# OCCUPATIONAL QUALIFICATION STANDARD

**Energy Auditor, EstQF Level 6**

An occupational qualification standard is a document which describes the set of skills, knowledge and attitudes, i.e. competence requirements, needed to successfully accomplish duties. Occupational qualification standards are used for compiling curricula and awarding qualifications.

| Occupational title | Level of Estonian Qualifications Framework (EstQF) |
|---|---|
| Energy Auditor, EstQF Level 6 | 6 |

## Part A
## DESCRIPTION OF WORK

**A.1 Description of work**

The main goal of an energy auditor's work is to compile energy audits of existing buildings in accordance with the principles of sustainable development, occupational ethics, modern engineering knowledge and best practice in consultation and construction.

The following occupational qualification standards have been developed in the profession of Energy Efficiency Specialist:
- Energy Auditor, Level 6
- Diploma Energy Efficiency Specialist, Level 7
- Chartered Energy Efficiency Specialist, Level 8

According to the Building Code, Energy Auditor, Level 6 is a competent person who is ready to work in a team or to lead one and to work with specialists from related fields. They compile, within the limits of their competence, energy audits for buildings and issue energy efficiency certificates for existing buildings, buildings planned using a simplified method of proof and buildings undergoing major renovations.

An individual with the qualification of Energy Auditor, Level 6 is able to act independently and under their own responsibility (including compiling the aforementioned energy audits) within the following constraints:
BUILDINGS which
a) have a heated surface, excluding non-residential space, that accounts for less than 30% of the heated surface of the entire building and
b) which have a gross cooling capacity of less than 50 kW and
c) which have a locally installed heat source of less than 200 kW capacity and
d) which have an annual energy consumption of up to 500 MWh and
e) which does not exceed the energy production requirements set for micro-producers and
f) which lacks a central cooling system and
g) which lacks a central building automation system and
h) which lack rooms with heightened indoor climate requirements (humidification, drying and clean rooms) and
i) which lacks industrial processes.

Energy Auditor, Level 6 may only work on projects outside of the aforementioned limitations under the guidance and responsibility of an energy efficiency specialist with a higher qualification, taking part in the project as a member of a team or fulfilling clearly defined tasks.

**A.2 Tasks**

A.2.1 Assessing existing buildings
1. Collecting and analysing source data
2. Drawing up an action plan
3. Getting specialists from related fields involved

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| 4. Inspecting the site<br>5. Conducting measurements<br>6. Assessing the functionality of technical and electrical systems<br>7. Assessing the state of fencing structures<br>8. Assessing the state of the indoor climate<br>9. Assessing the impact of technological devices<br>10. Preparing an energy consumption analysis<br>11. Calculating the building's energy consumption<br>12. Identifying shortcomings and making suggestions for their improvement<br><br>A.2.2 Performing technical-economic analyses<br>1. Assessing the cost of measures implemented and savings<br>2. Assessing the feasibility of planned measures<br>3. Assessing the economic expediency of planned measures<br>4. Compiling a report<br><br>A.2.3 Compiling energy audits of buildings<br>1. Preparing building energy audits within the limits of their professional competence<br>2. Assessing the technical systems of a site<br>3. Analysing the special energy consumption indicators of a site<br>4. Defining the priorities of energy efficiency methods<br>5. Compiling an assessment and submitting proposals for improvements<br>6. Formalising an energy audit<br><br>A.2.4 Compiling and issuing energy performance certificates for existing buildings<br>1. Compiling energy performance certificates<br>2. Issuing energy performance certificates<br><br>A.2.5 Compiling energy performance certificates for buildings planned using a simplified method of proof and buildings undergoing major renovations<br>1. Collecting and analysing source data<br>2. Calculating energy use<br>3. Certifying the minimum requirements of energy efficiency<br>4. Assessing the use of methods and the project solution<br>5. Compiling the energy efficiency part of a construction project<br>6. Formalising energy performance certificates to be issued |
| **A.3 Work environment and specific nature of work** |
| Work is mainly conducted in an office, but also on site. Where necessary, measurements and interviews must be conducted. If necessary, specialised uniforms and protective gear must be used on certain sites and general occupational safety requirements must be observed. Sites may be in different regions, due to which the work is flexible and with a varying pace. |
| **A.4 Tools** |
| Usual office technology (computers, communication devices, etc.) and software (word processing software, spreadsheets, Internet communication, etc.), specialised calculation programmes and measuring technology. |
| **A.5 Personal qualities required for work: abilities and characteristics** |
| The profession requires an innovative and environmentally friendly way of thinking that facilitates sustainable development, creativity, independence, willingness to make decisions, analytical skills, precision, a sense of responsibility and willingness to communicate and cooperate. |
| **A.6 Professional preparation** |
| Energy Auditor, Level 6 has technical higher education and specialised work experience and has completed further training. |
| **A.7 Most common occupational titles** |
| Energy Auditor, Issuer of Energy Efficiency Certificates for Existing Buildings. |

| A.8 Regulations governing profession |
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| a) The Building Code and relevant implementing acts, including:<br>Regulation no. 55 of the Ministry of Economic Affairs and Communications of 3 June 2015, 'Minimum Requirements for Energy Performance of a Building',<br>Regulation no. 58 of the Ministry of Economic Affairs and Communications of 5 June 2015, 'Methodology for Calculating the Energy Performance of Buildings',<br>Regulation no. 36 of the Ministry of Economic Affairs and Communications of 30 April 2015, 'Requirements for Energy Performance Certificates and the Issuing of Such Certificates',<br>Regulation no. 28 of the Ministry of Economic Affairs and Communications of 8 April 2015, 'Requirements for the Energy Audits of Buildings'<br>b) The Energy Sector Organisation Act and relevant implementing acts<br>c) Construction project EVS 932<br>d) EVS-EN 15251, EVS-EN 16798-3 |

## Part B
## COMPETENCY REQUIREMENTS

| B.1 Structure of occupation |
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| When applying for the qualification of Energy Auditor, Level 6, occupation-specific competences B.2.1-B.2.5 and recurring competence B.2.6 must be certified. |

| B.2 Competences |
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### MANDATORY COMPETENCES

| B.2.1 Assessing existing buildings | EstQF Level 6 |
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| Performance indicators:<br>1. Prepares tables and forms with which to gather data. Obtains the necessary data and documentation and assesses their adequacy and sufficiency.<br>2. Compiles a detailed strategy and schedule, if necessary asking customers to specify the terms of reference. Agrees on an inspection date with the customer and works with them to arrange access to all of the parts and technological systems of the site to be audited (e.g. power switch and boiler room).<br>3. Assesses the need to involve specialists from related fields. If necessary, gets the specialists involved and gives them their tasks.<br>4. Performs site inspections in accordance with the terms of reference and the objectives of the work.<br>5. Performs measurements using prepared measuring tools or commissions measuring services.<br>6. Assesses the functioning of heating, domestic water, cooling and ventilation systems, automatics, electric installations, illumination devices and renewable energy systems in accordance with the principles of energy efficiency.<br>7. Assesses the state of fencing structures, including their thermal transmittance, air leakage and moisture regime in accordance with the principles of energy efficiency.<br>8. Assesses the state of the indoor climate based on the intended and actual use of the building.<br>9. Assesses the impact of technological devices on a building's energy efficiency and indoor climate.<br>10. Compares the data obtained to data from similar sites. Compiles an analysis in accordance with the order, formatting its graphic, textual and illustrative parts clearly and coherently and using correct terminological language.<br>11. Calculates a building's annual energy consumption using simple calculation methods (e.g. degree-days).<br>12. Defines significant shortcomings and ways of improving technical situations, giving advice on boosting energy efficiency. | |
| Knowledge:<br>1) measuring tools and resources;<br>2) methods of measuring the efficiency of heating, water, cooling and ventilation systems, electrical installations and illumination devices; | |

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| 3) thermal transmittance, air leakages and moisture regimes. | |
| **B.2.2 Performing technical-economic analyses** | **EstQF Level 6** |
| Performance indicators:<br>1. Assesses the cost and presumed savings of implementing potential efficiency methods both in physical units and monetarily.<br>2. Analyses the viability of implementing potential energy efficiency methods in accordance with technical aspects, cost efficiency, market options, environmental conditions, risks and other aspects.<br>3. Determines a base scenario for energy use and production. Analyses the economic efficiency of potential energy efficiency methods and measures using simplified calculation methods (e.g. grace period).<br>4. Compiles a report in accordance with the order and terms of reference, formatting its graphic, textual and illustrative parts clearly and coherently and using correct terminological language. | |
| Knowledge:<br>1) energy efficiency measures;<br>2) simplified methods of calculating a building's annual energy expenditure (e.g. the degree-day method that takes into account free heat);<br>3) simpler methods of calculating economic efficiency;<br>4) relevant legal acts, standards and methods. | |
| **B.2.3 Compiling energy audits of buildings** | **EstQF Level 6** |
| Performance indicators:<br>1. Compiles energy audits for buildings within the limits of their competence as outlined in part A.1 of the occupational qualification standard for Energy Auditor, Level 6. When compiling energy audits for buildings outside the limits of their competence, they work as a member of a team or under the supervision and responsibility of a colleague with a higher qualification for whom they fulfil the given tasks.<br>2. Submits a general description of all audited technological systems within the limits of their competence and provides an assessment of their situation.<br>3. Analyses and assesses, within the limits of their competence, the energy consumption data of audited sites and compares them to energy consumption in previous years at the same site and with special energy consumption data from similar sites.<br>4. Submits measures suitable for implementation on site as a prioritised list, based on technological-economical cost-benefit calculations.<br>5. Submits a summarised assessment and proposals within the limits of their competence for amendments for an audited site in a way that is comprehensible to the site's owner and administrator.<br>6. Compiles an audit report either within the limits of their competence or under the supervision of an energy efficiency specialist with a higher qualification, making sure it corresponds with the order and terms of reference and that its graphic, textual and illustrative parts are formatted clearly, legibly and comprehensively. | |
| Knowledge:<br>1) legal acts related to auditing;<br>2) methods, standards, etc. necessary for auditing;<br>3) fuel, electricity and heating prices, including energy transmission fees, etc.;<br>4) energy conservation methods;<br>5) forms of audit reports. | |
| **B.2.4 Compiling and issuing energy performance certificates for existing buildings** | **EstQF Level 6** |
| Performance indicators:<br>1. Compiles energy performance certificates based on the energy expenditure measured.<br>2. Fills in energy performance certificate forms and their annexes correctly and in accordance with requirements. | |
| Knowledge:<br>1) legal acts, methods, standards, etc. relevant to the issuing of energy performance certificates. | |
| **B.2.5 Compiling energy performance certificates for buildings planned using a simplified method of proof and buildings undergoing major renovations** | **EstQF Level 6** |
| Performance indicators:<br>1. Checks whether there are sufficient data to model energy consumption and compile an energy performance certificate. | |

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| 2. Calculates the energy use of a building using appropriate software and methods.<br>3. Certifies the compliance of residential buildings undergoing planning or major renovations with the energy efficiency requirements of legal acts.<br>4. Provides an assessment of the project solution and the use of simplified methods, following the requirements of legal acts and from the point of view of energy efficiency.<br>5. Compiles the energy efficiency part of a construction project in accordance with the requirements of legal acts and standards.<br>6. Fills in energy performance certificate forms and their annexes correctly and in accordance with requirements. Enters information concerning energy performance certificates in the state register. |
| Knowledge:<br>1) legal acts concerning the energy efficiency of buildings;<br>2) legal acts, methods, standards, etc. relevant to the issuing of energy performance certificates and their fields of application;<br>3) energy performance certificate forms for different building types;<br>4) relevant standards and legal acts concerning planning. |

## RECURRING COMPETENCES

| **B.2.6 Recurring competences of Energy Auditor, Level 6** | **EstQF Level 6** |
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| Performance indicators:<br>1. Understands the nature and importance of the social and economic role played by energy auditors, takes into account social factors and follows the requirements of professional ethics in their work (see Annex 1 – Energy Auditor's and Energy Efficiency Specialist's Professional Ethics and Code of Conduct).<br>2. Is informed about and takes into account innovations, knowledge and best practice in their sector and specialty and the requirements of legal acts.<br>3. Comprehends and implements the principles of resource and energy efficiency and those of sustainable development in construction environments, using appropriate scientific, technical or technological solutions to perform their tasks.<br>4. Comprehends and implements methods used in baseline studies and related fields in fulfilling the terms of reference.<br>5. Is familiar with the specific nature of other parts of the construction project and their effect on energy efficiency.<br>6. Analyses their experience and skills and assesses their need for self-improvement. Participates in further training and takes advantage of opportunities to further themselves professionally.<br>7. Promotes through their activities wider acknowledgment and appreciation of energy efficiency.<br>8. Participates in teamwork, respects their colleagues and is familiar with work culture. Acts in accordance with agreements, behaves consistently and takes responsibility for their decisions and actions.<br>9. Plans their work and acts in a goal-oriented manner with the objective of offering a high-quality service. Defines priorities and divides up resources (such as time) accordingly.<br>10. Uses appropriate communication techniques when communicating with business partners, team members and customers. Determines and analyses the interests and needs of the individual parties involved and finds sensible and balanced solutions to any underlying issues that may arise. Mediates specialised technical information to all parties clearly and comprehensively.<br>11. Is guided in their work by occupational, device, installation and other safety guidelines.<br>12. Utilises in their work all of the energy efficiency engineering knowledge they have, including the nature of thermal dynamic and heat transfer processes, the basics of construction physics, the basic solutions and calculation principles of fencing structures, the nature of indoor climates and the principles of guaranteeing them, the operating principles of building technological systems (heating, ventilation, water, sewerage and cooling systems), the operating principles of the electricity and automatics systems of buildings, the principles of local and renewable energy production, the basics of calculating the energy efficiency of a building and its economic assessment and basic knowledge of the renovating of structures.<br>13. Uses in their work appropriate and modern information and communications technologies (hereafter referred to as ICT) and opportunities and software solutions specific to their occupation.<br>14. Uses a computer for information processing, communication, safety, content creation and problem-solving at the Independent user level (see Annex 2 – Scale of self-assessment in digital competence). | |

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| 15. Uses correct Estonian at the B2 level in their work and when compiling documents. Is able to communicate in at least one foreign language at the B1 level. (See Annex 3 – Language skills level descriptions) |

## Part C
## GENERAL INFORMATION AND ANNEXES

| **C.1 Information concerning compilation and certification of occupational qualification standard and reference to classification of occupations** | |
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| 1. ID of occupational qualification standard in register of occupational qualifications | 22-20062023-1.1/5k |
| 2. Occupational qualification standard compiled by: | Teet Tark, Hevac OÜ<br>Peter Haab, Sweco Projekt AS<br>Tiit Pukk, Nivoo Projekt<br>Tõnu Jõesaar, Termopilt Tartu OÜ<br>Paul Einaste, AS Esvika Elekter<br>Alo Mikola, Tallinna Tehnikaülikool<br>Margus Tali, Majandus- ja Kommunikatsiooniministeerium<br>Mikk Maivel, Riigi Kinnisvara AS |
| 3. Occupational qualification standard approved by: | Architecture, Geomatics, Construction and Real Estate |
| 4. No. of decision of Sectoral Council | 48 |
| 5. Date of decision of Sectoral Council | 20.06.2023 |
| 6. Occupational qualification standard valid until | 07.02.2024 |
| 7. Occupational qualification standard version no. | 5 |
| 8. Reference to International Standard Classification of Occupations (ISCO 08) | 2151 Electrical Engineers |
| 9. Reference to European Qualifications Framework (EQF) | 6 |
| **C.2 Occupational title in foreign language** | |
| English: | Energy Auditor, EstQF Level 6 |
| **C.3 Annexes** | |
| Lisa 1 Energy Auditor’s and Energy Efficiency Specialist’s Professional Ethics and Code of Conduct | |
| Lisa 2 Scale of self-assessment in digital competence | |
| Lisa 3 Language skills level descriptions | |