



**CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE**

Results of the energy audit obligation

Executive Summary 5.8

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1 Summary

Various aspects of the transposition and implementation of Article 8 were discussed during the Concerted Action in Core Theme 5. Working Group 5.8 concludes this activity collecting updated information on various aspects of the Art. 8 transposition and figures of the implementation. The further steps required in order to exploit the work done by enterprises on energy audits and to better manage the next cycle of energy audit obligation were also discussed. The report analyses the current situation based on the results of a questionnaire answered by participants from all 28 Member States (MS) and the presentations and discussions during the last plenary meeting.

The situation varies among MSs in almost all the aspects of the audit obligation:

- **Deadlines:** diverse forms of flexibility were introduced, some delaying the deadline from a few weeks up to two years, others keeping to the deadline but introducing a transitional period for enterprises to fulfil the obligation through audit and/or certification of energy management system without penalties.
- **Documents and information collected by the managing body as a part of energy audit obligation:** almost two thirds of the MS collect energy audit reports or summaries of the energy audit reports or even both. In the other cases documents or certifications to prove that the energy audit was done or the management system certified are collected, while in just one case no document or declaration is required. In certain MSs information is provided by obligated parties where other MSs require energy auditors to provide proof that an energy audit was carried out. Quality control of data collected, sample checks and some form of verification are being carried out in many MS.
- **Energy audit and management system documentation received:** numerous MS are still collecting data or do not have recording systems in place yet. Few MS have online registration systems where enterprises are required to register and/or upload documents/data. For most MS declarations of energy audit collection is not applicable or is not carried out. The percentage of the enterprises fulfilling the obligation varies from 95% downwards where the deadline is still far ahead. In most cases this is an estimation as the total number of obligated parties is not precisely known.
- **Energy audit providers** are an essential element of the audit scheme in order to properly implement the obligation and to ensure the quality of the energy audits. The total number of providers available ranges from tens to thousands, but the total number of providers involved in the actual obligation is known in very few MS. Energy audit providers can be persons and/or companies. The requirements and the qualification and/or certification varies, and in some cases they have specific fields of expertise (i.e. building, process, transport).

As the official deadline for the energy audits has passed for most MS, it is possible to look back at the energy audit obligation and examine what challenges MS have experienced. The majority of MS seem to have dealt with several challenges during the implementation phase from setting up the framework (multinationals and clustering/sampling were particularly challenging) and involving the enterprises to having a sufficient number of energy auditors. For future improvements, most MS would like to set up a list of obligated parties. Most MS are also of the opinion that a different definition of the obligated party could be an improvement.

The EED Art. 8 has made energy audit models more standardised in almost half of the cases within the MS, while only 5 MS considered this to be the case within Europe. This means the level and requirements of energy audits varies considerably across MS which may cause difficulties especially for multinational companies when they have to do different kinds of energy audits in different MS. In half of the MS there either have not been major changes or there have not been energy audit models before. The requirements in the new energy audit models are more detailed than prior to the EED in some MS and less demanding in others. In these latter cases the energy audit model became more general because it has to be adaptable for wider types of enterprises.

Most MS have developed templates for energy audits, data collection sheets or guidelines related to Art. 8. In most MS, these were prepared specifically for the compulsory energy audits.

2 Recommendations/Conclusions

The different approaches adopted by MS in almost every aspect of the implementation of the energy audit obligation are the result of different situations in each MS, and show the need for flexibility to start up a complex framework such as the energy audit obligation.

Collection and use of data: most MS consider that the data from energy audit/management systems, if collected, can be exploited in useful way(s), but it hasn't yet been decided how. This indicates that MS are still at an early stage in the process of working with the energy audit scheme. Several MS will be using the data for several different purposes: the majority of which will be using the data to develop industry best practice. The creation of a database with the most interesting sectoral efficiency measures should also be considered.

Collection of data on energy savings over the four-year period, as various MS are planning to do, could help to better manage the energy audit framework and the accounting of the savings at an MS level. A common approach for data collection and handling could be a topic for future discussions.

Energy audit providers: The numbers of the energy audit providers are quite different in absolute and relative terms (audits per provider). To guarantee the required offer of energy audits and a competitive price, the number of energy audit providers must not be too small. As the quality of energy audits is a shared concern, MS should put in place quality control to check that the market won't drive the price and the quality of energy audits too low, which risks lowering the cost effectiveness of the audit.

Room for improvement: At a country level, the availability of the list of obligated parties is by far the aspect where MS see most room for improvement. At an EU level, the room for most improvement is a different definition of the obligated parties. These two aspects are linked, as one of the main issues about the definition of a non-SME is the difficulty of creating a list of obligated parties taking into account associated or parent enterprises. During previous Working Groups' discussions there was widespread opinion that the definition of non-SMEs is a weak point of the energy audit obligation. A different definition, taking (also) into account consumption could make it easier to identify the subject in scope, communicate with them, check the obligation by the managing bodies while also safeguarding the cost effectiveness of the energy audits. The presentation by the Italian energy agency showed that with a list of obligated parties (in this specific case the energy intensive industries) 95% of the enterprises were fulfilling the obligation, while for large enterprises it was only possible to estimate a sensibly lower fulfilment.

All participants to the parallel session were in favour of revising Art. 8 and the definition of obligated parties. Almost all the participants were in favour of common guidelines for aviation, while for other industries the consensus was lower. A more shared approach within MS to energy audits and audit provider requirements/qualification/certification could also facilitate mutual recognition of audit providers. The consensus among participants for the mutual recognition of energy auditors among MS was almost triple, moving from the ongoing situation with a different energy audit model in each MS, to more shared energy audit and audit provider requirements.

Some of these changes in some MSs would require an amendment to the legislation; the EED recast could be the right moment to introduce them.

Multinationals: Multinational enterprises are a concern for most of the MS (e.g. few sites with negligible consumption or a large number of similar sites). Multinationals have to face a variety of definitions and requirements causing difficulties when they have to do different kinds of energy audits in different MS. More shared approaches should be considered to guarantee a more level playing field and more effective implementation, not only for obligated parties but also for energy audit providers and energy service providers. The main points also touched upon in previous discussions were: definition of subjects in scope, audit guidelines, guidelines on international transport, energy audit templates, collected data, proposed efficiency measures and their evaluation, energy audit provider requirements (also in view of mutual recognition), and sampling/clustering.

Split incentive: Energy audits should also take into account links and bonds among interested parties, involve all of them and give a specific list of opportunities for each one, e.g. long term ones for the landlord, short term ones and/or linked to the typical renovation activities for the tenant.

Heat mapping and evaluation of potential (supply and demand side) could be enhanced with the results from the energy audit. A higher quality and definition of these instruments can also improve the chance of connection to an existing network or to find users interested in selling or buying the available excess energy.

3 Practical Examples

During the latest discussions some interesting practices were presented.

Energy audit obligation figures

The Institut für Energieeffizienz in der Produktion presented a survey on the energy audit obligation in Germany, conducted with a sample of 600 of the 3300 energy audit providers in the BAFA list, obtaining 228 consistent data sets. The most interesting findings are:

- Data collection for energy audit is time consuming (30% to 60% of the total time of the energy audit in most of the cases), thus data isn't easily available.
- The market is demand driven, but probably due to budget restrictions (average energy audit price is €7,500) and/or insufficient qualification the identified potential seems low, being on average 2%. Audit providers estimate an implementation rate of around 25%. These numbers ensure a benefit to cost ratio of more than 1.
- Extrapolating from the results of the survey, the total savings and the total number of energy audits seems significantly lower than estimated.

The Italian Energy Agency presented figures on the energy audit obligation for large and energy intensive enterprises. The agency received around 14,000 energy audits from around 7,500 enterprises. The energy intensive enterprises, clearly identifiable by being on an official list, fulfilled the obligation with a rate of 95% while a much lower rate is estimated for the large enterprises. The Ministry sent around 700 fines to enterprises without energy audits (20% energy intensive). The Italian Energy Agency is collecting the full energy audits plus an Excel file with the main data (general and subdivision of consumptions and indicators for main activities, auxiliary services and general services). Moreover, all the enterprises with a management system or undergoing an energy audit have to annually report (normalised) energy savings if they are more than 1% of the consumption and if not otherwise reported (e.g. in white certificate systems). The data from the energy audits of the plastic and iron industries have been analysed, while the works on large scale retail distribution, private healthcare, paper, ceramic and metallurgy are ongoing¹. The outputs will be industry specific guidelines for energy audits with indicators and best practice.

Special cases. The Danish Energy Agency presented some special cases where further indications - developed in close collaboration with representative associations of the obligated party - were needed to ensure a smooth and cost effective implementation of the energy audits: shipping, construction companies, and owner-tenant issue. Concise guidelines for shipping were prepared and are available also in English². Construction sites are not under the audit obligation but construction companies are. The evaluations are done through the construction machinery datasheet, while leasing companies will have to include energy efficiency in the existing and widespread voluntary certification schemes. Regarding the owner-tenant issue in buildings, the owners are responsible for the building energy performance certificate/audit, while tenants are responsible for energy usage which they can influence.

A short video interview giving some figures on the advantages of a simple piece of energy audit software linked to a database of energy efficiency measures was also shown. The link to the database can double the number of suggested efficiency measures, at least for an energy auditor without experience in the specific sector. The database was created from previous energy audit programmes, analysing the results and subdividing according to NACE2 classification of activities. This software is currently used in seven regional energy efficiency networks in Sweden.

¹ Webpage with benchmarks from the elaboration of collected energy audit data (plastic and foundry) and energy audit guidelines and/or templates for banks, ceramic, paper, IT, large scale retail, real estate, glass, foundry <http://www.ufficienzaenergetica.enea.it/per-le-impresediagnosi-energetiche>

² https://ens.dk/sites/ens.dk/files/guidelines_for_energy_audits_for_shipping.pdf

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For further information please visit www.ca-eed.eu or contact the CA EED Coordinator Lucinda Maclagan at lucinda.maclagan@rvo.nl



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