

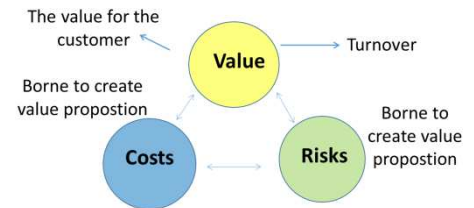


FACTSHEET

Steam Efficiency: Link to Corporate Strategy



‘Create competitive advantage out of energy efficiency! ‘



Investment

Low

Savings

To be proved

Other benefits

- Meeting of customer expectations**
- Enhancement of productivity**
- Improvement of safety**

Link to corporate strategy

Very often energy auditors and energy managers are disappointed, when they find very good energy efficiency measures with quick pay-back times and when proposing them to the management of the company get not the approval for implementation. Furthermore, significant further advantages of energy efficiency are not considered in the traditional approach of energy auditing.

For long term competitive advantage energy efficiency must be integrated in corporate strategy. Focus should be on value, quality, and safety issues and how energy efficiency can help to improve it.

General advantages of integration of energy and corporate strategy are:

- Reduction of operating and maintenance costs
- Reduction of vulnerability to energy and fuel prices increases
- Meeting of customer expectations
- Enhancement of productivity
- Improvement of safety
- Improvements of employee morale and commitment
- Improvement of environmental issues, greenhouse gas emissions
- Increase of overall profit

Where to start?

Firstly, a person experienced in business consultancy with knowledge and experience on energy efficiency, energy management approaches is needed: He should know about the business environment, involving stakeholders, starting energy management, quantifying non-energy benefits, and dealing with organisational culture and behaviour. For information on energy management, non-energy benefits and organisational

behaviour look at other STEAM UP Factsheets.

Secondly, the person should assess how steam and energy efficiency can contribute to the strategic goals and why energy efficiency is a strategic issue.

Which information should be analysed when concentrating on the business?

The general situation of the company, as the economic situation, future prospects, the expected development of production

volumes, or current energy management systems (e.g. ISO 9001 and ISO 14001) should be found in annual reports, and on the company website (vision, mission). By this he can get gain insight in corporate strategy, market and market developments in the sector where the company is operating, e.g. developments of competitors, local, national, worldwide.



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STEAM UP

Create Value!

What is important for the business and what are the main concerns of the board of the company?: How to increase value! For steam systems to be recognized as important for your company's strategy, first clarify what makes an investment "strategic" in your company. An investment is "strategic" if it contributes to create, maintain or develop a sustainable competitive advantage. This can be analysed with a three-dimensional concept, formed of three interrelated constituents - value, costs and risks – by answering the following questionsⁱ.

What is the value of your company, for your customer? This can be for example: quality, purity, reliability, precision, versatility, efficiency, design, innovation, diversity, availability, service, technical support, prestige. Usually, energy services are the key to guarantee the value proposition.

What is the benefit, when you reduce steam consumption for your company?

- ✓ Safety, health issues
- ✓ Environmental issues
- ✓ Water consumption
- ✓ Energy consumption

What are the costs of using steam?

- ✓ Boiler attendant
- ✓ Technician/supplier
- ✓ Water treatment
- ✓ Energy

As a result you get an overview, how an efficient steam system can contribute to

the competitive advantage of your company. (Figure 1)

Lean Management – find non value creating energy use

One practical approach concerning increasing the value of your company is to find and eliminate all non-value added activity. Lean methods were developed to reduce waste involved with the following deadly wastesⁱⁱ:

	Energy Use hidden in lean wastes
Over-production	More energy consumed in operation equipment to make unnecessary products or producing energy that is unused, e.g. heating of empty ovens
Waiting	Wasted energy from heating, cooling during production downtime or consuming energy while production is stopped: unused conveyor belts keep running
Transport/Motion	More energy used for transport, inefficient transport of energy
Defects/Scrap	Energy consumed in making defective products
Non-Value Added Processing	More energy consumed in operating equipment related to unnecessary processing
Inventory Excess	Wasted energy from heating, cooling, and lighting during production downtime
Over Specification	Furnace operated at higher than required temperature;

One effective way to understand energy use at your facility is to value stream mapping, a method creating a visual representation of the information and material flows involved in creating a product. With value stream maps you understand where the largest sources of waste are in the value stream and prioritize future process-improvement

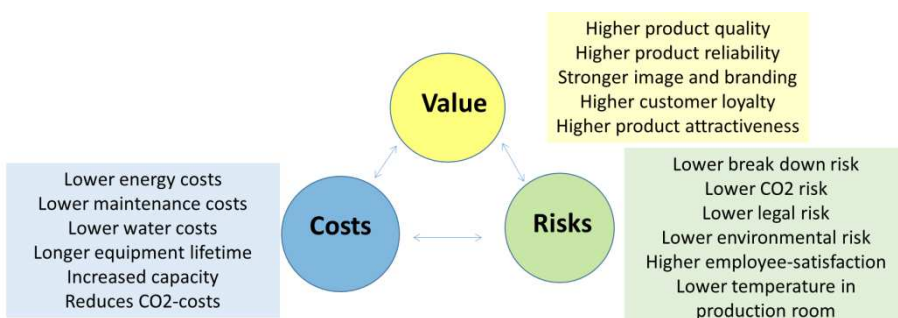
efforts.ⁱⁱ

Involvement of stakeholders

A lot of stakeholders are relevant for steam use or are affected by steam use in a company:

E.g.: Technical manager, energy manager, technicians, operators (boiler house), process operator, director, steam users/processes, customers, water treatment (quality), maintenance, product designers, planning, suppliers (steam and equipment), energy utilities provider, financial manager, safety manager (and controllers), quality (manager), production manager. All relevant stakeholders within and outside of your company have to be involved in such a strategy. There are very good reasons for this, as these peopleⁱⁱⁱ:

- ✓ Can offer opportunities for energy efficiency measures because they are related to the subject;
- ✓ Can offer insight in the non-energy benefits of energy efficiency measures (increased production, better working conditions, safety, less maintenance,...);
- ✓ Will be less averse to the implemented energy efficiency measures because of their active involvement in the process.



ⁱ Energy efficiency: a profit center for companies! A strategic and financial discussion of the multiple benefits of energy efficiency, presentation by Catherine Cooremans, IEA DSM University, Leonardo Academy, 12.5.2016

ⁱⁱ Gonce A., Somers, K.: The Lean and Energy Toolkit, Environmental Protection Agency 2007, p. 12
Lean for green manufacturing, McKinsey&Company, 2010

ⁱⁱⁱ Steam, energy and management practices: How is industry doing?, Ronald Vermeeren, eceee Industrial Summer Study Paper, 2016

Figure 1: Three dimensions of comparative advantage for improving steam system efficiencyⁱ