

ENERGY EFFICIENCY MANAGER COMPETENCE PROFILE

*Transferring European VET Structures to cover skill needs in
the Energy Efficiency Sector*

ENERGY EFFICIENCY MANAGER COMPETENCE PROFILE

Competence Unit Assignments	Task Sub-Assignments	Knowledge <i>Knowledge of/about</i>	Skills <i>To be able to...</i>	Competences <i>To be competent at...</i>	NQF	EQF
1. INSTALLATION						
1.1 PLANNING						
Analyses of needs and context.	<i>To assess the needs of the users and the energy efficiency needs of the installation.</i>	<p>Knowledge about the relevant facts for needs analysis (thermal transmittance of materials, carbon emission, energy use and costs, water heating system, space heating and cooling, lighting, energy losses)</p> <p>Knowledge about changing needs of customers and effectiveness of EEF system to determine if strategies, targets or timelines need to be modified</p> <p>Knowledge about the energy management systems</p> <p>Knowledge about energy efficiency</p>	<p>To be able to give a professional assessment based on the data collected on the property</p> <p>To be able to calculate the actual needs of all costumers and to propound the best solution.</p> <p>To be able to identify goals and best practices in order to reduce energy demand or to improve energy efficiency</p> <p>To be able to use energy measurement tools</p> <p>To be able to calculate the energy savings</p>	<p>To be competent at advising the customers and initiating the projects according to their real needs</p> <p>To be competent at answering all customer questions relating to new materials, technologies and savings.</p> <p>To be competent at identifying beneficiaries true priorities</p> <p>To be competent at analyzing and preparing accurate calculations and forecasts</p> <p>To be competent at analyzing and selecting the collected information in</p>		

		<p>products (insulation, heating and lighting control, water meters and flow rate control, solar photovoltaic electricity, solar hot water, heating pumps)</p> <p>Being in accordance with the latest ideas and appropriated energy efficient & innovative low/zero carbon technologies</p> <p>Being familiar with the data collection tools</p> <p>Being familiar with impact of attitudes, behavior and preferences of customers on energy use</p>	<p>To be able to use the assessment documentation (which may include building plans and specifications, client details existing energy bills, energy utility charges, rebates and programs for encouraging energy efficiency, photographic evidence, risk assessment)</p>	<p>order to insure its accuracy and relevance</p> <p>To be competent at presenting the customers all suitable solutions regarding the EEF and to suggest the most cost-effective solution.</p>		
<p>Planning of the energy efficiency concepts according to the needs.</p>	<p><i>To define the characteristics of the energy efficiency installation according to the user needs and energy efficiency needs.</i></p> <p><i>To select the equipment and the necessary elements with their specifications.</i></p>	<p>Knowledge about modern technologies and appropriate materials which provides better energy efficiency in household, industry, transport sector, residential, commercial or public sector</p> <p>Knowledge about optimization of energy consumption</p> <p>Knowledge of Energy Management Systems</p> <p>Knowledge about renewable energy use</p> <p>Knowledge about energy market, understanding of energy pricing</p>	<p>To be able to detect energy inefficient equipment or materials in order to make energy efficiency improvements</p> <p>To be able to increase the production capacity</p> <p>To be able to reduce the energy consumption</p> <p>To reduce the cost of raw materials</p> <p>To be able to monitor the energy efficiency indicators</p> <p>To be able to explain key components, products and services</p>	<p>To be competent at assessing the economic feasibility of products and technologies aimed at reducing energy consumption and improving energy efficiency</p> <p>To be competent at providing detailed information on specific products and services</p> <p>Being able to make preparations for project implementation</p> <p>To be competent at making comparison of energy use and costs with similar users</p>		

<p>Legal, formal and technical obligations.</p>	<p><i>To prepare documentation for legal authorizations and possible subsidies.</i></p>	<p>Knowledge of correct enforcement of legislation, technical standards and authorization procedures for the implementation of energy efficiency systems.</p> <p>Knowledge of national/European law about efficiency and energy savings</p>	<p>To be able to prepare correct technical and legal documentation.</p> <p>To be able to prepare the inputs for design documentation</p> <p>To be able to use technical documentation</p> <p>To be able to prepare the final report for authorization</p> <p>To be able to report, document and present the most important energy and financial data and findings from energy data analysis in a meaningful manner, to report and document the energy efficiency assessment process</p>	<p>To be competent at presenting and communicating to customers, stakeholders and legal bodies in an appropriate and understandable way</p> <p>To be competent at managing properly and timely the process of legal and technical authorization</p> <p>To be competent at giving verbal and shortly afterwards the written report highlighting the observations and conclusions from data analysis</p>		
<p>Planning of the execution.</p>	<p><i>To plan the work stages for the installation.</i></p> <p><i>To develop detailed work plans and time tables for the installation.</i></p> <p><i>To plan the logistic process.</i></p> <p><i>To develop a detailed budget.</i></p> <p><i>To plan a monitoring strategy for the installation process and its review including the budget.</i></p>	<p>Knowledge about the project and process management.</p> <p>Knowledge about the concept related to generation, transport, installation, operation and maintenance of technologies and related equipment for energy efficiency project</p> <p>Knowledge about environment and work safety.</p> <p>Knowledge about specific software for the planning of the execution.</p>	<p>To be able to prepare detailed schedules of work, feasibility studies, cost estimates an energy efficiency assessment plan (including timelines and budgets)</p> <p>To be able to identify the more appropriated financial tools for each situation</p> <p>Being capable for prioritization and establishing work sequences according to the urgency</p>	<p>To be competent at choosing the appropriated marketing channels</p> <p>To be familiar with energy efficiency planning</p> <p>To be familiar with ways of calculating energy</p> <p>To insure substantial savings</p> <p>To elaborate the implementation and execution program</p> <p>To be competent at increasing the value of the company assets</p>		

<p>Safety and environmental protection.</p>	<p><i>To create a health and safety plan for the installation process.</i></p> <p><i>To accomplish the safety measures according to the plan.</i></p> <p><i>To control the implementation of the health and safety plan.</i></p> <p><i>To define and plan environmental protection measures during the execution.</i></p>	<p>Being familiar with all phases of implementation</p> <p>Knowledge about safety measures according to the health and safety legislation</p> <p>Knowledge about safety equipment needed for the implementation</p> <p>Knowledge about environmental protection legislation</p>	<p>To be able to prevent the risks and to minimize the consequences of possible injuries, accidents and emergencies</p> <p>To be able to create an emergency preparedness plan</p> <p>To be able to act immediately in case of an accident</p>	<p>Being competent for increasing the priority and importance of labor safety and environmental protection</p>		
<p>1.2 EXECUTION</p>						
<p>Identification of the strategic objective of the energy consumers</p>	<p><i>To analyze the installation plan and define the installation process for taking the energy efficiency measures.</i></p> <p><i>To analyze the building and modify the plan if necessary.</i></p> <p><i>To prepare and organize the installation.</i></p>	<p>Knowledge about energy efficiency, renewable sources of energy and carbon emission reduction</p> <p>Being familiar with reading project plans, technical and engineering drawings and schemes</p> <p>Knowledge about different materials, tools, equipment and accessories used during the installation process</p> <p>Knowledge about preparation and organization elements of the</p>	<p>To be able to use appropriate measurement and monitoring equipment and application of appropriate techniques</p> <p>To be able to implement selected technology in accordance with the plans</p> <p>To be capable to establish priorities and work sequences according to urgency</p> <p>To be able to prepare the equipment and materials and to estimate the required amount, considering the safety rules</p>	<p>To be competent at analyzing documentation and taking decisions according to new situations</p> <p>To be competent at working in team</p> <p>To be competent at reading tables and manuals</p>		

		installation.				
Planning and maximizing the productivity	<p><i>To install the system with regard to all safety rules.</i></p> <p><i>To commission and operate the tests.</i></p>	<p>Knowledge about quality principles and functional controls</p> <p>Knowledge about the adequate equipment and its safety rules</p> <p>Knowledge about the measurement testing equipment</p>	<p>To be able to use appropriate techniques to install all the equipment</p> <p>To be able to choose and use the personal safety equipment and appropriate methods and other equipment to prevent and to minimize risks</p> <p>To be able to assess the efficiency and test the system</p> <p>To be able to check, test, start and to operate the system</p>	To be competent at delivering the installation properly according with the technical and legal procedures		
Technical and legal documentation.	<p><i>To develop the operational and maintenance manual.</i></p> <p><i>To develop the final legal documentation.</i></p>	<p>Knowledge about the test protocols</p> <p>Knowledge about maintenance tasks, operation and usual faults identification and correction</p>	<p>To be able to develop the operation and maintenance manual</p> <p>To be able to explain the operation of the installation to the owner</p> <p>To be able to prepare and to explain the final documentation</p>	<p>To be competent at working according legislation and following the workplace policies and procedures</p> <p>To be competent at the presentation in an understandable and correct way with communication skills at high level.</p>		

2. SERVICE AND MAINTENANCE

2.1 MAINTAINING, INSPECTING, TROUBLE-SHOOTING						
Planning of the maintenance activity	<p><i>To Identify and plan tools and equipment required for maintaining and trouble shooting.</i></p> <p><i>To Identify maintenance needs on site.</i></p> <p><i>To identify and plan consumable supplies for maintaining.</i></p>	<p>To be familiar with the measurement equipment, tools and diagnostics needed for the job</p> <p>Knowledge about energy management systems and all technologies needed for the job</p>	<p>To be able to purchase and insure sufficient amount of consumable supplies for maintaining at best price</p> <p>To be able to manage and use tools to diagnose and maintain the installation.</p> <p>To be able to develop corrective, preventive and predictive maintenance plan</p>	<p>Creating an analysis plan of project implementation in order to highlight dysfunctions and avoid their occurrence in other projects.</p>		
Execution of maintenance	<p><i>To implement the service procedures</i></p> <p><i>To perform diagnostic procedures and interpret results.</i></p> <p><i>To identify performance and safety issues and implement corrective measures.</i></p> <p><i>To test the system after the maintenance measures.</i></p>	<p>To be familiar with various diagnostic procedures, testing, maintenance and servicing</p> <p>Knowledge about safety measures according to the health and safety legislation</p>	<p>To be able to analyze and evaluate the running of the installation</p> <p>To be able to follow maintenance and safety procedures</p> <p>To be able to use technical documentation of the installation</p>	<p>To be able to analyze and evaluate the running of the installation</p>		
Safety and environmental protection	<p><i>To accomplish the safety measures according to the characteristics of the installation.</i></p> <p><i>To see in the installation the</i></p>	<p>Knowledge about the individual and collective safety measures according to the characteristics of the installation</p> <p>Knowledge about water and air</p>	<p>To be able to measure the amount of carbon emission</p> <p>To be able to choose the appropriate individual and collective safety measures</p>	<p>To elaborate a reaction plan for each identified risk</p> <p>To monitor the environmental implications of technologies used in the project</p>		

	<p><i>necessary measures.</i></p> <p><i>To dispose or recycle old components.</i></p>	<p>quality regulations</p> <p>Knowledge about proper sorting of waste</p>	<p>To be able to manage a potential crisis situation</p>			
Maintenance documentation	<p><i>To document the work process</i></p> <p><i>To demonstrate complete functionality and performance of the energy efficiency system</i></p>	<p>Knowledge about the technical and technological documentation</p> <p>Knowledge about reporting procedures</p>	<p>To be able to fill the check list of maintenance activities</p> <p>To be able to report and document about troubleshooting activities carried out</p>	<p>To be competent at the ethical and professional attitude in reporting process</p> <p>To be competent at producing understandable and technically correct reports</p>		
2.2 REPAIRING						

<p>Planning of the repairing activities</p>	<p><i>To diagnose the anomalies in the energy efficiency system.</i></p> <p><i>To organize the process of repairing.</i></p>	<p>Excellent knowledge about the technologies in EEF system</p> <p>Knowledge about specific repair procedures</p> <p>To arrange repairing or replacement of inefficient appliances</p> <p>Knowledge about the manufacturer's warranty regulations</p>	<p>To be able to find and to diagnose the fault</p> <p>To be able to read and understand the instructions book</p> <p>Having analytical and problem-solving skills and decisional capability under unexpected situations</p> <p>To be able to check manufacturer warranty details before the repairing activities</p> <p>To be able to suggest the solutions to remediate the defects.</p> <p>To be able to calculate the costs adequately</p> <p>To be able to choose and use the personal safety and environmental equipment and appropriate methods and other equipment to prevent and to minimize the risk</p>	<p>To be competent at discovering, analyzing and successfully solving problems</p> <p>Being competent at planning the complete repairing process</p>		
<p>Execution and verification</p>	<p><i>To repair the anomalies.</i></p> <p><i>To test the repaired installations.</i></p>	<p>Knowledge about the repairing techniques of energy efficiency products and systems</p>	<p>To be able to repair the damage</p>	<p>Being competent at diagnose faults and to know how to prevent them in future</p>		
<p>Safety and environmental protection</p>	<p><i>To accomplish the safety measures according to the characteristics of the installation.</i></p> <p><i>To see in the installation the necessary measures.</i></p>	<p>Knowledge about individual work safety equipment.</p> <p>Knowledge about health and safety risks, preventions and regulations.</p> <p>Knowledge about waste recycling, national environmental protection conventions, laws and regulations</p>	<p>To be able to insure properly waste disposal in accordance with the legislation</p> <p>To recycle waste, various hazardous and other materials in a proper way</p> <p>To take proper environmental protection measurements</p>	<p>To work honestly, according legislation and following the workplace policies and procedures</p> <p>To insure that the work is carried out according to the safety plans</p> <p>Being responsible for the environmental protection and waste</p>		

	<i>To dispose or recycle old components.</i>	Knowledge about regional environmental restrictions	To be able to react in case of emergency	recycling		
Repairing Documentation	<i>To document the repair.</i>	<p>Knowledge about documentation procedures, contents and tools.</p> <p>Knowledge about the obligations of documentation and the different forms.</p>	<p>To compile documentation and to fill in forms summarizing the task carried out.</p> <p>To maintain books and registers updated.</p> <p>To be able to make suggestions and recommendations for the management of energy efficiency system.</p>	<p>To work accurately and to comply with the proper documentation and procedures</p> <p>Writing in an understandable, structured and correct way.</p>		