A McKinsey study says the market alone can't cut carbon
Steve Lohr

Energy-saving opportunities in American homes are immense with current technology, but new product standard mandates will be needed, according to a study by the McKinsey Global Institute.

The research group's study, being released Thursday, concludes that projected electricity consumption in residential buildings in the United States in 2020 could be reduced by more than a third if compact fluorescent light bulbs and an array of other high-efficiency options including water heaters, kitchen appliances, room-insulation materials and standby power were adopted across the nation.

The energy saving over that time, if achieved, would be equivalent to the production from 110 new coal-fired 600-megawatt power plants, the researchers estimate. That would result in a significant reduction in the amounts of fossil fuel burned and carbon dioxide, the main greenhouse gas, spewed into the atmosphere.

Yet market forces alone, even considerably higher energy prices, will not be enough to cause wholesale adoption of the most energy-efficient technology, the report said.

"The study makes a strong case for what economists tend to shy away from - market intervention," said Diana Farrell, director of the institute, the economics research arm of the consulting firm McKinsey. "But this would be market intervention to correct market distortions that exist."
Such distortions, Farrell said, result from individuals' lacking adequate information to make the best decisions or the market's failure to encourage individuals to make energy-efficient investments.

"Everyone would be better off if the capital investments were made," Farrell said. "But the individual parties do not have the incentives to make the needed investments."

The solution, the McKinsey report suggested, is more stringent product standards so that all new appliances are energy-efficient.

Robert Stavins, an environmental economist at Harvard University, who has not seen the study, said he was skeptical about the size of the efficiency gains the McKinsey study projected. The notion that "massive free lunches in energy efficiency" would result from tweaking the market with new regulations and standards, he said, is misguided.

"Often, the reason energy-efficient improvements have not been widely adopted is that there are real costs to many sets of individuals," he said, "and they are making personally rational choices."

With appliances, Stavins said, the household with the greatest incentive to buy a more expensive energy-efficient washing machine is the one that does many loads of laundry each week, while a person who does a load or two has less incentive.

Energy-efficiency requirements, he added, raise the prices of products and can impose "significant costs on the less affluent."

So some economists, like Stavins, say that putting a price on carbon - through a tax on carbon emissions or a pollution-trading system - is the preferred method to promote efficiency and curb global warming. A $100-a-ton tax on carbon dioxide, he said, would increase the cost of coal-fired electricity by 400 percent and natural-gas-generated power by 100 percent while hydropower costs would not increase at all.

The McKinsey policy prescriptions resemble the California model. Starting in the 1970s, the state began imposing requirements for appliances and building materials, among other energy-saving measures.

A consumer, said Terry Tamminen, a former director of the California Environmental Protection Agency, is not forced to choose between, for instance, appliances that are power hogs and ones that are energy-efficient.

"Enlightened regulation ensures that all your choices are relatively good ones," said Tamminen, who is director of the climate program at the New America Foundation, a public policy institute, and who has read the McKinsey report.

The report is the second stage of a 16-month project that involved dozens of McKinsey consultants and outside experts. The first part, released in November, was an overview of global energy demand through 2020 and how productivity gains could cut consumption.

The study is a more detailed examination, by country and industry, where savings can be achieved and how large the savings may be. U.S. residential buildings, the largest single energy-consuming group worldwide, are one of a few categories that McKinsey pointed to as policy priorities for sizable savings.

The report will be presented at an energy symposium in Washington sponsored by the New America Foundation and the Climate Group, a nonprofit organization. It is available at www.mckinsey.com/mgi.

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