

# Physicists urge U.S. to prioritize energy efficiency

September 16 2008, By Renee Schoof

---

The U.S. can reduce its dependence on foreign oil and greenhouse gas emissions by making cars and buildings much more energy efficient, according to a study released Tuesday by a large national association of physicists.

The 46,000-member American Physical Society argues the need for action is urgent because the energy crisis is the worst in U.S. history. It also says that the physics and chemistry behind the human causes of climate change - such as heat-trapping pollution from the burning of fossil fuels - is "well understood and beyond dispute."

The report argues that the country can still go a long way to reduce energy use in cost-effective ways that allow for continued comfort and convenience. Although efficient energy technologies can save money, the U.S. has been slow to catch on, the report says. It recommends that the federal government adopt policies and make investments.

"The opportunities are huge and the costs are small," the report said.

"The bottom line is that the quickest way to do something about America's use of energy is through energy efficiency," said Burton Richter, the chairman of the study panel and a 1976 Nobel Prize winner in physics. "Energy that you don't use is free. It's not imported and it doesn't emit any greenhouse gases. Most of the things we recommend don't cost anything to the economy. The economy will save money."

The report concludes that the projected growth of energy use in buildings - 30 percent by 2030 - could be cut to zero using existing technology and what's likely to become available in the next decade at the current level of research and development. It argues that the federal government should encourage states to set standards for residential buildings and make sure they're enforced.

"One of the things we would love to see is all buildings have Energy Star labels," Richter said. "Right now you don't know how much energy a building is going to use that you're interested in moving into. We'd like to see an energy audit required before a building is sold or even built."

Some of the report's suggestions included installing roofs that reflect rather than absorb the sun's energy in hot climates, more efficient heating, cooling, lighting and appliances, and more government investment in research and development in building technologies.

Consumers would have to pay to install the technology, but they would save money in the long run, the report said.

On transportation, a key recommendation is more federal government investment in developing cheaper and more reliable batteries for electric cars.

"If you look at magically converting the whole fleet to plug-in hybrids" that get 40 miles per charge, greenhouse gases would be reduced by 33 percent and gasoline use by 60 percent, Richter said.

That would be the equivalent of cutting oil imports by 6 million barrels a day, Richter said. That's the amount the U.S. imports from OPEC (largely from Saudi Arabia, Venezuela and Nigeria), out of a total of about 13.5 million barrels imported a day from all countries.

"So if you're looking at energy security issues, which is government's business, if you're looking at the overall economy, which also ought to be government's business, to spend a bit more on research and development to hasten the day when you're going to get all these benefits is a good thing to do," Richter said.

Also Tuesday, a group that included Pacific Gas & Electric, The Real Estate Roundtable, the Steel Manufacturers Association, AFL-CIO and Ceres called on state governments and the next president and Congress to make energy efficiency a priority.

Energy efficiency investments generate attractive, low-risk returns for investors, said Mindy Lubber, the president of Ceres, a network of investors and environmental groups. And efficiency is "essential to reducing our greenhouse-gas emissions to levels scientists say are absolutely necessary at the lowest overall cost to our economy," she said.

---

## EXCERPTS FROM THE REPORT

Global warming: "The physics and chemistry of the greenhouse-gas effect are well understood and beyond dispute. Science has also achieved an overwhelming consensus that the increase in greenhouse gases is largely of human origin, tracing back to the Industrial Revolution and accelerating in recent years, as carbon dioxide and methane - the products of fossil fuel use - have entered the atmosphere in increasing quantities. Modeling the climate has proven to be a complex scientific task. But although the models are far from perfect, many of their predictions are so alarming that conservative, risk-averse policymaking requires that they be considered with extraordinary gravity."

U.S. energy use:

- 5 percent of the world's population, consumes 25 percent of the world's energy.
  - Transportation sector uses 70 percent of petroleum used for fuel and emits 30 percent of U.S. greenhouse gases.
  - Buildings account for 36 percent of emissions.
- 

## ON THE WEB

The American Physical Society: [www.aps.org](http://www.aps.org)

---

© 2008, *McClatchy-Tribune Information Services*.

Visit the McClatchy Washington Bureau on the World Wide Web at [www.mcclatchydc.com](http://www.mcclatchydc.com)

Citation: Physicists urge U.S. to prioritize energy efficiency (2008, September 16) retrieved 10 April 2024 from <https://phys.org/news/2008-09-physicists-urge-prioritize-energy-efficiency.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.