DESCRIPTION OF EUREM TRAINING PROGRAMME

THE GERMAN HELLENIC CHAMBER OF INDUSTRY AND COMMERCE
1992: Founding of the IHK User Club Energy

1997: Project "Energy-Half" funded by EU (ESF) 16 companies from Nuremberg region, training & on-site consulting

1999: Start of the first practical training "EnergieManager IHK" in Nuremberg

2003: Start of EUREM Introduction of EnergyManager training in the EU (4 partners)

2006: Launch of EUREM.NET (15 partners, 13 EU states)

Since 2009: continuation of the EUREM.NET project by the project partners

2013 - 2016: EUREMplus (9 partners from 9 countries)

2018 – 2021 EUREMnext (13 Partners from 11 countries)
THE TRAINING PROGRAMME

BASIC PHILOSOPHY

- Main focus on the realization of **energy saving projects**
- **Technology:** No high-end solutions, pragmatic and practical application with high cost reduction potential and acceptable investment cost
- **Methodology:** Understandable and concise processing of training content, learning by doing, step by step instructions, technical content

MAIN ELEMENTS OF EUREM TRAINING

- Training in class
- e-Plaftorm training
- Witten Test
- Energy Project
- EUREM Certificate
CALENDAR PROGRESS OF A EUREM TRAINING

- Seminar modules in class
- Self-learning at eForum
- Practical Work: Energy Project

Jan | Feb | Mär | Abr | Mai | Jun | Jul | Aug | Sep | Okt

- Test
- Certificate
- Presentation
- Support via Tutoring System with Trainer

Benefit for the companies:
Energy cost reduction

Benefit for the trainee:
Personal certificate according to international standards
EUREM TRAINING PROGRAMME

TOOLS OF TRAINER

- Preparation Material
- Power Point Presentations
- Exercises
- Case-study

- Calculation tools – Excel
- Check-list
- Trainer guide

SAMPLE STRUCTURE OF A MODULE TRAINING

<table>
<thead>
<tr>
<th>Time%</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 %</td>
<td>Repeating preparation material, basic knowledge</td>
</tr>
<tr>
<td>25 %</td>
<td>Technology explanation, ppt presentation by trainer</td>
</tr>
<tr>
<td>20 %</td>
<td>Energy concept calculations: analysis of example application</td>
</tr>
<tr>
<td>20 %</td>
<td>Optimization possibilities, ppt by trainer</td>
</tr>
<tr>
<td>20 %</td>
<td>Optimization of the example application</td>
</tr>
<tr>
<td>10 %</td>
<td>Economy calculation by trainer and participants</td>
</tr>
</tbody>
</table>
### Categories of In-Class Modules of EUREM Training

#### Management Modules
1. Energy technical basics
2. Project management, Economic calculation
3. Energy management | load management
4. Energy law and emissions trading

#### Technical Modules
5. Energy fundamentals, measurement & controlling
6. Green IT
7. Energy requirements of buildings
8. Lighting
9. Air conditioning & ventilation
10. Heating technology – geothermal technology
11. Cogeneration of heat and power
12. Process heat, steam, heat recovery
13. Refrigeration technology
14. Electrical engineering, electrical drives
15. Compressed air

#### Renewables Modules
16. Solar technology
17. Energy from biomass

**3 sub-categories of in-class modules**

**17 Modules of in-class training in total**
NEW E-LEARNING MODULES

Module 1: Energy Audit according to Standard EN 16247/ ISO 50002

Module 2: Sustainable energy in transport, and mobility management for businesses

Module 3: Communicating sustainable energy throughout the building an energy culture

Module 4: Industry 4.0 and implications on energy efficiency

- Self-learning method
- Hosted on Moodle Platform available on line for trainees
- Learning method via Power Point Presentations and Quizzes
**Duration:** 2 – 2.5 Hours  
**Choice of topics:** Decision of the team of trainees 
**Content:** 1 theoretical question plus 1 exercise

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Subject Area</th>
<th>Topic Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Technical Modules</td>
<td>Heating, Compressed Air, Light, Air Conditioning, Cogeneration, Process Heat etc.</td>
</tr>
<tr>
<td>1</td>
<td>Renewable Energy or Energy Efficiency in Buildings</td>
<td>Solar technology, Energy from Biomass, Energy requirements of buildings</td>
</tr>
</tbody>
</table>
A form to be delivered at start of Energy Project, providing data for project.

At the end of Project, output results must be added

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**Energy Concept Summary**

**Title of the energy concept:** Installation of a xxx kW Photovoltaic Plant on the roof of an industrial building.

- Building e.g. Insulation, change of windows, Low-energy-buildings
- Electrical energy e.g. Light, Compressed air, Electrical drives, Cooling machines, Load management
- Heat e.g. Heating, Process heat, Heat recovery, Air conditioning, Combined heat & power
- Renewable energy e.g. Solar technology, Wood-fired plants, Biogas, Geothermal energy
- Management e.g. Energy buying, Contracting, Emission trade, Energy data management systems

**Energy concept description:**

- **Aim:** To install a PV power plant on the roof of the main production building. Capacity will exceed 600 kW and will deliver over 850,000 kWh of electricity on an annual basis.
- **Base situation:** At the moment no PV installation exists, all electricity is bought from the grid.
- **Optimization potentials / weak points:** The optimisation process will be greatly concerned with the optimum position of the PV modules along with the efficient water drainage in order to avoid a roof pond.
- **Effects:** The installation will have a positive impact on the environment since a substantial amount of electricity will be produced with an environment friendly manner.

**Picture(s) of plant, Base situation etc.**

*Photos of base situation*

(before applying the changes via the Energy concept)

**Results:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy saving potential [kWh/ha]</td>
<td>850,000</td>
</tr>
<tr>
<td>Energy source: Sun</td>
<td></td>
</tr>
<tr>
<td>Cost reduction potential [€/year]</td>
<td>500,000</td>
</tr>
<tr>
<td>CO₂ saving potential [tCO₂]</td>
<td>850</td>
</tr>
<tr>
<td>Investment costs [€/year]</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Pay-back time [Years]</td>
<td>Approximately 7</td>
</tr>
<tr>
<td>Chance of implementation:</td>
<td>(X) high, ( ) middle, ( ) low</td>
</tr>
<tr>
<td>or date of implementation [if available]</td>
<td></td>
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</tbody>
</table>
ENERGY PROJECT

ENERGY PROJECT REPORT

- Topic is decision of trainee
- With the assistance of Trainer of selected topic, as Tutor
- Maximum score for the energy project: 50
- Number of pages (Energy Project Report): 8-20 pages
- Formatting: Font – Arial
  Font size - 12PT

ENERGY PROJECT PRESENTATION

- Presented in a 3 members committee
- 5 -10 slides
- 10’ presentation
EUREM TRAINING

ON-LINE TRAINING PLATFORM

European EnergyManager Training

EUREM is a standardized training of further education, that enhances the skills of technical experts in the field of energy efficiency improvement. The EUREM programme is offered in about 30 countries and covers nearly all energy-relevant issues which can arise in companies.

If you are interested in attending a EUREM course and being part of the EUREM community with more than 5,000 EnergyManagers, get informed on our website and contact your local EUREM Provider!

Please visit our website www.energymanager.eu.

Course categories

EUREM Community
Albania
Argentina
Austria
Belarus
Belgium
Bosnia and Herzegovina
Brazil
Bulgaria
Chile
Croatia
Czech Republic
Frvnt
**Certificate Sample**

- Certificate providing Register Number of Energy Manager available in the Central Registry of EUREM.
- Access to a network of 31 countries:

<table>
<thead>
<tr>
<th>Albania</th>
<th>Egypt</th>
<th>North Macedonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Estonia</td>
<td>Slovakia</td>
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<tr>
<td>Austria</td>
<td>Finland</td>
<td>Serbia</td>
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<tr>
<td>Belarus</td>
<td>Germany</td>
<td>Slovenia</td>
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<tr>
<td>Belgium</td>
<td>Greece</td>
<td>South Africa</td>
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<tr>
<td>Bosnia &amp; Herzegovina</td>
<td>Hungary</td>
<td>Spain</td>
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<tr>
<td>Brazil</td>
<td>India</td>
<td>Taiwan</td>
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<tr>
<td>Bulgaria</td>
<td>Latvia</td>
<td>Turkey</td>
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<tr>
<td>Chile</td>
<td>Mexico</td>
<td>Ukraine</td>
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<tr>
<td>Croatia</td>
<td>Moldova</td>
<td>Uruguay</td>
</tr>
<tr>
<td>Czech Republic</td>
<td></td>
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</tbody>
</table>
Thank you very much for your attention!

Alexandra Tavlaridou