The New York Times

Business Day

WEDNESDAY, NOVEMBER 29, 2006

Energy Use Can Be Cut By Efficiency, Survey Says

By STEVE LOHR

The growth rate of worldwide energy consumption could be cut by more than half over the next 15 years through more aggressive energy-efficiency efforts by households and industry, according to a study by the **McKinsey** Global Institute, which is scheduled to be released today.

The energy savings, the report said, can be achieved with current technology and would save money for consumers and companies. The McKinsey report offers a long list of suggested steps, including the adoption of compact fluorescent light bulbs, improved insulation on new buildings, reduced standby power requirements, an accelerated push for appliance-efficiency standards and the use of solar water heaters.

Those moves, among others, could reduce the yearly growth rate in worldwide energy demand through 2020 to six-tenths of a percent, from a forecast annual rate of 2.2 percent, the report concluded.

The estimate of potential energy savings is one conclusion of a yearlong research project by McKinsey that analyzes energy productivity worldwide by regions, fuels and industrial and residential markets.

To take advantage of the energy-saving opportunities, some product standards would have to be tightened and some policy incentives changed. Current regulations and fuel subsidies, for example, often favor consumption over efficiency. But many steps are not taken, the report said, because energy users lack information or do not value efficiency enough to change their buying habits.

"The opportunities are huge and yet they are being left on the table," said Diana Farrell, director of the McKinsey Global Institute, a research arm of the McKinsey consulting firm. "Standard economics would say that energy prices would work their way through everything. But that's not really the case, particularly in the consumer market."

That is especially the case, according to other energy experts and executives, if an energy-thrifty product has a slightly higher purchase price and the financial payoff for users takes a while. That helps explain the slow progress made by compact fluorescent light bulbs in the marketplace. Years ago, these efficient light bulbs cost up to 10 times as much as conventional incandescent bulbs, and their light had a somewhat different hue.

Ideas include better insulation and solar water heaters.

But today, the light spectrum has been corrected and compact fluorescents are only slightly more costly than conventional bulbs, yet they last 10 times as long and consume 75 percent less electricity. The overall financial advantage of using compact fluorescent bulbs is obvious and sizable, even if the initial purchase price is higher.

"One of the great mysteries is why the public has not shifted faster to fluorescent bulbs," said Alexander Lidow, a Stanford-educated physicist and the chief executive of International Rectifier, a maker of power management equipment for energy-efficient appliances.

Such shifts might well go more quickly if electric utilities were encouraged to promote efficiency. Under state rate regulation, utilities are compensated for producing energy, but rarely for conserving it. A few states, notably California, allow electric companies to pass through the costs of energy-saving programs, but they are the exceptions.

"With changes in state regulation, we could really stimulate energy efficiency," said James E. Rogers, chief executive of Duke Energy, a big utility in the Midwest and Southeast.

Energy-saving investments, Mr. Rogers said, would include on-site visits by experts to advise consumers on how to make their homes more energy efficient; pass-through subsidies for the purchase of fluorescent light bulbs; and sophisticated network technology to manage energy use remotely during periods of peak demand.

Mr. Rogers, who is chairman of the Edison Electric Institute, a utility trade group whose members provide 60 percent of the nation's electric power, refers to energy efficiency as the "fifth fuel" for electricity, after coal, natural gas, nuclear and renewable fuels.

"The most efficient and environmentally responsible plant you can build is the one that you don't build," he said.

By easing demand, efficiency programs can help restrain energy prices and help curb global warming. In the long term, the way to deal with global warming is to switch from burning fossil fuels, which emit carbon dioxide, the main global warming gas, to new clean-up technologies like carbon sequestration, which refers to processes that remove carbon from the atmosphere.

But Jeremy Symons, a climate expert at the National Wildlife Federation, said, "Energy efficiency is an important part of any intelligent climate control campaign."

The energy-saving opportunities identified in the McKinsey report are steps in what Stephen H. Schneider, a climatologist at Stanford, refers to as a "start smart" approach to global warming policy. "The economy needs time to adjust, the politics takes time to gel and people need to understand and get use to change to really support the big moves," he said.