

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: savings and Non Energy Benefits (NEBs) achieved

In Greece, 10 audits were carried out at 8 medium companies and 2 large companies in the sectors dairy industry, biodiesel and vegetable oil, insulation products, food industry (production of different types of rice). The total energy saving potential of all audits is 6,707 GWh/year and expressed in money 273.584,00€. 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. Reduction in maintenance needs.
2. Prediction and repair of malfunction of the system
3. Improve steam quality
4. Facilitation of the personnel to control and supervise the system
5. Reduction of CO₂ emissions at the steam generator by regulating excess air.

Audit fact sheets for Greece and for other countries are available on the website.

Industry sectors audited:

1. Dairy industry
2. Biodiesel and vegetable oil
3. Food industry

Type of companies:

- 8 SMEs
- 2 Large enterprises

Total (estimated) Investments

€ 676.700,00

Total (estimated) Savings

€273.584,00

6,707 GWh

(24.144.120.000 kJ)

Most important Non Energy Benefits

Reduction of maintenance costs

Better safety control

Improved steam quality

More information for GREECE

www.steam-up.eu

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Best practices in GREECE

Coca Cola Enterprise in Schimatari, comprises a best practice in Greece. The Enterprise is Greece's leading non-alcoholic beverage bottler. During the last 4 years a major investment programme of 18 million Euros was implemented in Schimatari facilities, which aimed at renovating and upgrading the building facilities and reinforcing and streamlining the production lines

MEVGAL S.A., another best practice, is one of the largest dairy enterprises of Greece. High technology methods and the strictest controls are implemented at the company's facilities, thus ensuring the high quality, nutritional value and freshness of all of the products.

More information for both enterprises can be found in <https://steam-up.eu/el/node/251>.

Capacity building and expertise GREECE

In Greece were in total 50 energy experts trained in April 2017 in the Steam Up methodology. There yet highly qualified and experienced energy experts underline the Steam Up project body of thoughts.

The expert trainees are most of them mechanical engineers and/or managers working at the industrial sector and SMEs.

Steam Up trainings will be available in countries of the EUREM network.

Conclusion

In Greece, during the STEAM UP project, 10 energy steam audits were carried out in 2 large companies and 8 SMEs. The audits showed the possibilities for major interventions that will result in significant energy savings. All enterprises were willing to comply with European Directive 27 and the methodology that was carried out within the frame of the STEAM UP project, and finally to implement many of the measures which, apart from the energy savings, will lead to a number of NEBs like reduction of maintenance costs, better safety control and improved steam quality.