

Summary

The Steam Up project aimed to assess the substantial and easily accessible energy-saving potential of steam systems in industries in order to support the EU objectives for energy efficiency. Steam Up presented concrete business cases to decision makers, based on 75 detailed audits from several European countries, ten of which have been executed in Austria.

Energy experts were trained in the Steam Up methodology and body of thoughts, as well as energy managers, end users, technical staff from all types of companies of various size and from all over the country. Moreover, the introduction of a capacity-building programme for technical staff and consultancies ensures a good return on investments.

Introduction to Steam Up

In all sectors of the European industry, there is a considerable and achievable energy-saving potential. Thus, the objective of the Steam Up project was to increase the energy efficiency of steam and to contribute to the CO₂ reduction by saving 55.6 GWh per year in the industry throughout Europe. The European industry has an energy-saving potential of 13%, 75% of which is found in industries that use steam and electrical motor systems. In general, these are large energy-intensive industries like chemicals, paper and pulp, food, and textile services. Steam Up therefore focused on these industries in Germany, Spain, Greece, Austria, the Czech Republic, Italy, the Netherlands, and Denmark.

Unique Selling Points of Steam Up

What made the Steam Up project different from other approaches are

- the focus on steam systems and potential alternatives,
- the attention to non-energy benefits (NEBs),
- the design and use of an energy management centre,
- the effort of bridging the gap between the technical staff and the decision makers (managers, board of directors),
- the aim to influence cultural behaviour and induce a cultural change,
- and the intention to increase the companies' commitment to energy efficiency (ISO50001, environmental policy, etc.).

Audits: Actual savings and Non Energy Benefits

In The Netherlands 9 audits were carried out at medium sized companies and 1 audit in a large company in the sectors Food Processing, EPS manufacturing, Paper and Tobacco. The total energy saving potential of all audits is 12,3 GWh and expressed in money 441.000 EU. Apart from the energy savings, the following Non Energy Benefits will be gained after implementation of proposed measures (for an exhaustive enumeration of NEBs visit our [website](#))

1. Safety
2. Environmental
3. Production improvements
4. Quality
5. Comply with legislation and regulations

Audit fact sheets for The Netherlands and for other countries are available on the [website](#).

Industry sectors audited:

1. Paper Industry
2. Food Processing
3. EPS Manufacturing
4. Tobacco

Type of companies:

- 9 Medium enterprises
- 1 Large enterprises

Total (estimated) Investments

€ 2.000.000

Total (estimated) Savings

€ 441.000 p/y

Most important Non Energy Benefits

Safety

Environment

Quality

More information for The Netherlands

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Best practices in The Netherlands

The best practices came from the audits where there was enough involvement and commitment of the management. Apart from a technical audit which were performed by highly classified auditors, the organisation has also been audited. Most technical schooled contacts know that there were enough technical measures to perform within their company. With the commitment of the management in the Steam UP project there was enough commitment for implementation.

The focus on NEB's and energy management made the commitment of the managers clear.

Capacity building and expertise The Netherlands

In The Netherlands were in total around 50 energy experts trained in the Steam Up methodology during 3 days. These yet highly qualified and experienced energy experts underline the Steam Up project body of thoughts. These experts have various backgrounds, knowledge and functions in both SMEs and larger companies and work in the whole range of sectors where the steam energy audits were carried out.

Conclusions

Main conclusions of the Steam UP audits in The Netherlands are:

- Although The Netherlands has got a long experience with energy saving programs like the Long Time Agreements (in Dutch: 'Meerjarenafspraken - MJA), there is enough room for a new approach for Steam.
- The technical experience and knowledge of the Steam system is decreasing within the companies. The number of employees in the technical departments within the organizations is decreasing.
- There are still plenty of opportunities to implement technical optimizations.
- Where technical advice is not followed, a lack of management, a changing policy or a too high payback time is the basis.
- Many existing steam boilers are too large and too inflexible for the current desired consumption. A new steam boiler with higher efficiency provides a generation efficiency that is often more than 10% higher. Due to high purchase costs, investments in a new boiler are too often too long delayed.