams on the decarbonisation of places; on innovation needs in supporting our urban environments; industry decarbonisation; and on decarbonising the supply chain.

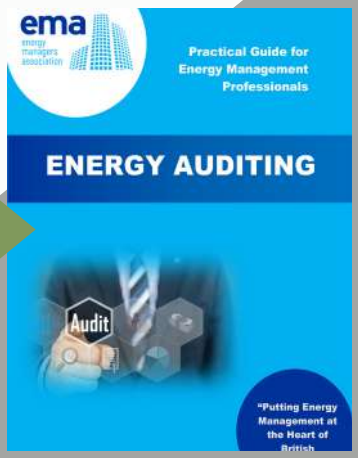
In 2019, the event attracted total attendance of close on 8,000; and during the pandemic kept in touch with its supporters by running 42 webinars including some on designated Dcarbonise topics. They can all be found at https://forum.all-energy.co.uk/category/webinars/

Registration for the duo of show is now open and the full conference programme for both with more than 50 conference sessions and seven show floor theatres in operation over the two days is online.

RESOURCES

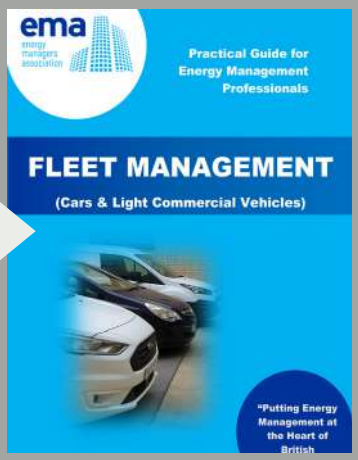
In order to provide energy management professionals with information and guidance on a variety of energy management topics, including best practice, energy efficient products and technologies, the EMA and representatives from relevant industries have produced the following guides.

This guide is intended to provide a background into the process of site energy auditing, in order to identify poorly performing or inefficient equipment that would benefit from optimisation, upgrade or replacement. It does not cover the basic building fabric.

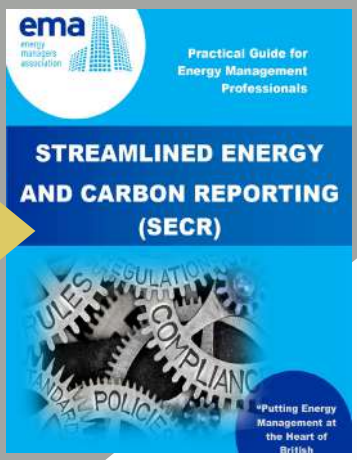


This guide is intended to provide an insight into managing waste, waste types, duty of care, management systems, permitting, auditing, procurement and adoption of effective and robust waste practices which are required to comply with existing regulations.

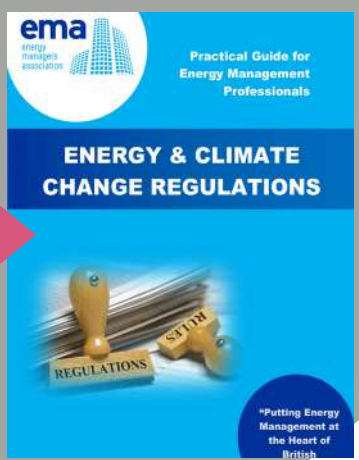
This guide focuses on conducting transport audits for cars and light commercial vehicles in order to assist businesses, fleet managers and ESOS Lead Assessors in undertaking assessments and identifying opportunities.



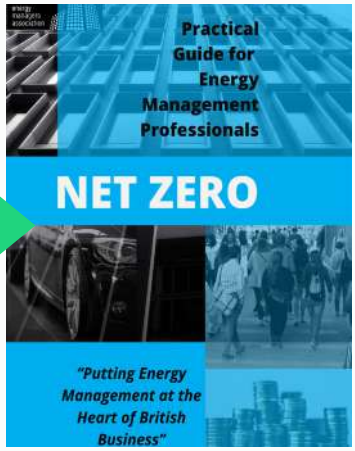
This guide provides a background into the Streamlined Energy and Carbon Reporting (SECR), and offers some practical advice on collecting the relevant information and collating and presenting it in an acceptable format.



This guide details the various energy and climate change regulations, legislation and relevant economic incentives. It allows energy managers to make sense of these and apply them in order to get the best value and ensure compliance.



This guide paves the way for any organisation looking to deliver a Net Zero target. The path to reaching Net Zero will be different for every organisation, and this guide intents to provide information on key aspect of setting and delivering these targets.



AVAILABLE ONLINE

EMA ENERGY MARKET REPORT

SUBSCRIPTIONS AVAILABLE:

3 MONTHS

6 MONTHS

12 MONTHS

Email: ema.team@theema.org.uk

Website: www.theema.org.uk/energy-market-report/