COURSE OVERVIEW

Course Title	**ENERGY MANAGEMENT IN BUILDING SERVICES**
Course Aim	Energy in buildings is consumed in a large variety of ways and on a large number of different processes and types of equipment. This course aims to give participants an introduction to many of the most common energy consuming systems found in existing buildings for them to gain a basic understanding of their operation as well as covering some of the basic legislation that may apply in buildings such as MEES.
Course Description	The course will begin by 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 will continue 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. It will cover 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.
Course Outcomes	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 • 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
Course Structure and Features	This course is to be delivered as a 2-day workshop. The course structure outlined below is indicative as some sections may be amended to assure the best outcomes for participants. Participants are encouraged to contribute with their own experiences and examples. The course material such as slide pack, case studies and course activities and any other necessary information will be issued by the course tutor at the beginning of the course and throughout. <u>Course Structure: Day 1</u> 1. Opening 2. Energy use in buildings 3. Lighting 4. Heating systems 5. Cooling systems <u>Course Structure: Day 2</u> 1. Domestic hot water 2. Ventilation systems (air handling and conditioning) 3. Pumping systems 4. Renewable and low carbon generation in buildings 5. Using maintenance for energy efficiency 6. Applicable legislation

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Who Should Attend the Course	This course is aimed at those who manage energy use in buildings as part of their job or those who are new to energy management or interested in learning about the use of energy in buildings and ways improve energy efficiency. As a guide, participants with the following job titles may be appropriate for the course: • Energy Trainees / Graduates • Energy Assessors • ESOS Assessors • Estates Staff / Managers • Facilities Staff/Managers • Sustainability Staff/Managers • Building Managers
Prerequisites	The minimum requirements for admission are: • Educated to degree standard or equivalent business based energy management experience. • For those whose first language is not English, and who have not undertaken a course of study where the principal medium of instruction is English, certificate of competency in one of the standard language tests (e.g. IELTS, TOEFL) will normally be required.
Further Information	Pre-course reading: Information will be provided on some of the areas and equipment that will be discussed, and legislation that may apply, to make participants aware in advance of some of the course discussions. Post course assessment: After the course, participants will be required to complete an assessment to test their knowledge, understanding, and application of the content covered in this course. Certification: Participants who complete and pass the assessment will receive a certificate including 10 hours of Continuing Professional Development (CPD) recognition.
Other Related Training Courses	Energy Procurement Energy Assessments, Monitoring, Targeting and Validation Turning Data into Energy Savings