By The Energy Managers Association

Energy and Carbon Management Courses

AT A GLANCE

EMA training opportunities equip individuals and teams with the knowledge and skills required to develop and embed energy and carbon management practices across organisations. This overview lists key learning objectives of the available training courses.

Fundamentals of Energy Management

- What energy management means for its practitioners and their organisations
- Global energy consumption and its impact
- Essential energy management practices
- Technical concepts of energy use
- Technical and non-technical responsibilities of energy management practitioners
- Essential monitoring and targeting principles
- What energy auditing is
- Legislative compliance related to energy management

Energy Management in Building Services

- Types of energy used in buildings and how electricity may be conditioned
- Heating systems
- Cooling systems
- Domestic hot water
- Air handling and conditioning systems
- Lighting
- Control systems for building equipment incl. BMS
- Renewable and low-carbon generation systems
- Maintenance and energy management
- Main applicable legislation

Energy Monitoring, Targeting and Validation

- Defining monitoring, targeting and validating energy consumption
- Methods of gathering, using and interpreting data
- Available measurement technologies
- Interpreting data and creating value
- Developing energy baselines and benchmarking
- Validating energy savings
- Using M&T to sustain energy savings

Energy Auditing Techniques

- The basic process for energy auditing
- Preparing for and conducting an energy audit
- Scoping and interpreting site data
- Auditing techniques for:
  - »» Heating systems
  - »» Cooling systems
  - »» Pumping systems
  - »» Air handling systems
  - »» Lighting
  - »» Compressed air
- Identifying appropriate control systems
- Basic reporting techniques
- Basic calculation of savings and return on investment

Net Zero Fundamentals and Strategies

- Defining what Net Zero can mean for your organisation/client
- Greenhouse gas and emission scopes 1, 2 & 3 with examples
- Measuring and calculating carbon footprint
- Creating baselines and targets
- Net Zero strategy setting
- Role of offsetting
- Formal and informal reporting, and monitoring and reporting on Net Zero strategy progress

Reaching Net Zero

- Identify where the impact contributing to achieving Net Zero targets can come from within an organisation
- Addressing scopes 1, 2 and 3 emissions, and applying relevant and practical reduction measures
- Role and use of offsetting and offsetting standards
- What insetting is
- Auditing and verifying progress towards Net Zero targets

Shaping the Future of Energy Management

Essential HVAC Control and Optimisation

- The basic operation and control of systems such as boilers, air handlers, fan coil units, chillers, pumping systems and air conditioning,
- Relating the systems to energy consumption
- Potential control methodologies that can be used for optimisation of HVAC, including via a BMS
- Implementing and correcting use of variable speed drives across the range of HVAC systems
- Renewable versions of some of the HVAC equipment such as biomass boilers and heat pumps

Lighting - Basic Understanding

- The common types of lighting in the UK, their general uses and pros and cons
- Basic measurements for lighting output and efficacy
- The basic process for new lighting installations and upgrades
- The basics of lighting design - using free software to understand what information lighting companies may present to buyers
- Lighting control systems to increase energy efficiency while maintaining required light levels and safe environments

Energy Procurement

- Importance of energy procurement, its risks, uncertainties and opportunities
- The UK electricity and gas supply structure, and its effect on tariffs
- Electricity and gas billing, what makes up the total cost of bills
- Wholesale energy costs drivers
- The main methods of purchasing electricity and gas, their benefits and issues
- Who third-party intermediaries (TPI) and brokers are and what they do

On-site Electricity Generation

- The main on-site electricity generation technologies
- The correct technology for deployment in a building
- Sizing the required technology
- How and where to connect technology
- Financial incentives and returns available for each technology
- What may prevent an on-site generation from being deployed
- Metering for generation
- Dealing with DNOs to gain permission for generation and exporting to the grid

Water Management

- The UK water industry structures
- What makes up a water bill
- Water metering and monitoring systems
- Basic techniques of how to undertake a water audit and
- Opportunities to reduce water consumption
- Relating water to energy consumption
- Identifying techniques to change behaviour to reduce water consumption

Understanding and Delivering Behavioural Change

- People's behaviour
- Psychology of persuasion/key allies
- Behavioural change programme options
- Business case using tangible and intangible elements
- Gaining approval for a proposal
- Planning and delivering the programme
- Measuring and reporting the success
- Identify steps for a successful completion
- Setting foundations for future programmes

SECR Compliance

- Basic concepts contained within SECR
- Scope of the regulation
- Synergies and differences with ESOS
- Data collection methods for energy, gas and transport
- Creating and using intensity metrics
- Methodology
- Defining and scoping energy efficiency principal measures
- Compiling the report for auditors, Board of Directors and Companies House

Turning Data into Energy Savings

- Sources of data
- What is data commonly used for
- What is really needed:
  - »» Displays
  - »» Dashboards
  - »» Reports
  - »» Alerts
- Scoping data requirements
- The types and uses of metering devices
- Types of data analysis and performance indicators
- Identifying the opportunity
- Delivering the opportunity
- Examples from practice

Waste Management

- Benefits of managing waste effectively
- The key components of current waste legislation in the UK
- What happens to waste when sent for disposal
- Carrying out a waste audit to help identify improvement opportunities
- Setting suitable waste targets that are SMART
- Measuring, monitoring and reporting waste data

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