

Department of Energy and Environmental Protection Agency

SHADOW SECRETARY EDWIN S. RUBENSTEIN

The Department of Energy (DOE's) mission is "To foster a secure and reliable energy system that is environmentally and economically sustainable; to be a responsible steward of the Nation's nuclear weapons; to clean up our own facilities..." and to advance energy-related research in physics, biology, environmental, and computational sciences. <http://www.cfo.doe.gov/budget/02budget/perfplan/perfplan.pdf>

"The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment." <http://www.epa.gov/epahome/aboutepa.htm#mission>

Reducing Greenhouse Gases

Reducing greenhouse emissions is a major goal of EPA's climate change initiative. In implementing this goal, the agency focuses on market-based approaches (e.g., allowing companies with low greenhouse gas emissions to "sell" their emission rights to less efficient companies); voluntary programs (such as SmartWay Transport http://www.epa.gov/smartway/documents/partnership_overview.pdf to reduce truck and rail idling), and advanced energy practices (such as Methane to Markets, which assesses the feasibility of methane recovery and use at landfills, coal mines, and natural gas and oil facilities.)

In fiscal year (FY) 2008, EPA's budget allocates \$912 million to "Clean Air and Global Climate Change." Of this amount, \$123 million is specifically targeted to reducing greenhouse gas intensity. <http://www.epa.gov/budget/2008/2008bib.pdf>

Similarly, DOE's budget promotes nuclear

energy as a cleaner, cooler alternative to conventional energy sources: "A staple in our energy portfolio, nuclear energy has the potential to drive our 21st century economy to produce vast quantities of economical hydrogen for transportation use without emitting greenhouse gases and to generate heat and clean water to support growing industry and populations worldwide. In FY 2008, a total of \$874.6 million is requested for nuclear energy activities." <http://www.cfo.doe.gov/budget/08budget/Content/Highlights/Highlights.pdf>

DOE's Innovative Technology Loan Guarantee Program provides "loan guarantees for renew-

able energy systems, advanced nuclear facilities, coal

gasification, carbon sequestration, energy efficiency, and many other types of projects. These projects must avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases [and] employ new or significantly improved technologies compared to commercial technologies in service in the United States at the time the guarantee is issued..."

\$8.4 billion of such loan guarantees were underwritten by DOE in FY2008. <http://www.cfo.doe.gov/budget/08budget/Content/Highlights/Highlights.pdf>

Private Sector Costs

Two things must be borne in mind when tallying the financial burden greenhouse gas regulations impose on the private sector. First, every dollar spent by federal agencies on regulatory programs generates an estimated \$20 of compliance costs.¹ Applying the 20 to 1 ratio to the \$912 million EPA spends administering clean air and climate change programs, we arrive at \$18 billion in private sector compliance costs.

Immigration Fiscal Impact Statement

Administrative costs associated with all federal energy and environmental regulations are estimated to be \$7.5 billion in FY2007.² That translates to a whopping \$150 billion compliance cost imposition on private sector businesses.

Second, the United States did not sign the

driven by high immigration, continues on its present course.

Energy Use and Population Growth

The historical relationship between energy consumption and population growth is instructive:

U.S. Population, Energy Consumption, and Per Capita Energy Consumption, 1973–2006

Year	Resident Population	Energy Consumption (Quadrillion BTU)	Per Capita Energy Consumption (Million BTU)
1973	210,839,000	75.808	360
1974	212,846,000	74.080	348
1980	226,542,000	78.435	346
1990	248,718,000	84.344	339
2000	281,422,000	99.035	352
2006	299,398,484	99.873	334
Percent Change			
1974-2006	40.7 percent	34.8 percent	-4.0 percent

Sources: Donald F. Anthrop, "Immigration and the Energy Crisis," September 2002. (1973–2000) http://www.mnforsustain.org/anthrop_immigration_and_the_energy_crisis_fair.htm Department of Energy, Energy Overview, 1949–2006. (2006) <http://www.eia.doe.gov/emeu/aer/overview.html>

Kyoto Protocol under which the developed nations agreed to reduce greenhouse gas emissions by an average 5 percent below 1990 levels by 2008 to 2012. Our excuse: Kyoto does not require emissions reductions from China, India, and other developing countries which are our major trading partners. Recent analysis from the U.S. Climate Change Science Program <http://www.epa.gov/climatechange/policy/internationalcooperation.html> suggests that greenhouse gas emissions from developing countries will exceed emissions from developed countries within the next 25 years.

Political trends in the United States, coupled with evidence that global warming is accelerating, appear likely to force Washington to adopt Kyoto's emission goals. Such efforts will be particularly onerous—and ineffective—if population growth,

Between 1974 and 2006, U.S. population increased by 41 percent while energy consumption rose by 35 percent. The year 1974 is significant because it is the first full year in which U.S. energy prices reflected the impact of the Arab embargo on oil shipments to the United States. The average price of crude oil imported to the United States jumped from \$6.41 per barrel in 1973 to \$12.32 in 1974. Since 1974, crude prices have risen another 380 percent, to an average of \$59.18 in 2006. <http://www.eia.doe.gov/emeu/aer/petro.html>

Higher oil prices triggered conservation, new energy-saving technologies, and more efficient energy use throughout the economy. As seen in the last column, per capita energy consumption in 2006 was 4 percent lower than in 1974. Had U.S. population been held to the same 4 percent growth,

total energy consumption today would be at 1974 levels.

Implication: population growth, not profligate energy usage, is the major driver behind greenhouse gas emissions.

Immigration and Population Growth

U.S. population growth is increasingly linked to immigration. The following table shows the share of our population growth attributable to foreign-born persons:

to 44) in 2002 were³:

- 102 births per 1,000 immigrants
- 59 births per 1,000 native born

Although fertility is falling for both natives and foreign born, the share of immigrant females in child-bearing ages is rising, while a smaller share of native-born females are in this bracket. As a result, absolute numbers of births to immigrant mothers have quadrupled over the past three decades:

228,486 in 1970 (6.1 percent of all births)

Immigration’s Contribution to U.S. Population Change, 1970–2006

Year	Population (millions)		Change from prior period (millions)		
	Total	Foreignborn	Total	Foreignborn	Foreignborn as percent of total
1970	203.3	9.6	NA	NA	NA
1980	226.5	14.1	23.2	4.5	19.4
1990	248.7	19.8	22.2	5.7	25.7
2000	281.4	31.1	32.7	11.3	34.6
2006	299.4	37.4	18.0	6.3	35.0

Sources: CIS (1970-2000); FAIR (2006). <http://www.fairus.org/site/DocServer/06USFBPOP.pdf?docID=1561>

Since 1970, following the reopening of mass immigration, total U.S. population increased by 96.1 million, or 47.2 percent, while the foreign-born population increased by

27.8 million—a whopping 289 percent. Thus immigrants accounted for 28.9 percent (27.8/96.1) of U.S. population growth since 1970.

Moreover, as seen in the last column of the table, their share of U.S. population growth has risen steadily since 1970.

Immigration is not the entire story, however. Immigrants have children after they arrive in the United States. The immigrants, by definition foreign born, and their U.S.-born children together constitute what demographers call the “foreign stock.” Immigrants seem to have children at a faster pace than native-born Americans. Fertility rates (births per 1,000 women of child bearing ages, 15

- 339,662 in 1980 (9.4 percent of all births)
- 621,442 in 1990 (14.9 percent of all births)
- 915,800 in 2002 (22.7 percent of all births)

Overall, the foreign stock—immigrants and their children—accounted for more than half (50.7 percent) of U.S. population growth between 1970 and 2004. http://www.fairus.org/site/DocServer/immstock_report.pdf?docID=462. This implies that more than half of the rise in energy consumption since 1970 is due to immigration.

Energy Use by Sector

The trend of energy consumption for different economic sectors provides important insights on the link between population and energy usage (see table next page).

As seen in the last column of the table, per capita energy consumption fell by 2.2 percent between 1973 and 2000.

Several sectors contributed to that decline. First, the industrial sector responded to the increase in energy prices that began in 1974 by installing more energy-efficient equipment. At the same time, historically energy-intensive industries such as steel and basic materials shrank relative to the total industrial sector, and many moved offshore. The end result: a 17.8 percent reduction in per capita energy use by U.S. industry.

Per capita residential energy usage declined by a mere 1.0 percent, signaling that the amount of energy used to heat or cool residences rose at about the same rate as population growth.

Commercial sector energy consumption increased by a whopping 28.3 percent in per capita terms. At first glance it seems as if commercial establishments are conspicuously out of step with the energy-reduction efforts evident in other sectors. In fact, this apparent anomaly reflects the shift toward a “service economy” and away from an industrial economy. Industries such as banking, financial services, medical services, and travel and recreational services are all in the commercial sector.

The rise in per capita commercial sector energy consumption does not mean these establishments are profligate users of energy—just that they are growing faster than other sectors. (Energy use per dollar of commercial sector output is probably decreasing.)

Transportation, Immigration, and Urban Sprawl

In the transportation sector, per capita energy consumption rose 9.1 percent between 1973 and 2000, a fact which many environmentalists blame on the popularity of sport utility vehicles (SUVs)—a popular theory, perhaps, but probably not true, as the following excerpts http://www.mnforsustain.org/anthrop_immigration_and_the_energy_crisis_fair.htm explain:

	1973	2000	Percent change 1973-2000
Residential	71.1	70.4	-1.0
Commercial	45.2	58.0	28.3
Industrial	155.0	127.2	-17.9
Transportation	88.3	96.3	9.1
Total	360.0	352.0	-2.2

Source: Donald F. Anthrop, “Immigration and the Energy Crisis,” September 2002. http://www.mnforsustain.org/anthrop_immigration_and_the_energy_crisis_fair.htm

Per capita motor gasoline consumption in the U.S. was virtually unchanged between 1974 and 2000 despite major improvements in the fuel efficiency of new vehicles. Per capita motor gasoline consumption was 471 gallons in 1974 and 463 gallons in 2000. Over this same time period the fuel efficiency of the U.S. passenger car fleet increased from 13.6 miles per gallon (mpg) to 21.4 mpg and the fuel efficiency of the light truck fleet (including vans and SUV’s) increased from 11.0 to 17.1 mpg.

The driving factor behind gasoline consumption is vehicle miles, which in turn is driven by population growth. Total vehicle-miles for passenger cars, motorcycles,

light trucks and SUV's rose approximately 113 percent between 1974 and 2000. The fact that vehicle-miles increased more than three times as fast as the population should not be surprising. In the first place, as the population of an urban region grows, the urbanized area increases in size, and the residential areas are almost always on the periphery of the urban region.

Therefore commute distances are increased. Secondly, population growth has caused property values near some urban centers to rise dramatically. People with modest incomes who have been priced out of the housing market in these urban centers have been buying more affordable homes in small towns that, in some cases, are located considerable distances from their places of employment.

We drive more today because the area in which we live, work, and shop is larger and more spread out. Sprawl occurs when rural land which had been undeveloped or used for agriculture is developed for residential or commercial use. At the most basic level, there can be only three reasons for such sprawl: either there is a rise in per capita land use, a rise in population, or a rise in both.

The relative importance of these factors is quantified in a 2003 study <http://www.cis.org/articles/2003/SprawlPaper.pdf> by Roy Beck, Leon Kolankiewicz, and Steven Camarota.

This is what they found:

Nationally, population growth accounted for 52 percent of urban sprawl between 1982 and 1997, while increases in per-capita land consumption accounted for 48 percent.

The more rapid a state's population growth, the more a state sprawled. For example, states that grew in population by more than 30 percent between 1982 and 1997 experienced a 46 percent rise in urban sprawl. In contrast, states that grew in population by less than 10 percent sprawled only 26 percent on average.

On average, each 10,000-person increase in state population resulted in 1,600 acres of undeveloped rural land being developed, even controlling for other factors such as changes in population density.

We have already outlined the role immigration plays in population growth. Less widely appreciated is the impact of the immigrant population on urban sprawl. The conventional wisdom is that immigrants live in urban centers, often in crowded conditions. Contrary to the common perception, about half the country's immigrants now live in the nation's suburbs.

The pull of the suburbs is even greater in the second generation. Of the children of immigrants who have settled down and purchased a home, only 24 percent have done so in the nation's central cities. <http://www.cis.org/articles/2003/SprawlPaper.pdf>

The suburbanization of immigrants and their children is a welcomed sign of integration. But it also means that they contribute to sprawl just like other Americans.

Indeed, controlling urban sprawl will be difficult—or even impossible—unless immigration is also controlled. ■

End Notes

1. Murray Weidenbaum, "The Costs of Government Regulation of Business," Subcommittee on Economic Growth and Stabilization of Joint Economic Congressional Commission of the United States. Washington, D.C.: Government Printing Office, 1978.
2. Susan Dudley and Melinda Warren, "Moderating Regulatory Growth: An Analysis of the U.S. Budget for Fiscal Years 2006 and 2007," Mercatus Center, George Mason University, and [check with author] Weidenbaum Center, May 2006. Table 1. http://www.mercatus.org/repository/docLib/20060511_Moderating_Regulatory_Growth_An_Analysis_of_the_US_Budget_for_Fiscal_Years_2006_and_2007_Dudley_and_Warren_May_2006_Final_as_Posted.pdf
3. Steven A. Camarota, "Births to Immigrants in America 1970 to 2002," Center for Immigration Studies, July 2005. <http://www.cis.org/articles/2005/back805.html>