

San Francisco Chronicle

California fighting global warming with technology, greenbacks

David R. Baker, Chronicle Staff Writer

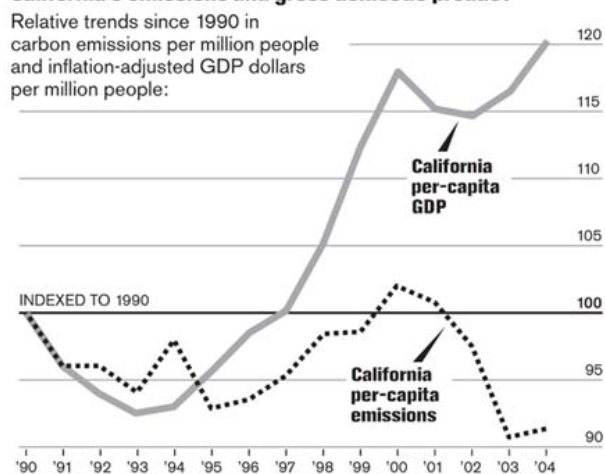
Wednesday, November 14, 2007

A report card on California's fight against global warming

Highlights from the California Green Innovation Index, a new report assessing the state's efforts to combat global warming:

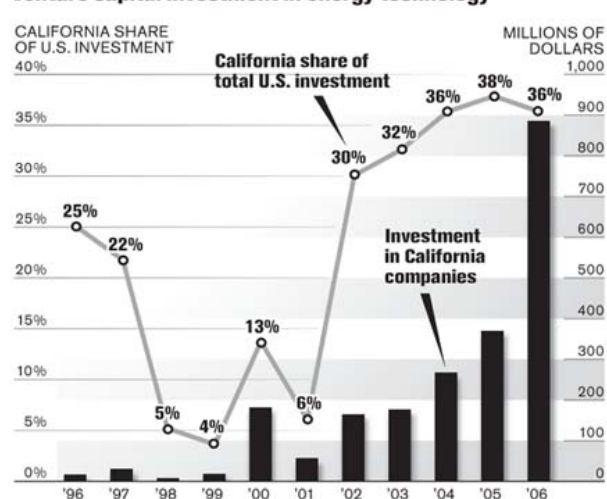
California's emissions and gross domestic product

Relative trends since 1990 in carbon emissions per million people and inflation-adjusted GDP dollars per million people:



Sources: Energy Information Administration; Population Division, U.S. Census Bureau; Bureau of Economic Analysis; U.S. Department of Commerce

Venture capital investment in energy technology



Source: Nth Power

TODD TRUMBULL / The Chronicle

California is leading the way in the fight against global warming as its investors have poured hundreds of millions of dollars into green technology companies and its citizens have cut per-capita emissions of greenhouse gases by nearly 10 percent in recent years.

So says a new report that praises the Golden State for making a fast start but warns that much more effort and innovation are needed to truly make a difference in the crisis.

The California Green Innovation Index, due to be released Wednesday by a local public-policy group and an economic consulting firm, shows progress on a number of fronts.

The amount of greenhouse gases emitted per capita in California has dropped 9.8 percent since 1990, although total emissions continue to rise along with the state's population. California has become the nation's biggest hub for green tech companies, which are developing new fuels and smarter ways to use energy. Those companies employ 22,000 Californians and are soaking up more venture capital money than similar businesses in other states, about \$884 million in 2006.

Perhaps most important, the report's authors found that California has the right political environment for more progress.

The state's government says it is committed to fighting global warming and has passed laws to cut emissions and increase the use of renewable energy. Many Californians support the effort and have shown willingness to change their habits as a result, according to the report. They are buying energy-efficient appliances and are driving less - a stunning change in a state known for its car-centric culture.

"California is a model," said F. Noel Perry, founder of the Next 10 policy group, which commissioned the report. "The people of California are very forward-looking, and they like to solve problems."

Perry's nonpartisan group, which looks for solutions to statewide problems, worked with some of California's most prominent energy experts from government, academia and private industry to draft the report. Collaborative Economics, a consulting firm that has a long history of tracking Silicon Valley's ups and downs, conducted the research.

This problem of global warming will take more than enthusiasm to solve, Perry said.

"We are on the right path, but our emissions are still rising," he said. "We need some breakthroughs here."

The group's index is designed to serve as an annual report card for California's global warming efforts, beginning with this year. Many of the financial and environmental statistics the report pulls together aren't new, but they take on added resonance when viewed together.

"There are some policymakers who look at the economic side, and there are some who look at the environmental side," said Collaborative Economics President Doug Henton. "What we really need to do is look at both."

The index contains a few surprises:

-- The amount of greenhouse gases produced for every Californian has dropped since 1990. At the same time, California's per-capita gross domestic product - the value of the services and goods produced in the state - has risen. The state's economy, in other words, has been thriving despite the reduction in per-person emissions.

-- California emits less greenhouse gas per person than any other state except Rhode Island. California's economy produces fewer greenhouse gas emissions for every dollar of gross domestic product than Germany, Japan or the United Kingdom.

-- Californians pay less on their monthly electricity bills than do residents of many other states. In 2005, for example, California's average monthly electricity bill was \$74, compared with \$135 in Texas. Although mild weather plays a part, so do tough energy-efficiency standards adopted in the 1970s for buildings and appliances.

-- Those energy-efficiency standards saved California residents and businesses \$56 billion between 1975 and 2003.

-- About 22,000 Californians were directly employed by green-tech companies in 2006. In the same year, California's green-tech businesses soaked up 36 percent of all the money venture capitalists spent on the industry within the United States.

-- About 76 percent of Californians polled as part of the study said they are using energy-efficient compact fluorescent lightbulbs, and 84 percent said they have turned down their heating and air-conditioning systems to save power.

-- Although California's overall demand for petroleum has increased since 1970, the amount consumed per person has fallen.

-- The number of miles Californians drive each year per person peaked in 2002 at 9,068 and dropped to 8,943 miles in 2005, the last year for which information is available. Despite California's reputation as the land of the long commute, people in the rest of the country actually drive more, logging 10,249 miles on the road each year.

Although the report documents Californians' concern about global warming, many of the statistics reflect other forces at work.

The drop in greenhouse gas emissions per person over time could reflect the changing nature of the state's economy, for example. California today relies far less on manufacturing than it did in 1990, said James Bushnell, research director at the University of California Energy Institute. Factories demand far more power and produce more greenhouse gases than software companies or financial services firms.

"The broader trend is right: the economy is just not that energy-intensive here," said Bushnell.

Similarly, the drop in the number of miles Californians travel each year probably has more to do with fuel prices than global warming. It might also be the result of more people working from home, either for their companies or for themselves.

"If you're spending eight hours in front of your computer, it doesn't matter if it's in an office or your home," said Bruce Klafter, the head of corporate responsibility and sustainability programs at Applied Materials, a Santa Clara company that makes tools for producing computer chips and solar cells. Klafter served as an adviser on the index.