

material efficiency schools energy saving
consumers industry transport carbon dioxide
wood chips traffic properties public sector
recycling biomass renewable energy solar energy climate change
energy efficiency energy auditing
service sector hydro power wind energy cooperation

General observations regarding energy audits / quick-scans performed 5.-7.9.2011

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heat pump environment municipal sector construction

Discussion

- Motiva has experience from all aspects of auditing, thus having a different perspective
- What was your overview on the quick-scan performed?
- What is the added value you can deliver to the client?
- Is there energy saving potential available?

Preparation for the Audit

- Reserve **enough time** for the audit!
 - Seasonal changes
 - Changes in production etc.
- Use the most **experienced** resources you have!
 - Best results, happy customer
 - Use less experienced auditors to get experience in less demanding parts

Check before field work

- Read the documents given in advance
 - Ask for documents! Especially for motor list!
 - Study the Best Available Technologies (BAT) in the specific sector of the client company
- Analyse given data in advance
 - Where are the biggest consumers?
 - Where are the biggest costs?
 - Are the tariffs correct?
 - Why has the consumption changed?
 - What can be done to the consumption?
 - Are electrical motors high efficiency motors?

General observations 1/2

- All consultants showed a positive attitude towards their work, willingness to develop themselves as auditing professionals
- Some consultants were less experienced
- None of the consultants used the audit templates?
- The final conversations were clearly formed, and the additional information needed was agreed together with client, and clear indication of whom to send it
- If there are more than one consultant performing the audit, one must take the leader role
- The use of bathroom should be done before or after the audit

General observations 2/2

- Consultants were punctual at starting and ending the audit at agreed times
- Arriving at the site; if there is doubt about the address or starting time – USE your telephone and ask your colleague
- DO NOT USE your telephone during the audit
- Every consultant must have a notebook and a pen!

Obtaining data at the site

- Division of work between the auditors:
 - During Monday's audit all consultants were looking at all aspects
 - Electricity, heating, cooling, motors, compressors, camera, thermocamera etc.
- Usually you can get a printout from the site data system, if not – take a picture of the screen
- Electrical cabinets are very interesting, but you seldom find energy saving potential there – however you can find maintenance issues

Use of measurement devices 1/2

- Remember safety: CPmL does have protective gloves for electricity measurements, but they were not used during clam measurements?
- Thermographic camera is useful at some occasions, but rather seldom, usually it is best to leave it in the lobby, and after the audit go with the camera to take necessary thermographic pictures
- At the three quick-scans one person was all the time tied to the camera and could not do much else – waste of auditing resources

Use of measurement devices 2/2

- Thermocamera was used a lot for screening the electrical cabinets – not energy efficiency – however several maintenance issues were recognized – consider the limited time of a quick-scan
- The usefulness of thermocamera pictures of motors etc. is questionable
- Thermocamera is excellent at cold rooms and equal; follow-througs, doors, the corners and joints of construction, beams etc.
- With CPmL-type of thermocamera it is extremely important to use it properly – this camera must be kept perpendicular to the object (see thermocamera operating manual)

SAFETY FIRST !

- Proper clothing of auditors:
 - Proper shoes – not open shoes or higher heels!
 - CPmL shirt and jeans ok!
 - A watch is needed for timing
 - Disposable ear plugs could be provided by CPmL
 - CPmL must have safety helmets and reflective safety vests in the office to be utilized during auditing
 - One has to be extremely careful when using clams to measure electricity at cabinets – safety gloves!

After the energy audit or quick-scan...

Remember to eat well !



More information
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