

STEAM AND MANAGEMENT INTEGRATE

Newsletter May 2017



This Newsletter is addressed to decision makers and technical staff of industries that use steam systems for their energy demand. It is the third issue of the STEAM UP project that aims to achieve radical improvement of energy efficiency in industry. The project is undertaken by Austria, the Czech Republic, Denmark, Germany, Greece, Italy, Spain and The Netherlands and co-funded by the European Horizon2020 programme.

Half way Steam Up: lots achieved and lots to be done

The Horizon 2020 project: Steam-Up has a duration of 36 months. We are halfway. What did we achieve and what remains to be done?

We started the project because of the fact that energy saving reports are in general end up in the desk drawer. The goal of our Steam-Up project is to increase the number of energy-saving measures that will be implemented.

So we developed a new audit methodology, with the following aspects:

- To make measures more profitable we incorporate “non-energy benefits”; this means other financial savings than just energy;
- To be sure that there will be a high acceptance in the company for the advised measures, we work with an Energy Action Team;
- We only start with the project after commitment or involvement of the management;
- High quality of the advised measures, to achieve by working with experienced consultants;
- Retain the savings achieved through the introduction of energy management, which includes education and training.

The first of in total 75 in-depth audits are carried out. We evaluate the results and with the outcome, we improve our methodology.

At this time, we are in any case assured that the energy savings amount will be more than 15%.

Michiel Steerneman, Project coordinator



STEAM UP
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Energy Efficiency Culture and Behaviour

In the framework of a pilot project on behaviour RVO, the Dutch Steam Up partner, assessed how two successful companies organised their focus on energy efficiency. The assessment was in the form of an interview based on the scientific behavioural insights and covering behavioural aspects like motives, circumstances, capacities, rational and habitual behaviour. Interviewees were representatives from the management and energy efficiency unit.

Striking result was that in both companies a strong culture was developed that contributed to the improvement of energy efficiency. In one company the energy efficiency culture seemed to have emerged ‘organically’ over the years, with main drivers being the Voluntary Agreements made with the government and the cost reduction. The other company, which also signed the Voluntary Agreements and has been active on energy efficiency for many years, was running a cultural change process in order to promote the long term labour input of their

workforce. Main driver there was, apart from the obligations from the Voluntary Agreements, to improve quality in all aspects of their product and organisation.

It can be concluded that,, when looking at behaviour in organisations, the influence of culture of the organisation and its subgroups, shouldn't be neglected. The culture of an organisation can promote energy efficiency improvement but, what is learned from other examples, it can also inhibit the process towards an energy efficient organisation. So ideally one should know the organisation culture when starting energy efficiency and or energy management interventions.

Next step in the pilots is assessing how results can be used to design successful interventions for energy efficiency improvement in organisations and developing some ‘Good Practise’ examples that may guide other organisations to follow.

Energy Management Centre EnMC

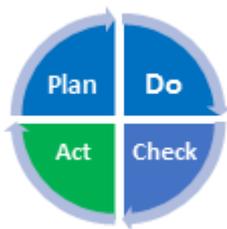
The Energy Management Centre (EnMC) is a web-based energy management solution and already functional. The EnMC is accessible by computer, tablet or Smartphone and nowadays used and filled by companies belonging to the STEAM-UP consortium. Energy Auditors may use the EnMC to report their key findings as a business case within predefined templates. Subsequently the EnMC will guide the participating companies through the Plan, Do, Check, Act cycle of energy management and focuses on those steps where the cycle of Energy Management often collapses. It is applicable for any energy efficiency measure, and therefore useful for a larger audience.

We will emphasize the benefits on the different steps of the Demming circle:



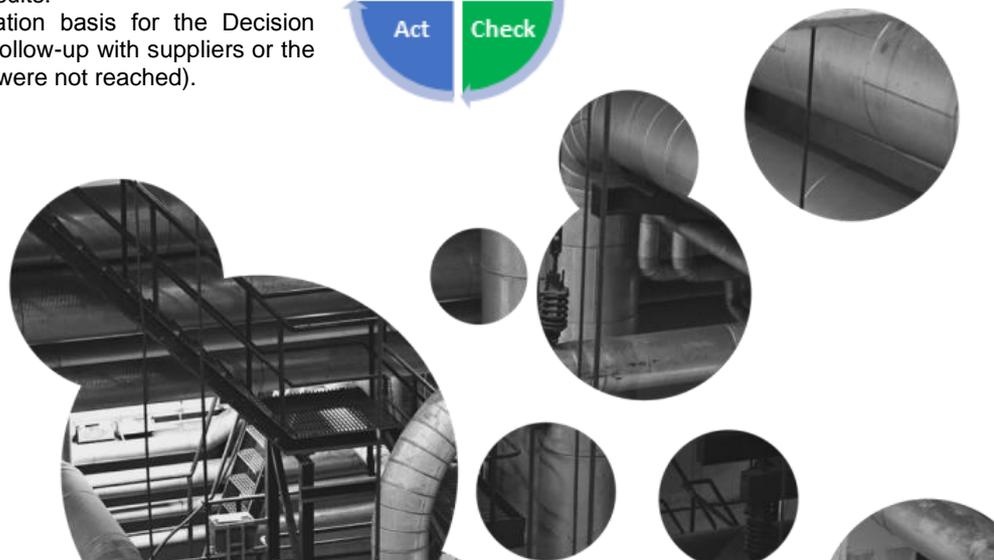
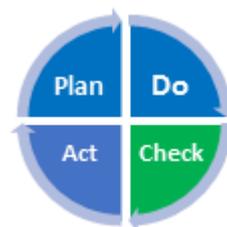
- ✓ The EnMC can create an action **PLAN** with low effort.
- ✓ Energy Managers do not have to search a paper based Audit Report for needed information.
- ✓ The Energy Auditors will directly use standardized templates within the EnMC for reporting the relevant key findings as a business case.
- ✓ A lot of time can be saved.

- ✓ To support the Energy Manager to make sure the individually assigned tasks are carried out in time, the EnMC is equipped with a module that reminds the Energy Manager automatically to check the status.
- ✓ The “Progress Assistant” is fed with the information (task, people assigned, deadline) defined in the **TO DO** List.
- ✓ As long as a task is not marked in the **TO-DO** List by the Energy Manager as being completed, the progress assistant will send notifications automatically via e-mail in native language.

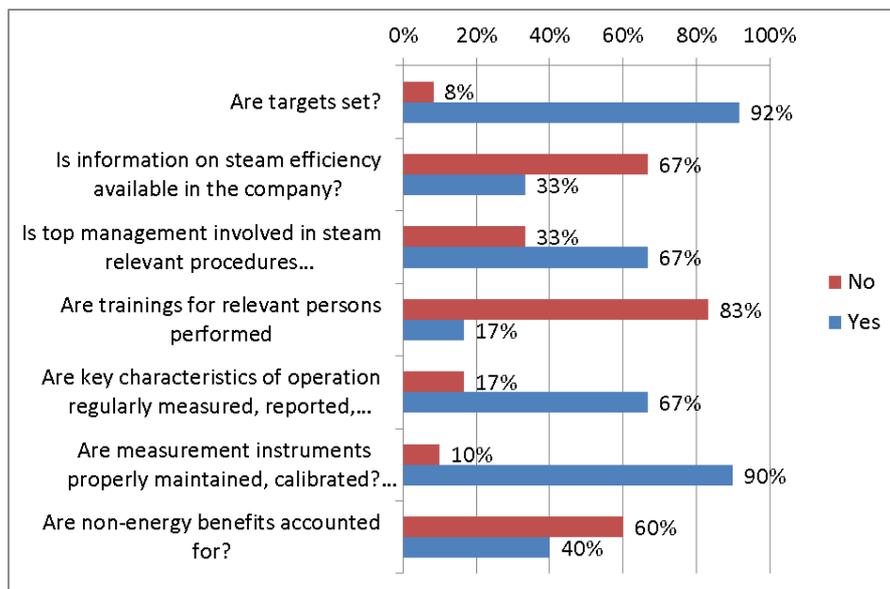


- ✓ A module for Monitoring the impact of each measure is integrated.
- ✓ The EnMC reports the initial and the target Energy Performance Indicator (EPI) using a standardized form.
- ✓ The energy savings are calculated for each measure

- ✓ The EnMC will allow to generate a printable “Energy Report” as PDF at any time (**CHECK**). It gives a complete overview over the completion status of the action plan including the To-Do List and over monitoring and benchmarking results.
- ✓ The “Energy Report” is the information basis for the Decision Maker to take corrective action (e.g. follow-up with suppliers or the consultant, in case expected savings were not reached).



First evaluation of STEAM UP - audits



The first 16 audits of the 75 audits planned within the STEAM-UP Project have been conducted in the countries Austria, Czech Republic, Greece, Italy, and Spain and were evaluated in the beginning of 2017. The companies were from the sectors: food & beverages, pharma, chemical industry, pulp and paper, printing, textile, coke production, and waste incineration.

Focal points of the STEAM-UP Project is the implementation of energy management in the field of steam systems. The first evaluation delivered the following results: In almost all companies, targets were set, almost all companies calibrate their measuring equipment. More than half of the companies already consider Non-Energy Benefits for investment decision.

In the following areas possibilities for improvement were detected: training of personal within companies, dissemination of information on efficiency possibilities in steam systems and involvement of management.

The main results of the energy audits are the proposed saving measures: The biggest energy savings would be accomplished by installation of a new steam boiler (replacement of the old one), installation of CHP system, use of solar collectors (12%) and new burners (10%). Further saving measures in the field of steam generation would generate savings between 4 and 10% of total steam use,

e.g. installation of economizer, optimization of control strategy, automatic blow down. Steam distribution measures, e.g. isolation of steam pipes and increase of condensate recovery generate the same size of energy saving potential.

Examples of Non Energy Benefits of energy saving measures in steam systems were mentioned so far during the energy audits:

- Improve global performance
- Increase of competitiveness
- Marketing for sustainability
- Increase accuracy of process
- Reliability

There are still opportunities for subsidized STEAM UP audits, please contact your national contact.



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