Higher petroleum costs threaten our nation's security, economy and the American way of life, MIT Professor John B. Heywood testified before Congress last week. There is a "strong need," therefore, for the U.S. government to act to drive down fuel consumption, he said.

Although there are ways to improve the fuel efficiency of automobiles, those measures tend to drive the cost of vehicles above what most consumers are willing to pay, Heywood testified at the hearing on "Fueling the Future: On the Road to the Hydrogen Economy," Wednesday, July 20.

The government needs to help get these technologies into the marketplace, said Heywood, who suggested that incentives to "all the involved stakeholders (including consumers)" would "pull and push this technology into the marketplace and ensure it is used."

Heywood, who is director of the Center for 21st Century Energy and the Sloan Automotive Laboratory, pointed out that light-duty vehicles today consume 140 billion gallons of gasoline a year in this country, a figure projected to balloon to 220 billion gallons a year over the next 25 years, if consumption patterns do not change.

It is unclear whether petroleum resources are even available to handle such demand, but "the primary driver for [reducing consumption] is to reduce the impact that higher petroleum prices, petroleum availability concerns and shortages, and rising negative balance of payment issues could have on our security, economy and way of life," Heywood testified.

He pointed out that while the United States needs to reduce greenhouse-gas emissions, American consumers have been buying larger and heavier vehicles over the last 20-30 years, negating gains in vehicle fuel efficiency.

He proposed that the government institute "substantial fees for purchasers who buy high fuel-consuming vehicles and rebates for those who buy low fuel-consuming vehicles." He also proposed reinforcing fuel-efficient choices by steadily raising fuel taxes.

Fuel producers, meanwhile, would be pushed to produce more low-greenhouse-gas transportation fuels.

Although the hearing centered on "the hydrogen economy," Heywood explained that "any transition to hydrogen on a large scale is many decades away," simply because it takes that long for new automotive technology to make its way from concept to widespread use in cars. Plus, hydrogen-fueled cars are not necessarily cleaner-fossil fuels are sometimes used to produce the hydrogen, he said.

The government needs to put more resources into the research and development of new energy sources for transportation. But, Heywood maintained, it is less important for the government to worry now about the standardization of codes that will affect hydrogen-fueled vehicles, than to implement "regulatory and fiscal policies to reduce the energy requirements of our total transportation system."