

**Workshop**

**“ENERGY MANAGEMENT AND AUDITING”**

**AGENDA**

**Monday, 10 August 2020**

Start: 10:00 CET

End: 12:00 CET

**Tuesday, 11 August 2020**

Start: 10:00 CET

End: 12:00 CET

**Wednesday, 12 August 2020**

Start: 10:00 CET

End: 12:00 CET

**Thursday, 13 August 2020**

Start: 10:00 CET

End: 12:00 CET

Format: web-based video conferencing (Zoom)

Language: English

**Workshop “Energy Management”**

**10-13 August 2020**

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| **Filling the energy transition with life**  A workshop on ”Energy management” is part of the specialized RECP training within the programme “European Union for Environment (EU4Environment)”. The workshop shall prepare internal energy auditors and internal energy managers especially in SME with a practical approach to an energy audit, with knowledge on typical hot spots for energy efficiency in SME, and an approach how to (quickly) identify cost/benefit for efficient solutions.  In 2012, the EU established an Energy Efficiency Directive (2012/27/EU) that determined a set of binding measures to help achieve a 20% energy efficiency improvement by 2020. This Directive establishes a common framework of measures for the promotion of energy efficiency within the Union to ensure the achievement of the Union’s 2020 20 % target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date. This includes high quality energy audits. Guidance for the contents of energy audits is provided by EN 16247 parts 1 to 5. In 2018, the EU noticed that the efforts that were made were not enough and amended the directive, publishing a new Energy Efficiency Directive (2018/2002).  The programme of this workshop is condensed from the content of the training program EUREM (European energy manager), a qualification for energy auditors in several European countries. This workshop is an introduction to the different aspects of project identification and planning for energy efficiency, especially for small and medium sized enterprises (SMEs). It includes an overview of what to look at, typical hotspots, benchmarks, rules of the thumb, and economic aspects. For each elements a brief checklist is presented for direct application.  The target group for the Energy Manager Training are technical experts and companies’ executives as well as energy service provider. The training is usually held extra-occupational and in the full version consists of face-to-face training (160 units) and a final project work (80 units):  **Training objectives, expected outputs and outcomes**  Participants will learn:   * Basics of energy management and auditing: planning of an energy audit, elements for an energy management system for SMEs, rules of the thumb, economic calculations, energy purchasing * Engineering aspects: Energy-conscious building and renovation, heating and distribution of heat, process heat, compressed air, lighting, refrigeration, ventilation, air conditioning, electric drives, green-IT * The participants have access to an electronic platform with supporting materials.   **Participants**  The training will gather experienced experts with a solid background in resource efficient and cleaner production from EaP countries. The experts will contribute actively to cases building on their knowledge of analysing energy balances using data of mixed quality and their previous involvement with SME. Language of the workshop is English. Working groups will be facilitated in national languages.  **About EU4Environment**  The “European Union for Environment” (EU4Environment) aims to help the six partner countries: Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Ukraine preserve their natural capital and increase people's environmental well-being, by supporting environment-related action, demonstrating and unlocking opportunities for greener growth, and setting mechanisms to better manage environmental risks and impacts.  The Action is funded by the European Union and implemented by five Partner organisations: OECD, UNECE, UNEP, UNIDO and the World Bank based on a budget of some EUR 20 million. The Action implementation period is 2019-2022.  More information: http://www.oecd.org/site/eu4environment/ |

**Agenda**

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| **Time (CET)** | **Item** |
| **10 August 2020, Day 1** | |
| 10:00 | Welcome  Introduction to software and rules |
| 10:20 | Effective energy auditing for SMEs:  Relevance for climate protection, characteristics of SME, appropriate audit methodology |
| 11:00 | Exercise: from the overall picture to details, priorities, benchmarking |
| 11:45 | Evaluation of the exercise, question and answers |
| 12:00 | End of day 1 |
| **11 August 2020, Day 2** | |
| 10:00 | Welcome, repetition of day 1 |
| 10:15 | Heating  Hotspots: Heating technology, combined heat and power, distribution of heat, biomass, solar thermal, biogas, buildings, process heat and heat recovery, rules of the thumb |
| 11:00 | Exercise: Analysis of boilers, heat exchangers and heat distribution systems |
| 11:45 | Evaluation of the exercise, questions and answers |
| 12:00 | End of day 2 |
| **12 August 2020, Day 3** | |
| 10:00 | Welcome, repetition of day 2 |
| 10:15 | Electricity consumers  Hotspots: Refrigeration, air conditioning and ventilation technology, compressed air, motors, pumps, fans, lighting, control strategies, rules of the thumb |
| 11:00 | Exercise: Identification and rough evaluation of energy saving options for electric energy |
| 11:45 | Evaluation of the exercise, questions and answers |
| 12:00 | End of day 3 |
| **13 August 2020, Day 4** | |
| 10:00 | Welcome, repetition of day 3 |
| 10:15 | Advanced technologies and methodologies including case studies: Photovoltaics, absorption cooling, organic Rankine cycle, Pinch analysis |
| 11:00 | Exercise: Identification and evaluation of energy saving options applying advanced technologies and methods |
| 11:45 | Evaluation, questions and answers, summary, further steps |
| 12:00 | End of day 4 |