

Jimmy Carter's Energy Plan: Myths vs. Realities

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Part II: Energy Conservation

Energy conservation as it is treated in "The National Energy Plan" issued by the White House, April 29, 1977.

Myth:

"Conservation and fuel efficiency are the cornerstones of the proposed National Energy Plan."

(Direct quote from the National Energy Plan, p. x).

Facts:

The figure reprinted below, which appears on page 3 of the National Energy Plan, confirms the fact that several countries with living standards as high as our own, achieve it with about half the energy consumption per person as the U.S. Note particularly West Germany and Sweden. The general wisdom is that the U.S. wastes at least 45% of the energy it consumes each year.

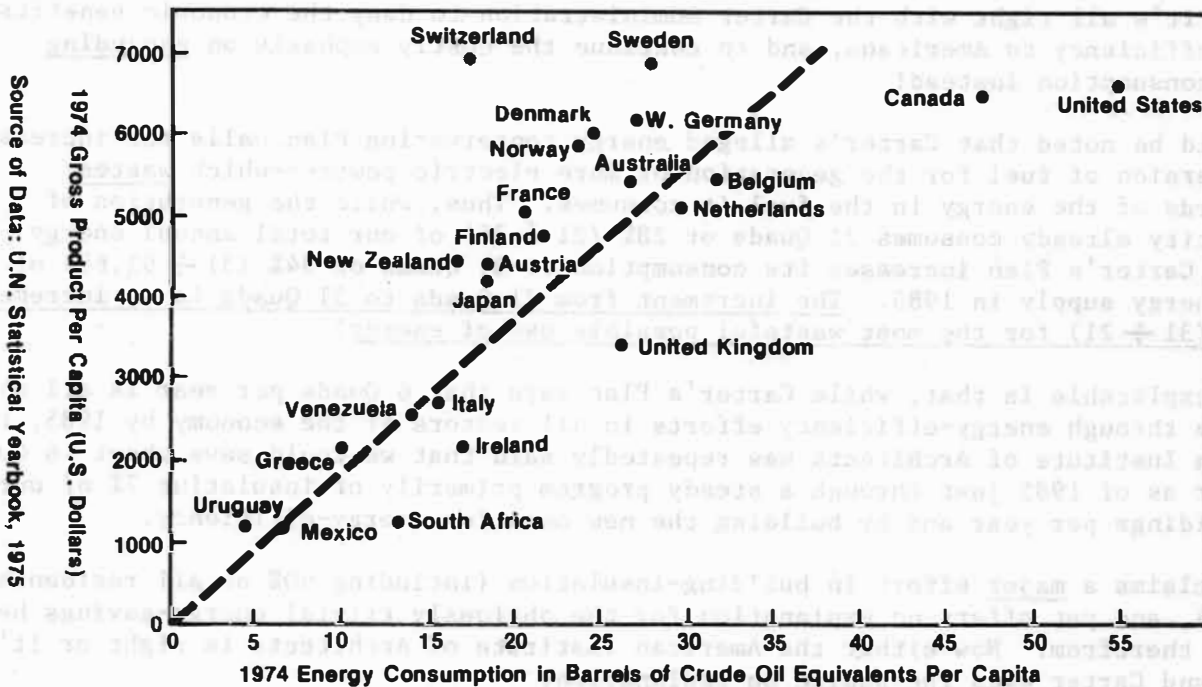


Figure 1-1

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Nevertheless, the National Energy Plan proposes (p.95) that if Carter's energy conservation program is adopted, the country's annual energy consumption will grow from 75 Quads* in 1976 to 91.65 Quads in 1985! That figure explicitly includes all the voluntary conservation measures unrelated to measures proposed in the Plan. On page 3 of this Report, we have reprinted the table from the NEP which shows where the 91.65 Quads are supposed to come from.

The growth from 75 to 91.65 Quads is an increase of 22% ($91.65 \div 75$) over 9 years, or an average of 2.4% per year. (You will have use for both these percentages.)

* One Quad = 10^{15} BTU's, or the energy equivalent of 180 million barrels of crude oil.

The President states that if his energy conservation program is NOT adopted, energy consumption in 1985 would reach 97.5 Quads instead of 91.65. Thus Carter is claiming that energy conservation will save just 6 Quads per year in 1985, equivalent to only 8% of the 75 Quads we are consuming now. And of course the Quads saved per year would be even fewer for the earlier years of his conservation program.

In other words, Carter is really telling us that, in spite of all the technical and financial obstacles to increasing energy-supply, we can increase the SUPPLY by 22% over the next 9 years, but with the technical and financial relative simplicity of energy-efficiency measures, we can increase THAT source of supply by only 8% over the next 9 years. It flies in the face of common sense.

"ENERGY CONSERVATION IS A CORNERSTONE" ??? Some cornerstone!

Indeed, Carter seems to admit elsewhere in the Plan (p.29) that he isn't trying very hard: "Energy consumption need not be reduced in absolute terms; what is necessary is a slowing down in its rate of growth".

Clearly it's all right with the Carter Administration to deny the economic benefits of energy-efficiency to Americans, and to continue the costly emphasis on expanding energy-consumption instead!

It should be noted that Carter's alleged energy conservation Plan calls for increasing the diversion of fuel for the generation of more electric power---which wastes two-thirds of the energy in the fuel it consumes. Thus, while the generation of electricity already consumes 21 Quads or 28% ($21 \div 75$) of our total annual energy supply, Carter's Plan increases its consumption to 31 Quads or 34% ($31 \div 91.65$) of our total energy supply in 1985. The increment from 21 Quads to 31 Quads is an increment of 48% ($31 \div 21$) for the most wasteful possible use of energy!

Also inexplicable is that, while Carter's Plan says that 6 Quads per year is all we can save through energy-efficiency efforts in all sectors of the economy by 1985, the American Institute of Architects has repeatedly said that we could save about 16 Quads per year as of 1985 just through a steady program primarily of insulating 7% of our old buildings per year and by building the new ones for energy-efficiency.

Carter claims a major effort in building-insulation (including 90% of all residences by 1985), and yet offers no explanation for the obviously trivial energy-savings he expects therefrom. Now either the American Institute of Architects is right or it's wrong, and Carter owes the public an explanation.

It is typical of the National Energy Plan, and outrageous, that reputable studies of savings possible through energy-efficiency and contributions from solar energy are dismissed without any evidence of their error, and that no provision is made for an open, honest evaluation of the truth.

While Carter's Plan pays eloquent lip-service to virtually every good energy-efficiency measure so far conceived (e.g., building retrofits, reform of utility power rates, co-generation of electricity by steam-using industries, etc.), the real thrust of his Plan is revealed in the figures of what he intends to achieve: a whopping and unnecessary and expensive increase in energy consumption by 22% over the next 9 years!

Nevertheless, the Plan is excellent when it comes to DESCRIBING

the benefits of energy-efficiency:

- "Conservation is the cleanest and cheapest source of new energy supply. Wasted energy is greater than the total amount of oil imports." (p.35)
(Imported oil accounts now for 25% of our energy consumption; waste accounts for 45%).
- "Conservation is cheaper than the production of new energy supplies, and is the most effective means for protection of the environment." (p.28)
- "Conservation and improved efficiency can lead to quick results." (p.29)
- "The value [of conservation] can be illustrated by comparing the cost of savings from conservation with the cost of oil imports. Conservation reduces the need for imported oil costing about \$13.50 per barrel, through investment in insulation, lighter automobiles, clock thermostats, and other capital equipment. The costs of the capital equipment can be expressed in terms of the cost of each barrel of oil-equivalent which the equipment saves. The resulting costs vary. For example, the effective cost of a barrel of oil-equivalent saved are:
 - less than \$2 for co-generation;
 - \$3.50 for mandatory standards for new commercial construction;
 - about \$7.50 for tax-credits for commercial and industrial investments in energy-saving retrofits or mandatory standards for new residential construction.
 In short, conservation pays." (p.47)

It would be immensely useful if Carter would take all this good news about energy-efficiency to the public. Instead, he is undermining even his meagre conservation program by talking so much in terms of "sacrifice" and by focusing disproportionate attention on the bad (but beloved) automobile.

In 1976, the auto used only 13% of the country's energy (NEP, p.36). There is a whole lot more room for energy conservation in the other 87% of the picture, but it gets far less than 87% of the attention.

Given the fact that America wastes about half of the energy it consumes, surely it is fair to ask Carter (with his unlimited manpower and computer-power) to give the country a plan which would increase energy-efficiency by 2.4% per year instead of consumption by 2.4%!

Carter's "war" against waste could be indeed popular in view of its vast economic benefits...if only he would present it that way.



From the National Energy Plan p.96

Fuel Balances by Sector	[Millions of barrels of oil equivalent per day]			
	1976	1985 without Plan	1985 with Plan	1985 Plan plus additional conservation
Supply.....	37.0	48.5	46.4	45.2
Domestic:				
Crude oil ⁴	9.7	10.4	10.6	
Natural gas.....	9.5	8.2	8.8	
Coal.....	7.9	12.2	14.5	
Nuclear.....	1.0	3.7	3.8	
Other.....	1.5	1.7	1.7	
Refinery gain.....	.4	.9	.6	
Total ²	30.0	37.1	40.0	
Imports/exports (-):				
Oil.....	7.3	11.5	7.0	5.8
Natural gas.....	.5	1.2	.6	
Coal.....	-.8	-1.2	-1.2	
Total ²	7.0	11.5	6.4	5.2

¹ Less than 0.05 million barrels of oil equivalent per day.
² Detail may not add due to rounding.
⁴ Includes natural gas liquids.

Proposal

A real conservation plan would be based on the principle that a nation which is wasting 45% of the energy it now consumes does not "plan" for any increase AT ALL in the annual rate of consumption until it has eliminated the waste!

Instead of a 2.4% annual average increase in energy consumption, would it not be REASONABLE to plan for a 2.4% increase per year in the fraction of energy consumed which is effectively used? Just small yearly cuts into the 45% fraction which is presently THROWN AWAY through waste?

Proposal for ACTUALLY making conservation a cornerstone of a national energy policy:

We now use 75 Quads per year, of which 45% (or 34 Quads) is wasted, and of which 55% (or 41 Quads) is useful.

Suppose that we hold annual energy consumption steady at 75 Quads per year through 1985 at least.

Suppose that instead of having only 55% useful, each year we increase the useful fraction by a modest 2.4% through efficiency-measures:

Year	Quads consumed:	times	Useful fraction:	=	Effective Quads
1977	75	x	57.4%	=	43.05
1978	75	x	59.8%	=	44.85
1979	75	x	62.2%	=	46.65
1980	75	x	64.6%	=	48.45
1981	75	x	67.0%	=	50.25
1982	75	x	69.4%	=	52.05
1983	75	x	71.8%	=	53.85
1984	75	x	74.2%	=	55.65
1985	75	x	76.6%	=	57.45 Quads.

Thus by energy-efficiency, we could have from equal amounts of energy consumed, 57.45 Quads of useful energy in 1985 compared with 41 Quads in 1976, or a 40% ($57.45 \div 41$) effective increase in energy-supply. Under the Carter Plan, the increase in energy supply by 1985 would be 22%. So emphasis on efficiency would provide more energy for jobs and economic growth than the Carter Plan.

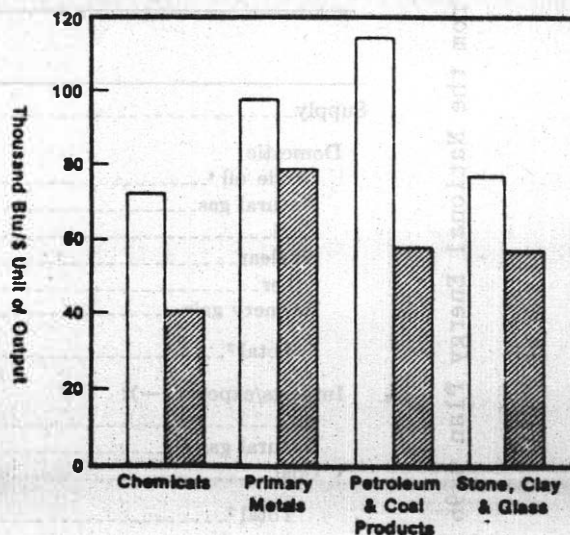
From the Natl. Energy Plan p.44

U.S. Industry Energy Efficiency *

Compared to West Germany

for Major Energy-Intensive Industries

□ U.S.
 ▨ W. Germany



* More BTU's required per \$ of output means U.S. inefficiency.