

RESOURCES & ENVIRONMENT

*Saving Energy
on the Stove*

"Energy, Food, and the Consumer" by Mary Rawitscher and Jean Mayer, in *Technology Review* (Aug.-Sept. 1979), Massachusetts Institute of Technology, Cambridge, Mass. 02139.

Three to 5 percent of total U.S. energy output (e.g., equivalent to the energy produced by the nation's hydroelectric plants) is consumed preparing food at home. Much of that energy could be saved if Americans changed their cooking and eating habits, write nutritionists Rawitscher and Mayer.

Certain culinary techniques waste more energy than others—an hour's baking time in a conventional oven, the authors say, uses eight times more energy than simmering for an hour on top of the stove. If every American reduced his use of electric ovens by one hour of baking at 350 degrees only once a month, the energy conserved would equal 7.6 million barrels of oil per year (current daily U.S. energy consumption equals about 36 million barrels of oil).

Consumers can also make energy-conscious decisions at the market. Not surprisingly, frozen foods, which must be stored in a freezer, waste electrical energy. Packaging, too, plays a role in the energy cost of food; the authors claim that if consumers used one less disposable aluminum tray (for TV dinners and frozen pies) each month, the nation would annually conserve the equivalent of 2.8 million barrels of oil.

One food that consumes little energy in packaging and refrigeration is fresh meat. But beef is one of the most energy-intensive foods, say the authors, due to the fuel and petroleum-based fertilizers needed to produce feed grains for cattle. Substituting a pound of fish once a month for a pound of beef would save 100 million barrels of oil annually. Consumers, the authors conclude, should replace red meat on their menus with vegetable protein or fish (unfrozen) to save energy; their health would benefit as well.

Growing Oil

"Petroleum Plantations for Fuel and Materials" by Melvin Calvin, in *BioScience* (Sept. 1979), 1401 Wilson Blvd., Arlington, Va. 22209.

The United States can reduce its dependence on imported oil by cultivating plants that produce hydrocarbons, says Calvin, director of the Laboratory of Chemical Biodynamics at the University of California, Berkeley.

The genus *Euphorbia*, a relative of the *Hevea* rubber tree, grows wild in semi-arid regions throughout the world, including Africa, Japan, Israel, and the United States; it has been successfully cultivated in California, Texas, Arizona, and Florida. *Euphorbia* produces an oil that can be used to manufacture plastics and synthetic fibers. It can also be processed into fuel.