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Minimum criteria for energy audits according to Art. 8

Austrian Approach

Set of minimum criteria

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1. Draft version
2. In discussion with stakeholders and auditors
3. Prepared by Austrian Energy Agency
4. Provisions Annex VI
   → concrete requirements
   → how to proof, documentation

Annex VI

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- be based on **up-to-date, measured, traceable operational data** on energy consumption and (for electricity) **load profiles**
- comprise a **detailed review of the energy** consumption profile of **buildings** or groups of buildings, **industrial operations** or installations, **including transportation**;
- build, whenever possible, on **life-cycle cost analysis** (LCCA) instead of Simple Payback Periods (SPP) in order to take account of long-term savings, residual values of long-term investments and discount rates
- Energy audits shall **allow detailed and validated calculations** for the proposed measures so as to provide clear information on **potential savings**.
- The data used in energy audits shall be **storable for historical analysis and tracking performance**.

up-to-date, measured, traceable operational data

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- Use operational data on energy consumption covering all used energy fuels
- Bills from energy suppliers or record keeping are acknowledged sources
- For the first audit use lates availabel data, minimum data from e.g. the latest 3 years
- Use data from the same periode for all relevant energy fuels
- Convert physical energy units (t, m3) into energy units and document the conversion factors
- analyse the measured electricity load profile, if load profil meters or meters with remote transfer providing energy consumption every quarter of an hour are available

detailed review of energy consumption profile; buildings,industrial installations, transportation

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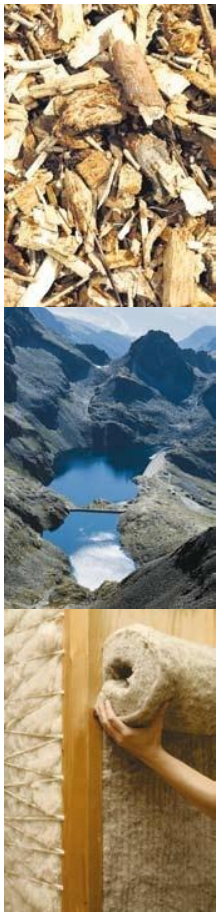
- Be proportional and representative:
  - Identify the essential energy users, consuming min. 10% of the overall energy consumption
  - Allow conclusions on the energy situation of the whole enterprise
- Meet the requirements of EN 16247-1/ISO 50002
- Meet a lot of additional requirements for buidlings, industrial processed and transport e.g.
  - Dimension of the building
  - Energy specific buildings maintainance issues
  - Analyse energy consumption of individual processes
  - Route optimization



life-cycle cost analysis

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- Use if possible dynamic methods for investment statements (net present value, dynamic pay back times, etc.) or
- justify why not using dynamic methods
- It is suggested to use the Austrian Standard for dynamic methods for energy investment statements ÖNORM M7140

detailed and validated calculations provide clear information on potential savings

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- document the calcuation methods used
- acknowledged methods are
  - IPMVP
  - ÖN 7140
  - EN 16212

Data storable for historical analysis and tracking performance

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- archive and provide if required all the data for the last two audits electronically or hard copy

- secure that the data is and remains readable

OR

Implement and keep alive an ISO 50001 certified Energy Management System

A certified ISO 50001 EMS fulfills the minimum critieria