



The Energy Audit Platform in Greece

Minas latridis
CRES
Greece

3rd Plenary Meeting Concerted Action for the Energy Efficiency Directive

17-18 October 2018, Bucharest



Energy Audits Legislation

Article 8 of EED: Energy audits and energy management systems

The Energy Audit Platform was developed based on the Ministerial Decision No. 175275/30.05.2018:

"Qualification and Certification Systems for Energy Auditors. Registry of Energy Auditors and Energy Audit Platform".

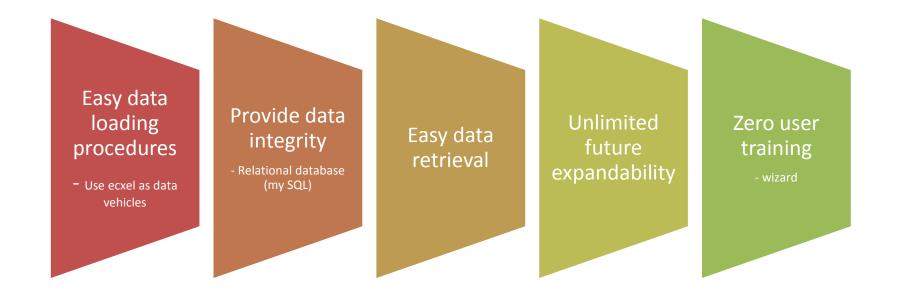
Deriving from the National Energy Law 4342/2015, Art. 10, which is the transposition of EED.

Competent authority:

Special Secretariat of Inspectorate of the **Hellenic Ministry of Environment & Energy**, Department of Energy Inspection North and South Sectors



Energy Audit Platform Design Goals



How It Works

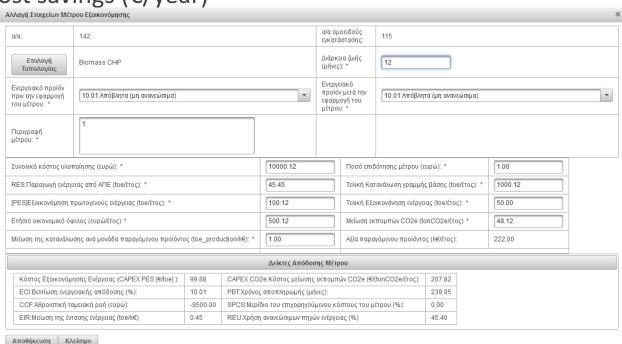
- The energy audit report and all required statements, supporting documents, certificates, etc. are submitted through file uploading. These data are not displayed in screens of the platform and therefore they are not processable by the system.
- Main features of the energy audit are introduced as input data displayed in screens of the platform, so it is technically feasible for the system to compile energy consumption or energy savings reports per year, per regional module, per use, technology (typology), type of energy source, etc.
- The system randomly selects submitted audits by obliged parties for evaluation and control (5% each year).
- The system enables the procedure of conformity of the energy audits in case the obliged party and the energy auditor need to modify/recall them.

Input Data

- Information concerning the obliged party and the energy auditor (e.g. VAT, Auditor's Registry No., dates of the energy audit, regional module, etc.)
- Description of boundaries (e.g. site limits, information on the use and number of buildings / installations / fleet of vehicles included in the energy audit, etc.).
- The total surface area
- Main indicators of production / activity and the size of the obliged enterprise
- Total installed power capacity (electrical, thermal)
- Total Energy Consumption
- Consumption per use (heating, cooling, lighting, etc.)
- Consumption by type of energy product (electricity, heating, diesel, natural gas)
- Installed capacity of RES or/ and CHP
- Total CO₂ emissions
- The existence of an Energy or Environmental Management System that includes energy audits

Input Data for each proposed Intervention

- Title & a Short description of the proposed ESM
- Primary baseline consumption (toe/year)
- Final baseline consumption (toe/year)
- RES production (toe/year)
- Final energy savings (toe/year)
- Annual energy cost savings (€/year)
- CO₂ reduction
- CAPEX (€)
- Subsidy (€)

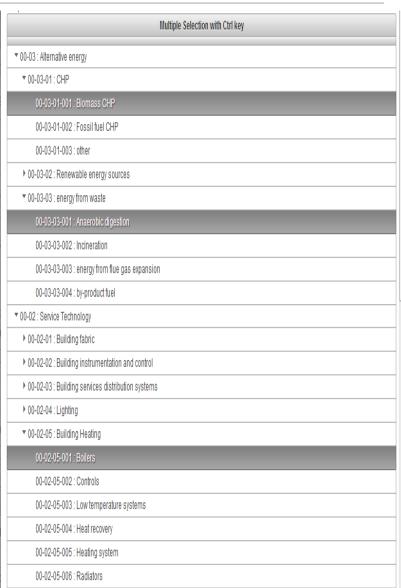


Output Data - Energy Efficiency Indices

Energy Efficiency Indices	
Energy Consumption Improvement (ECI) (%)	$ECI[\%] = \frac{PES\left[\frac{toe}{y}\right]}{Primary\ baseline\ consumption\left[\frac{toe}{y}\right]} \times 100$
Energy Intensity Reduction – EIR (toe/€)	$EIR\left[\frac{toe}{k\mathbf{e}}\right] = \frac{PES\left[\frac{toe}{y}\right]}{Output\left[\frac{k\mathbf{e}}{y}\right]}$
Simple Payback Time	$PBT[y] = \frac{CAPEX[k \in]}{Annual\ Energy\ Cost\ Savings[k \in]}$
Cumulative Cashflow (€)	$\mathbf{E}] = -CAPEX[\mathbf{E}] + \left(Annual\ Cost\ Savings\left[\frac{\mathbf{E}}{y}\right] \times Project\ Lifetime[y]\right)$
Share of Project Cost Subsidized (%)	$SPCS[\%] = \frac{Subsidy [k \in]}{CAPEX [k \in]} \times 100$
Cost of Energy Savings (€/toe/year)	$CES\left[\frac{k \in}{\frac{toe}{y}}\right] = \frac{CAPEX[k \in]}{PES\left[\frac{toe}{y}\right]}$
Cost of Carbon Savings (€/tCO ₂ /year)	$CCS\left[\frac{k \cdot \epsilon}{\frac{tCO_{2\epsilon}}{y}}\right] = \frac{CAPEX[k \cdot \epsilon]}{Carbon \ Savings\left[\frac{tCO_{2\epsilon}}{y}\right]}$
Renewable Energy Use (%)	$REU[\%] = \frac{Renewable Energy \left[\frac{toe}{y}\right]}{PES \left[\frac{toe}{y}\right]} \times 100$

Energy Saving Measures (ESMs)

- Each proposed Energy Saving Measure (ESM) is described based on predefined typology (combination of typologies is allowed)
- **Energy Efficiency Indices are** provided for each ESM



Benefits of the Platform

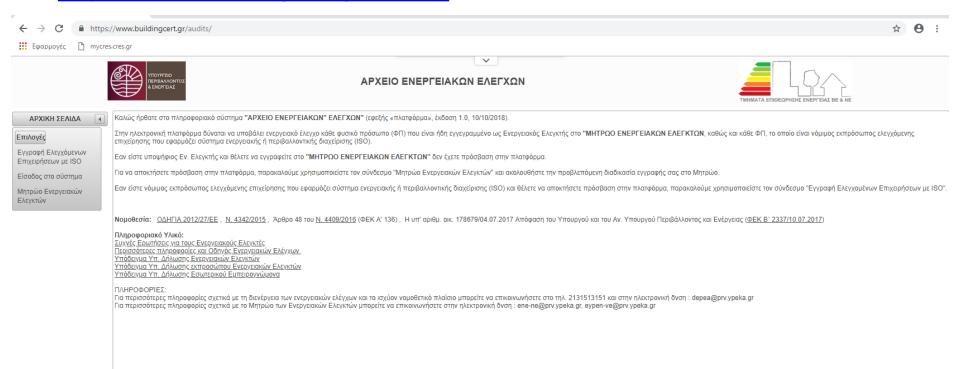
- ✓ Unlimited expandability, via updating of the parametric tables (i.e. addition of new typologies if the market develops a new technology).
- ✓ The system supports and hosts data both for proposed and actually implemented ESMs, thus enabling the Ministry to compile reliable and homogenized statistics for better monitoring of energy saving potential.
- ✓ The introduction of the combined typology in each ESM is considered as an innovative unique competitive advantage of the system.
- ✓ The system supports the procedure of conformity of energy audits, thus enabling the obliged party and the energy auditor to re-submit the requisite information in compliance with the regulations.

Platform Interface

Platform developed by CRES and requirements set by North and South Sectors of the Department of Energy Inspector of the Special Secretariat of Inspectorate of the Hellenic Ministry of Environment & Energy.

(active since 10/10/2018)

https://www.buildingcert.gr/audits/



Thank you for your Attention!!!

