Practice What You Preach

Companies that offer environmentally friendly solutions should implement them themselves. At Siemens, the principle of sustainable business extends from reducing the company’s own energy consumption to refurbishing used equipment and working with the EU to promote the use of energy-saving industrial motors.

From the seventh floor of Building 33, employees of Siemens Corporate Technology (CT) in Munich’s Neuperlach district can see the Alps in the distance. Often, the air is so clear, that researchers can plan their next hiking trip from here. No wonder then, that this floor is where Corporate Environmental Affairs & Technical Safety (CT ES) — the experts in company-wide environmental topics — is based.

Winfried Mayer works here and he’s responsible for environmental protection at Siemens facilities. An engineer, Mayer has plenty of work to do, especially since sustainability became a major factor in the decisions of stock market investment firms. His work includes helping Siemens attain leading listings in the Dow Jones Sustainability Index (DJSI) and the Climate Leadership Index, which is compiled by the Carbon Disclosure Project (CDP). These indices list the major companies most committed to sustainability worldwide. Siemens has been listed on the DJSI for eight consecutive years since 2000.

Inclusion in these indices requires, among other things, publication of data on global energy consumption and a list of energy-saving products. Mayer’s department collects this data in the form of the annual environmental reports issued by all Siemens locations, evaluates it and then passes all relevant information on to the compilers of the DJSI and the CDP.

The reports show that electricity consumption alone accounts for approximately 60 percent of total energy costs at Siemens. With electricity prices constantly rising, this adds up to a lot of money, which is why Mayer established a one-day workshop for passing on energy-saving tips and recommendations, such as the idea of using heat pumps.

Since 2005, Mayer has visited many of the approximately 300 Siemens production locations worldwide and inspected their facilities. In many cases, he has been able to make effective recommendations after just a few hours. “Sometimes it’s enough to just compare temperatures in warehouses and offices,” he says. “If they’re the same, it often means that the warehouse is overheated.”

Mayer can also help out with complex problems, however, as he’s gained a great deal of technical expertise since his first workshop. “I even look at ads for energy-saving technologies now to see if we can use them,” he reports. His efforts have proved successful, as it’s estimated that a production location that takes part in one of Mayer’s workshops can reduce its electrical energy consumption by an average of five percent and its primary energy consumption by ten percent.

And that’s just the beginning. Siemens has launched a program at its production locations that aims to increase energy efficiency in relation to the sales and product portfolio by 20
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Quella and his team in the Product-Related En-
vironmental Protection department have been addressing the issue of "ecological design."
There's even a standard for this, which is known as SN 36350 (see Pictures of the Future, Spring 2007, p.102). The 11-page document for this internal standard has been required reading for all developers planning a new prod-
uct since 1999. The standard, which contains guidelines for product design and a list of toxic
ment and sold worldwide with the "Proven Ex-
cellence" seal of quality.
But it's not just Med that has learned to take advantage of the environmental standard. Ac-
cording to Quella, Siemens now has so many efficient products that it's high time the eco-
portfolio was recognized with some form of certification. He's therefore looking into having an external institute conduct an audit. "That would really set us apart from most of our ri-
vals and spur competition," he says.

Boosting Awareness. Despite all the benefits offered by environmentally friendly products, many companies are still hesitant about pur-
chasing systems that, although offering more energy efficiency than conventional solutions,
and avoidable substances, has a total of 40 reg-
ulations that cover a product's entire lifecycle. Adherence to these regulations has enabled Siemens to comply with new environmental legislation and design rules.
The significance of SN 36350 goes beyond environmental protection, however. "We've re-
peatedly seen that environmentally friendly so-
lutions also make a great deal of business sense," says Friedrich Koch, who is responsible for environmentally friendly product design. "That's because environmentally-focused pro-
duction leads to better resource conservation, which in turn means that improved economic efficiency begins as early as the initial storage of parts and materials."
A key element of resource conservation is to re-use as much equipment as possible. Siemens Medical Solutions (Med), for example, has a Refurbished Systems unit that takes back used computer and magnetic resonance tomo-
graphs, which are refurbished according to the same quality standards as those for new equip-
cost more. The Automation and Drives (A&D) Group is only too familiar with this story. "Lots of customers still don't realize that an invest-
ment in efficient solutions would very quickly be amortized by associated savings in energy costs during operation," says Dr. Peter Zwanziger, head of the Associations and Regu-
dations department of A&D's Large Drives divi-
sion in Nuremberg, which manufactures vari-
able speed drives for industry (see Pictures of the Future, Spring 2006, pp. 49, 66).
There's tremendous need to boost aware-
ness in this area. A&D is doing its part by manu-
facturing special Sinamics frequency convert-
ers for variable speed motors. Depending on how they're used, motors outfitted with such converters can consume up to 60 percent less electricity than fixed-speed drives. Procure-
ment costs for such devices can be recouped within two years. But although the converters are selling well, Zwanziger says that the market could be much bigger. "There's potential for around €1.5 billion in sales per year in Europe alone if older motors could be replaced with energy-efficient ones. What's more, this could cut CO₂ emissions by up to 60 million tons per year — not to mention the savings on electricity costs," he says. But because many compa-
nies aren't aware of this potential, the technol-
gy often remains on the shelf. To correct this problem, Siemens has joined a campaign es-
blished by the European Union to raise awareness of this issue.
The EU Motor Challenge Program, which was established in 2003, promotes sustainable economic development by publicly honoring companies that are particularly energy effi-
cient. Any company that chooses to join the program — either as a partner that strives to save energy, or as an endorser that recruits new partners, which is what Siemens does, has to identify energy savings potential at its plants and draw up a plan of action to achieve it. Such companies are then bound to this plan for the duration of their membership in the program. "Siemens' plan of action is to inform as many companies as possible about the pro-
gram — for example, at industrial trade shows," says Zwanziger, who serves as a proj-
ect liaison officer to the European Commission.
Since becoming an endorser, Siemens has recruited 70 companies, including Ferrero and Johnson & Johnson, and has even gotten cities such as Hamburg on board. The new members may use the Motor Challenge logo in public and are also given official status as a company or city committed to sustainable development. Zwanziger doesn't deny that all of this publi-
city also amounts to an excellent marketing tool for Siemens. "Still, you have to keep in mind that wherever energy-saving Siemens products are used, there's a proven benefit to the environment," he says. Such environmental benefits are already common within Siemens, and sustainability is set to become increasingly significant in terms of Siemens' external activi-
ties as well. As Zwanziger points out, the EU Motor Challenge is just a harbinger of more stringent and comprehensive efficiency regula-
tions to come.  

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