

The evolution of energy and sustainability management

Interview with Jonas Fluri, Head of Portfolio & Partnering, Sustainability and Energy Management, Building Technologies Division, Siemens

The term "Sustainability" is defined more broadly today than it was just a few years ago and encompasses far more than greenhouse gas emissions. Sustainability is now on the radar of the entire industrial and service sector. Today, it is no longer enough for a company to simply identify its own emissions. Businesses and cities are now expected to provide full transparency and clear action plans when it comes to energy consumption and greenhouse gas emissions.

Mr. Fluri, what challenges do we face today in terms of sustainability?

When calculating emissions, companies need to look at the entire value chain, from purchasing of raw materials or intermediate products to finishing and distribution to product use and recycling. We no longer look only at individual companies and their emissions but at the emissions of a product or service – "from the cradle to the grave," so to speak.

Calculating what we call the "ecological footprint" can be a hard nut to crack, especially for multinational companies. A plethora of local laws, special geographic circumstances and diverse markets, countries, suppliers and vendors make it difficult to calculate greenhouse gas emissions with any consistency. We need a company-wide strategy to determine which measures have the greatest influence on the emission of climate-unfriendly greenhouse gases – and which ones the company can afford. To establish the right foundation for making decisions, we need a great deal of knowledge and experience, not only regarding technology but also commercial issues and legislation affecting the infrastructure and energy markets. Because of this complexity, not all companies have the necessary expertise in the area of energy and sustainability management, which is why many of them must rely on a strong partner. By joining forces, they can then identify and implement the most ef-

fective improvement initiatives with the help of experts and systematic approaches. Cities face similar challenges. The EU has set itself the goal of cutting CO₂ emissions by 20 percent by 2020. Although cities occupy only one percent of the world's surface, they consume 75 percent of the global energy, require 60 percent of the water and produce 80 percent of the greenhouse gas emissions. The battle against climate change is being waged in the cities. Cities such as Zurich, Berlin and Vienna are already systematically recording their CO₂ emissions and are continuously implementing action plans.

What does energy and sustainability management mean in concrete terms?

It means that a company or a city actively monitors its energy consumption and energy supply, plans future demand and identifies and leverages its energy efficiency potential. The goal is to continuously lower greenhouse gas emissions. Let's get back to the cities. They consist mainly of buildings and traffic infrastructure. Buildings alone consume 40 percent of the world's total energy and are responsible for more than 20 percent of the CO₂ emissions. The technical systems installed in buildings are an important lever in saving energy and substantially lowering emissions. Depending on a building's purpose and location, up to 30 percent of the energy can be saved solely through energy efficiency measures involving heating, ventilation and air conditioning systems. However, efficiency measures are not always easy to implement. When a company has invested a lot of money in new machines and production processes, and new, much more efficient machines suddenly become available, the company cannot immediately replace the existing machines. In buildings, efficiency measures are often easier to implement. Firstly, small improvements can have an enormous impact, and secondly, energy savings performance contracting provides a financing method where investments pay for themselves through energy savings.

What do companies have to do to take full advantage of energy and sustainability management potential?

Three steps lead to greater energy efficiency and sustainability: The first step is about establishing transparency. There is a well-defined set of measured variables that must be collected to establish meaningful key performance indicators. Depending on the number of buildings and the company's geographic scope, it is a good idea to use suitable software that supports data collection and ensures the quality of the collected data. The second step involves raising awareness. First of all, achieva-

ble goals must be defined based on the collected data, future prospects and technological feasibility. These goals must then be incorporated into implementation initiatives and measures that meet the savings expectations, are technologically feasible and can be financed. The result is an implementation plan that often covers a period of several years. The third step is to implement the plan. The implementation initiatives can take many different forms. For example, companies may change the production process, gradually replace their vehicle fleet, build new and more efficient production facilities or implement efficiency measures in existing buildings. The important thing is that these steps be carried out continuously rather than on a one-time basis. Companies that do these things do not view energy and sustainability as a project but as a process. Energy efficiency and greenhouse gas emissions can always be improved further, just like the quality of products and services. An ISO 50001 energy management system is an important energy efficiency tool. This is a process that involves all of the stakeholders of a company, constantly looks for ways to improve things, and monitors and documents the systematic implementation of these improvements. In Germany, for example, companies that introduce an energy management system receive tax breaks. However, the importance of this relatively new ISO standard is growing outside Germany as well.

What trends are you seeing?

Key performance indicators on emissions and energy efficiency form part of today's corporate reporting. Software for collecting and evaluating data – including tracking implementation measures – is playing an increasingly important role. More and more companies recognize that energy efficiency and sustainability measures not only allow them to act more sustainably but also help increase their company value. Studies in the U.S. and European real estate sectors show that energy-efficient and sustainably operated buildings can command six percent higher rents and 16 percent higher selling prices. We are also seeing a trend toward companies consolidating their energy responsibilities. Energy purchasing, production and efficiency are being placed in a central department and form the center of competence for energy issues within an enterprise.

What conclusions would you draw?

Energy and sustainability management has grown enormously in recent years, and it would be hard to imagine companies or cities without it. While energy production

and purchasing used to be the exclusive province of power plants, the opening up of the power market has led to entirely new ways in which companies can purchase energy and sell their self-generated energy to the grid. Where sustainability is concerned, buildings have a key role to play since they account for a large share of the infrastructure in companies and cities and are very energy-intensive. The potential for saving energy in buildings is far from being exhausted. Energy and sustainability management is thus at the center of the action, so to speak, in a highly variable energy market while still offering unexhausted opportunities for energy efficiency and sustainability. This evolution still has a long way to go – after all, the greenest energy is still the energy we save!

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