Glossary Curriculum Energy Efficiency Manager

Nr.	Term	Definition
1	(energy) audit	Formal examination process consisting of: identification of every energy consuming device in a facility, determination of its rate of energy consumption, and the number of hours it operates in a 24h period.
2	carbon emission reduction	Carbon emission reduction is part of carbon emission recycling in which the carbon produced in the burning of fossil energy sources is converted into exploitable compounds in order to convert them back into other energy sources. The process of carbon emission reduction produces compounds such as methanol or formic acid.
3	certification process	According to the Renewable Energies Act, a company is required to obtain certification ISO 50001 if its electricity consumption exceeds 10 gigawatt hours. This certification process is conducted by an independent certification body which presents the company with a temporary certificate upon completion (e.g. Germany: German Association for the Certification of Quality Management Systems (DQS)). The certification process can be divided into four major steps: (1) Planning, (2) needs assessment and evaluation), (3) development of a comprehensive energy management concept, and (4) its implementation and evaluation. The process of energy management is a repetitive process which requires constant monitoring and consequently leads to a high potential for process optimization.
4	energy savings potential (ESP)	(also known as: energy efficiency potential) Energy efficiency can be determined in one of three ways, depending on the context. (1) Low policy intensity potential (LPI) corresponds to the energy savings obtained in the low policy intensity scenario in comparison to the autonomous scenario.(2) High policy intensity potential (HPI) corresponds to the energy savings obtained in the high policy intensity scenario in comparison to the autonomous scenario.(3) Technical potential corresponds to the energy savings obtained in the technical scenario in comparison to the autonomous scenario.
5	emissions trading	Since 2005, companies can trade emission allowances. The idea behind this trade is simple: In terms of climate protection it is insignificant where emission saving occurs; what matters is that it does happen. Emissions trading utilizes market mechanisms for climate protection. With the Kyoto protocol, the EU has agreed to an 8% decrease of emissions. This percentage is also the point of reference in emission trading. Every country is only allowed to distribute the number of certificates specified in their Kyoto-protocol agreement. In National Allocation Plans, each country determines which company receives a certain amount of energy allowances. A company which does not use all of its certificates due to emission-saving work methods can sell its allowances on the market and, thus, is rewarded for its environmentally friendly behavior. Companies which emit too much carbon dioxide, however, have to buy allowances.
6	energy management system (EMS)	Energy management is a method of minimizing energy costs by utilizing energy accounting, deficiency analysis, and optimization methods. EMS aims to achieve energy efficiency through well laid out procedures and methods and to ensure continual improvement which will spread awareness of energy efficiency throughout an entire organization. (cf. ISO 50000)

7	energy efficiency (EEF)	Energy efficiency is a ratio of the energy provided by a system to the energy input into it. Services provided can include buildings-sector end uses such as lighting, refrigeration, and heating; industrial processes; or vehicle transportation. Unlike conservation, which involves some reduction of service, energy efficiency provides energy reductions without sacrifice of service. Energy efficiency may also refer to the use of technology to reduce the energy needed for a given purpose or service.
8	energy efficiency management	Helping businesses and consumers to make better and more rational use of energy can lead to important benefits in terms of enabling cost savings and promoting efficiency. Standardization can contribute to better energy management by supporting the spread of best practices and providing energy users with the necessary tools to analyse and adapt their energy consumption patterns. Furthermore, energy efficiency management provides organisations with the tools to make decisions and design sound policies, optimize installations and systems, and improve energy efficiency.
9	energy Management Systems	cf. Line 6
10	ISO 50000	ISO 50001 "*Energy management systems – Requirements with guidance for use"* is a single standard meant for certification which specifies requirements for establishing, implementing, maintaining and improving an energy management system. The purpose of ISO 50001 is to enable an organization to achieve continual improvement in its energy use and consumption or energy performance through a systematic approach. ISO 50001 does not define specific energy consumption criteria but requires organizations to define its energy performance indices and targets and achieve them by implementing a proper action plan. ISO 50001 certification can be achieved irrespective of certification to any other standard such as ISO 9001, ISO 14001, ISO 22000, OHSAS 18000, though it can be integrated with any other standard and integrated certification can also be obtained. ISO 50001 also provides guidance on its use in the Annex A provided with the standard.
11	low/zero carbon technologies	Low carbon energy relates to the energy sources which generate fewer green house gases during power conversion. Low carbon technologies consist of zero carbon generation processes and energy sources like wind power, solar energy and geothermal power. It also includes natural gas power plants which emit very low carbon dioxide in the air. Hence, low carbon technologies are a list of technologies which generate less carbon dioxide than all the fossil fuel power plants. There is now unlimited application of renewable and alternative energy technologies like low carbon technologies. The low carbon technologies like carbon capture and storage, natural gas and combined cycle gas turbines, hydroelectric power, wind power, and tidal power are a great way to reduce the burden of carbon dioxide on the atmosphere. Thus, they actively work against global warming.
12	monitoring	The umbrella term for all sorts of immediate systematical acquisition, observation, or control of a procedure or process by use of facilities or other monitoring systems.

13	safety and environmental protection	Environmental protection is a practice of protecting the natural environment on individual, organizational or governmental levels, for the benefit of both the natural environment and humans. Waste production, air pollution, and loss of biodiversity (resulting from the introduction of invasive species and species extinction) are some of the issues related to environmental protection. It is influenced by three interwoven factors: environmental legislation, ethics, and education. Each of these factors plays its part in influencing national-level environmental decisions and personal-level environmental values and behaviors. Environmental health and safety programs provide protection of human health and the environment from chemical, radiological, biological and physical hazards. Hazards result from exposure to spills and releases, proximity to industrial processes or general occupational activities.
14	calculation of profitability	Calculation of profitability allows any business or company to calculate the amount of value created per unit of investment of a business enterprise and aids the decision-making process when ranking projects. Profitability index is the ratio between PV of Future Cash Values and Initial Investment Profitability index (PI), also known as profit investment ratio (PIR) and value investment ratio (VIR), is the ratio of payoff to investment of a proposed project. It is a useful tool for ranking projects because it allows companies/ businesses to quantify the amount of value created per unit of investment
15	workplace safety	Describes policies and procedures in place to ensure the safety and health of employees within a workplace. Involves hazard identification and control according to government standards and ongoing safety training and education for employees.
16	energy contracting	contractual agreements about energy delivery and energy services
17	energy carriers	a substance or medium with which energy can be stored and transported
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