

Why is the Clinton administration so hot on natural gas?

by Anthony K. Wikrent

The policies are now in place for certain people in the Clinton administration to make hundreds of millions, perhaps even billions, of dollars, while masquerading as “good, environmentally minded” government officials attempting to implement “good, environmentally minded” policies. Most prominent among these are White House Chief of Staff Mack McLarty, Energy Secretary Hazel O’Leary, and U.S. Trade Representative Mickey Kantor. Over the next four years, they will push the United States toward rapidly increasing use of “clean-burning” natural gas, especially for generation of electricity in small, deregulated power plants. In fact, if Trade Representative Kantor’s recent attempt to cajole European Community countries into allowing U.S. firms greater access to the European power generation market is any indication, this group sees the entire world, not just the United States, as ripe for the picking.

On the face of it, increasing the use of natural gas while decreasing the use of coal and oil, would seem sensible. Natural gas burns much “cleaner” than other fossil fuels, according to the standard of combustion cleanliness imposed by the environmentalist movement, meaning that there are fewer emissions of carbon by-product “greenhouse” gases from the use of natural gas.

For electric power generation, the past 10 years have seen technological spinoffs from the development of jet aerospace engines that have boosted the thermal efficiency of “combined cycle” power plants—in which the waste heat from a gas-fired turbine is used to run a steam turbine—to over 50%. This is the first time that power plants have been able to deliver more power than they waste.

If natural gas is used as a replacement for oil, the United States and other countries will obviously be able to curb their dependence on volatile, underdeveloped oil-exporting countries—or so the argument goes. The United States’ reserves of natural gas, supposedly, are practically limitless in comparison to its rapidly dwindling stock of crude oil. In September 1992, Oklahoma Gov. David Walters declared that U.S. national energy policy has been “stupid” because “we’ve had a domestically abundant, environmentally superior and economic source of energy,” while “almost two-thirds of the trade deficit is from oil imports.” Walters, a Democrat, is also chairman of the Interstate Oil and Gas Compact Commission, a group of 29 oil-, gas-, and coal-

producing states, and of the Southern States Energy Board, a division of the 16-state Southern Governors Association.

“If we became 25% more energy efficient,” Governor Walters told the editors of the *Journal of Commerce*, “and converted 30% of the transportation industry to gas, we would be completely off foreign oil.”

Hot air

The realities are quite different:

- **Cleanliness:** The prime constituent of natural gas is methane, which is a more powerful greenhouse gas per molecule than carbon dioxide. Environmentalists are so perturbed by methane emissions, that some have even discussed fitting cows with a gadget to “catch” the methane in bovine flatulence, and in December 1992, an Australian doctor urged people not to eat turkey for Christmas, so that methane emitted by human flatulence would be curbed! One of the greatest technical obstacles to the development of natural gas-fueled vehicles is finding leak-proof ways of storing the gas in the vehicle, and of transferring gas from a refueling center to the vehicle.

- **U.S. reserves:** In June 1992, independent oil and gas consultant Dale Steffes noted in the *Journal of Commerce* that, contrary to the recent assumption by the U.S. Department of Energy that the United States has 1,200 trillion cubic feet of natural gas left, enough to last 60 years, actual proven gas reserves—which Steffes defined as gas that can be extracted with today’s technology at today’s prices—is only 150 tcf, or just eight years of supply.

- **Curbing oil dependence:** Industries and utilities account for less than one-third of U.S. petroleum consumption. In an October 1991 report, the Office of Technology Assessment (OTA) estimated that switching from oil to natural gas by industries would replace 297,000 barrels per day; switching by utilities would replace around 300,000 bpd after five years; switching in residential and commercial buildings could replace 478,000 bpd in five years (60% of commercial buildings use fuel oil for heating).

In the transportation sector—by far the largest consumer of oil in the U.S. economy, accounting for 63% of use in 1990—the OTA concluded that the cost of conversion could not be recovered in the lifetime of a private motor vehicle, and focused on the prospect of converting 240,000 vehicles in government and corporate fleets a year over five years.



One kind of "natural gas" the environmentalists don't approve of: the kind you get after dining on this fellow.

(These vehicles average 30,000 miles of use a year, three times the use of a private vehicle.) The figure of 1.2 million vehicles using natural gas at the end of that time represents a 40-fold increase in the number of vehicles using natural gas in the United States at present, and is nearly double the number of vehicles using natural gas worldwide. The natural gas used by these 1.2 million vehicles would replace 130,000 bpd of oil.

So, under the most optimistic estimate, increasing use of natural gas could replace 1.205 million bpd of oil after five years. That is only 7.1% of the 16.988 million bpd of oil used by the United States in 1990.

The difference in energy content between gasoline and natural gas—125,000 btu per gallon of gas, versus 56,600 btu per gallon of methanol derived from natural gas—makes it extremely difficult to engineer a motor vehicle run by natural gas that has the range, acceleration, and power of a vehicle that uses gasoline. This fact renders it extremely unlikely that there will be even limited acceptance of natural gas as a fuel for private vehicles until, as the OTA pointed out, the price of gasoline doubles or even triples. Might this be a major, unspoken motive behind the recent mooting of a fuel tax by the Clinton administration?

Thus, the most promising area for increasing the use of natural gas is in heating commercial buildings, and in generating electricity. By considering the changes in regulations that have been enacted in the past years by a Democratic Congress, and the business ties of certain people in the Clinton regime, it appears that the area that will most likely receive the most attention is that of electric power generation.

Power generation

The Public Utility Regulatory Policy Act (PURPA) of 1978 radically altered the market for power generation equipment by allowing the establishment of small, non-utility

power producers, which now account for one-third to one-half of the U.S. market. The carefully orchestrated hysteria against nuclear power, and increasingly militant consumerism that made it difficult, if not impossible, for large electric utilities to recover the capital cost of constructing new power plants, combined in the past 15 years to virtually eliminate any market for large-scale nuclear steam units able to produce 500 megawatts (MW) or more, and decimated the market for large fossil-fueled power plants.

What emerged in the stead of large-capacity power plants were smaller scale "combined cycle" units with primary turbines fired by natural gas, fuel oil, or pulverized coal gas, with the waste gases used to generate steam to power a secondary steam turbine. These gas turbines (also called combustion turbines) are able to produce at most 150 MW. Though a number of gas turbines may be used in a plant to achieve generation capacities similar to larger plants, this is a major shift from a decade ago, when large steam turbine generators supplied "baseload" electricity, and gas turbine generators were used only to meet peak power demands.

Now, the last step in the regulatory reshuffling in favor of these much smaller non-utility power producers (nupp) is nearly complete: forcing major utilities to open up their electric distribution grids to use by the nupps, so that the smaller plants can supply power to the highest bidder.

The case of General Electric

Just how much has the market changed? General Electric, by far the world's leading producer of combustion turbines, reported in February 1991 that non-utility power producers accounted for 42% of its new unit orders in 1990.

The Europeans were subjected to a tongue-lashing for closing out U.S. firms from the power generation market in Europe, by former General Electric lobbyist, now U.S. Trade Representative, Mickey Kantor. They have been warned by President Bill Clinton himself that the United States will not stand idly by while Europe challenges the U.S. lead in commercial aerospace. General Electric's world leadership in combustion turbines is based almost exclusively on its superior technology, which is derived from GE's work with aerospace jet engines. This was heavily funded by the U.S. federal government, through the Department of Defense.

GE's showcase combustion turbine is the MS7001F gas turbine, the first in the world to fire at 2,300°F in commercial operation. This is above the melting point of the turbine's metal components, the spectacular result of technical breakthroughs GE first achieved in high performance jet engines for the U.S. military. (By way of comparison, older combustion turbines operate at 2,050°F.) Among the technologies transferred from aerospace engines by GE are thermal barrier coatings utilizing high temperature ceramics, and directional solidification of the grain of turbine blade buckets, making the bucket much less likely to shear itself apart under extremely high temperatures. GE has also developed new methods for bonding different types of metals, for example, bond-

ing copper to titanium, to build generators able to operate at higher temperatures but with less loss of electricity.

In fact, in literature for its Power Systems group, GE boasts of the technology originally developed by its Aircraft Engine group, and how it has been applied to the development of combustion turbines for use by electric utilities and industries.

According to Robert McCoy Jr., of McCoy Power Reports*, General Electric has 20% of the world market for combustion turbines. If the various companies worldwide that are associated with GE—such as Hitachi and Toshiba in Japan; Nuovo Pignone in Italy; and John Brown in Britain—are included, then GE has 46% of the market. GE's next largest competitor is European Gas Turbines, with 14% of the market. EGT is 90% owned by the British-French combine GEC Alsthorn—and 10% owned by GE. Also with around 14% of the market is Westinghouse, and its associates, Mitsubishi Heavy Industries and Fiat. In the fall of 1992, Westinghouse established a cooperative venture with Rolls Royce of Britain, desperately hoping to use Rolls Royce's expertise in aerospace engines to catch up with GE. In the rear, both with 10% of the world market, are Siemens of Germany and the Swiss-Swedish combine Asea Brown Boveri.

The Clinton team

How do individuals in the Clinton administration stand to benefit by increasing use of natural gas? Besides Kantor's previous position as a lobbyist for General Electric, consider the following:

- White House Chief of Staff **Mack McLarty** was president and chief executive of Arkla, Inc., a natural gas distributor that is the 47th-largest U.S. utility on the Fortune 500 list of service companies.

- Secretary of Energy **Hazel Reid Rollins O'Leary** was named president of NSP Gas Co., the new natural gas division of Northern States Power Co., just one week before Clinton named her as his choice to head the Energy Department. Previously, O'Leary was executive vice president for corporate affairs of Northern Power, which operates in Minneapolis. McLarty's Arkla is the parent company of Minnegasco, a natural gas utility that is also located in Minneapolis-St. Paul.

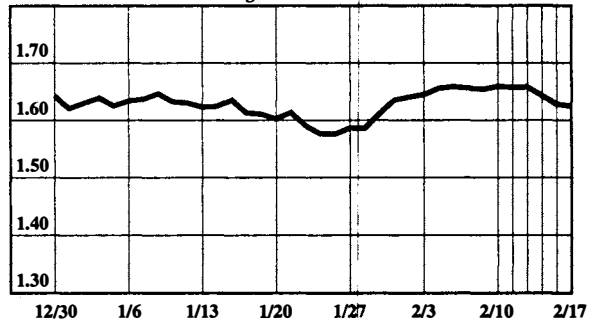
- Treasury Secretary **Lloyd Bentsen's** brother, Donald L. Bentsen, served on the board of Texas Commerce Bancshares with Charles Duncan and Kenneth L. Lay. Lay was the chairman and chief executive of Houston Natural Gas, and Duncan served on HNG's board. In 1985, Houston Natural Gas was merged with InterNorth, Inc., to create the largest natural gas pipeline system in the United States, which is today Enron Corp. At the time, Robert A. Feuer, then a vice president with E.F. Hutton, told the *Houston Post*, "It looks to me like someone's preparing to nail down gas supplies. Otherwise, why take on a company with a mountain of debt?"

* *McCoy Power Reports*, 46 Hillcrest Ave., Summit, NJ 07901. Telephone (908) 273-1849.

Currency Rates

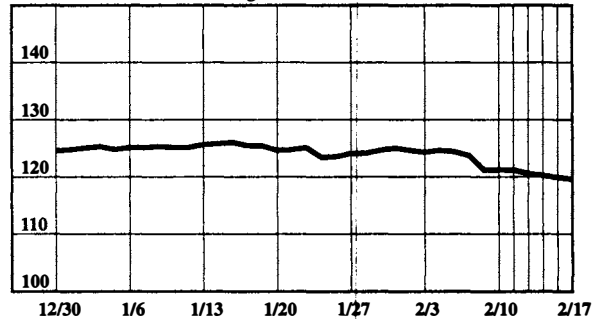
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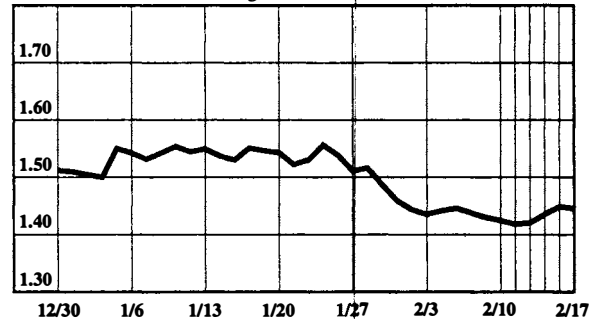
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New York late afternoon fixing



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