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NATURAL GAS POLICY ACT OF 1978: WILL IT ALLEVIATE THE NATURAL GAS SHORTAGE?

JEB C. SANFORD

Natural gas is one of the most oversold and underpriced commodities in America. It is a premium fuel in every sense because of certain inherent characteristics: it is environmentally preferable since it is nonpolluting; its capacity to maintain precise temperature levels renders it invaluable for specialized uses such as food processing and packaging; and, it is an essential feedstock for a wide range of petrochemicals and fertilizers.¹

Natural gas has not always been a premium fuel. For many years it was flared in the field as a by-product of oil production since there was no means of transporting the gas from the wellhead to the consumer.² With the development of high-pressure, long-distance pipelines a nationwide natural gas distribution system rapidly developed after the Second World War.³ As a result of the development of this distribution capability natural gas production increased from nine trillion cubic feet (Tcf) in 1954 to a peak of 22.6 Tcf in 1973.⁴ Since 1967, however, consumption of natural gas has increased at a rate faster than production,⁵ resulting in a reduction in the nation's proved reserves of natural gas.⁶ Since natural gas accounts for

1. See *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 635 (1944) (Jackson, J., dissenting); HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 90 (1977).

2. EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 1 (April 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 71 (Comm. Print 1977). Due to its physical properties, natural gas cannot be stored like oil. Natural gas, therefore, is generally transported directly from the wellhead to the burner-tip via high-pressure pipelines.

3. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 87 (1977); Kitch, *Regulation of the Field Market for Natural Gas by the Federal Power Commission*, 11 J.L. & ECON. 243, 257 (1968).

4. AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 118-19 (June 1978). Since 1975 natural gas production has leveled off at approximately 19.5 trillion cubic feet (Tcf) annually. *Id.*

5. See E. DEGOLYER & L. MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 81 (34th ed. 1978). Natural gas consumption also has leveled off in the last three years at approximately 20.5 Tcf per year, or 1.0 Tcf above the annual production rate. *Id.*; AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 118-19 (June 1978).

6. See AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 118-19 (June 1978). Proved reserves of natural gas have declined from an all-time high of 293 Tcf in 1967 to 209 Tcf in 1977. *Id.* The term "proved reserves" means the estimated quantity of natural gas that is reasonably certain to be recovered in the future from known reservoirs under existing economic and operating conditions. *Id.* at 104.

more than one-fourth of the United States' annual energy consumption,⁷ it is essential that production keep pace with the rate of consumption. To deal with this situation, as well as the country's entire energy problem, President Carter outlined a comprehensive national energy policy to the nation on April 18, 1977.⁸ The resultant legislation pertaining to natural gas, while solving some problems, has left the future development of this fuel source in doubt.

FEDERAL PRICE REGULATION UNDER THE NATURAL GAS ACT

Supply Shortages in the Interstate Market

In 1938 Congress enacted the Natural Gas Act granting the Federal Power Commission (FPC) authority to regulate the transportation and sale for resale of natural gas flowing in interstate commerce.⁹ The underlying reason for federal control was to protect the nation's gas consumers from exploitation at the hands of the natural gas companies.¹⁰ Under the terms of the Act, the Commission's regulatory authority was restricted to interstate pipeline companies.¹¹ The Supreme Court, in *Phillips Petroleum Co. v. Wisconsin*,¹² held that the provisions of the Natural Gas Act extended federal price controls to include "first sales" of natural gas by producers, that is, sales at the wellhead.¹³ The *Phillips* decision served as the basis for the system of wellhead price regulation in the interstate market.¹⁴

7. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 1 (Feb. 1979).

8. Address by President Carter to the Nation (Apr. 18, 1977), reprinted in 13 WEEKLY COMP. OF PRES. DOC. 560 (Apr. 22, 1977).

9. Natural Gas Act of 1938, Pub. L. No. 75-688, § 1, 52 Stat. 821 (1938) (current version at 15 U.S.C. § 717 (1970)). Congress determined as a matter of public policy that the natural gas industry affected the public interest and therefore, pursuant to Congress' authority under the Constitution, was subject to federal regulation. 15 U.S.C. § 717(a) (1970); see U.S. CONST. art. I, § 8, cl. 3 (commerce clause).

10. See, e.g., *Sunray Mid-Continent Oil Co. v. FPC*, 364 U.S. 137, 147 (1960); *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 610 (1944); *Distrigas Corp. v. FPC*, 495 F.2d 1057, 1064 (D.C. Cir.), cert. denied, 419 U.S. 834 (1974).

11. 15 U.S.C. § 717(b) (1970). "The provisions of this chapter . . . shall not apply . . . to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas." *Id.* The natural gas industry is composed of three segments—producers, pipelines, and distributors. Congress intended that regulation apply only to interstate pipeline companies. *Id.* Since the production and distribution segments of the industry lie completely within a single state and are subject to the state's regulatory authority, it was sensible that the only regulatory gap to be filled was that of pipeline sales—the only true interstate element of the industry. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 362 (1977).

12. 347 U.S. 672 (1954).

13. See *id.* at 677.

14. See generally Kitch, *Regulation of the Field Market for Natural Gas by the Federal Power Commission*, 11 J.L. & ECON. 243 (1968); Mac Avoy, *The Regulation-Induced Shortage*

The Natural Gas Act provided that the FPC was to confirm and establish rates for sales of natural gas subject to the jurisdiction of the Commission.¹⁵ Under the national rate structure in force under the Natural Gas Act, hearings were held by the FPC to determine a just and reasonable price applicable to all gas sold in interstate commerce, from whatever source, produced within the time period of the most recent ruling.¹⁶ The major problems with this pricing system were that prices were determined on the basis of past average production costs and did not reflect geologic factors that rendered gas from many new reservoirs nonrecoverable due to economic constraints.¹⁷ From 1954 until 1969 there was very little difference between the FPC regulated price of interstate gas and the unregulated price of intrastate natural gas; in fact, for many years the price of natural gas in the intrastate market was actually lower than that of regulated gas in interstate commerce.¹⁸ Beginning in 1967, however, shortages began to accrue in the interstate market as the United States' total consumption of natural gas exceeded the rate of annual gas production.¹⁹ The result of this has been a constant decline in the nation's total proved reserves of gas.²⁰

of Natural Gas, 14 J.L. & ECON. 167 (1971).

15. 15 U.S.C. §§ 717c, 717d (1970); see *FPC v. Texaco, Inc.*, 417 U.S. 380, 387 (1974); *Atlantic Ref. Co. v. Public Serv. Comm'n*, 360 U.S. 378, 387 (1959).

16. See Natural Gas Act of 1938, Pub. L. No. 75-688, §§ 4,5, 52 Stat. 821 (1938) (current versions at 15 U.S.C. § 717c, 717d (1970)).

17. *Id.*

18. 3 ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, ANNUAL REPORT TO CONGRESS, STATISTICS AND TRENDS OF ENERGY SUPPLY, DEMAND, AND PRICES 59 (May 1978). In 1955 the average price of natural gas in the interstate market was 10.4 cents per thousand cubic feet (Mcf). *Id.* The average gas price in the intrastate market in that year was 10.0 cents per Mcf. BATTELLE PACIFIC NORTHWEST LABORATORIES, AN ANALYSIS OF FEDERAL INCENTIVES USED TO STIMULATE ENERGY PRODUCTION 241 (June 1978) (prepared for the United States Department of Energy). By 1969 the average intrastate price had risen to 15.3 cents per Mcf, *id.*, while the average interstate price had risen to 16.7 cents per Mcf. 3 ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, ANNUAL REPORT TO CONGRESS, STATISTICS AND TRENDS OF ENERGY SUPPLY, DEMAND, AND PRICES 59 (May 1978).

19. See E. DEGOLYER & L. MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 80, 81 (34th ed. 1978). Marketed production of natural gas totaled 18.17 Tcf in 1967, 22.65 Tcf in 1973, and 19.45 Tcf in 1977. *Id.* at 80. Consumption of gas totaled 18.173 Tcf in 1967, 22.966 Tcf in 1973, and 20.384 Tcf in 1977. *Id.* at 81. Marketed production refers to the gross volume of gas withdrawn from producing reservoirs before natural gas liquids have been removed, less amounts vented, flared, used in repressuring, or amounts withdrawn from storage. See AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 106-07 (June 1978); ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 109 (Feb. 1979). Consumption refers to the volume of gas sold to consumers, plus gas used for plant and pipeline fuel, after removal of natural gas liquids. See *id.*

20. See E. DEGOLYER & L. MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 80 (34th ed. 1978). Proved reserves of natural gas reached an all time peak in 1967 at 292.91 Tcf. In 1973 reserves had declined to 249.95 Tcf, and by 1977 total reserves amounted to 208.88 Tcf. *Id.* Proved reserves means the current estimated quantity of natural gas that with

As the demand for natural gas has increased, price disparity between the two markets has become more pronounced.²¹

This increase in demand for natural gas and the concomitant decline in the rate of gas production has been the result of many interrelated factors. Production has declined in recent years because the price of natural gas in the interstate market has not truly reflected the cost of replacing the gas consumed.²² In dealing with a depleting resource such as natural gas, an effective pricing policy must recognize increased development costs and risks associated with finding new supplies.²³ Demand has increased for several reasons. The drafters of the 1938 Natural Gas Act did not foresee the significant increase in demand for natural gas that resulted from the quadrupling of the price of oil on the world market in 1973-1974. Because of artificially low prices in the interstate market, gas is substantially underpriced as compared to oil.²⁴ The bargain price of natural gas has encouraged the wasteful use of gas by industry and utility companies for nonessential boiler fuel.²⁵ Further, in the wake of state and federal clean air

reasonable certainty will be recovered in the future from known gas reservoirs under existing economic and operating conditions. See AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 104 (June 1978).

21. In 1967, the first year that natural gas consumption exceeded marketed gas production, the price of gas on the interstate market was 2.7 cents per Mcf higher than the average price of intrastate gas. See BATTELLE PACIFIC NORTHWEST LABORATORIES, AN ANALYSIS OF FEDERAL INCENTIVES USED TO STIMULATE ENERGY PRODUCTION 241 (June 1978) (prepared for the United States Department of Energy). In 1977 the just and reasonable price for new interstate gas contracts was \$1.42 per Mcf, 18 C.F.R. § 2.56a (1978) (FPC Opinion 770-A), while the average new gas contract price in the intrastate market was approximately \$1.63 per Mcf. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 95 (Feb. 1979). In Texas some new intrastate contracts were negotiated for amounts in excess of \$2.51 per Mcf. See OFFICE OF THE COMPTROLLER OF PUBLIC ACCOUNTS, STATE OF TEXAS, 1977 ENERGY REPORT 4 (Feb. 1978).

22. See, e.g., BATTELLE PACIFIC NORTHWEST LABORATORIES, AN ANALYSIS OF FEDERAL INCENTIVES USED TO STIMULATE ENERGY PRODUCTION 239 (June 1978) (prepared for the United States Department of Energy); EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 49, 52 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 119, 122-23 (Comm. Print 1977); SENATE COMM. ON ENERGY AND NATURAL RESOURCES, NATURAL GAS POLICY ACT, S. REP. NO. 95-436, 95th Cong., 1st Sess. 19 (1977).

23. See generally FPC v. Hope Natural Gas Co., 320 U.S. 591, 629-31 (1944) (Jackson, J., dissenting).

24. EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 18 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 88 (Comm. Print 1977); see SENATE COMM. ON ENERGY AND NATURAL RESOURCES, NATURAL GAS POLICY ACT, S. REP. NO. 95-436, 95th Cong., 1st Sess. 18 (1977). For example, in 1976 interstate natural gas sold for rates that were only 25% of the BTU-equivalent price of imported crude oil. *Id.* BTU equivalency is the measure of relative prices of various quantities of different fuels required to produce the same amount of heat. *Id.*

25. See EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL

legislation, natural gas has become the preferred industrial fuel due to its clean-burning nature.²⁶ Finally, since natural gas must be transported directly from the wellhead to the burner-tip, there is no need to construct costly storage facilities as is necessary for coal or oil.²⁷ Due to increased demand, declining production, and low prices federally regulated interstate pipeline companies have been unable to purchase enough gas to meet the needs of their customers.²⁸ The immediate consequence of the shortage of gas in the interstate market has been the closing of industrial plants and increased unemployment resulting from service curtailments during the heating season to those users dependent on interstate pipelines.²⁹

ENERGY PLAN 18, 30 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 88, 100 (Comm. Print 1977). The nation's industries and electric power generating plants account for more than 60% of the United States' annual consumption of natural gas. See E. DEGOLYER & L. MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 81 (34th ed. 1978). Of this, approximately one-third was consumed as boiler-fuel for the generation of steam and electricity. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 88 (1977). Boiler fuel use means burning natural gas in boilers to produce steam for electric generation or in gas turbines for direct generation of electricity. Natural Gas Policy Act of 1978, § 201(c)(2), Pub. L. No. 95-621, 92 Stat. 3350 (1978) (codified in Chapter 60 of 15 U.S.C.), 15 U.S.C.A. § 3341(c)(2)(West Supp. 1979).

26. HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 90 (1977). See also Clean Air Act, 42 U.S.C.A. ch. 85 (West Supp. 1979). Due to the stringent standards for hydrocarbon and particulate emissions imposed on industry, see *id.* §§ 7409 (national primary and secondary ambient air quality standards), 7412 (national emission standards for hazardous air pollutants), gas has become the primary fuel choice since its combustion does not produce harmful emissions.

27. See *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 635 (1944) (Jackson, J., dissenting).

28. See SENATE COMM. ON ENERGY AND NATURAL RESOURCES, NATURAL GAS POLICY ACT, S. REP. NO. 95-436, 95th Cong., 1st Sess. 8 (1977). Of the total marketed production of natural gas since 1972, domestic producer sales to interstate pipelines have steadily decreased. See Pierce, *Natural Gas Rate Design: A Neglected Issue*, 31 VAND. L. REV. 1089, 1091 (1978) (imperfections in interstate gas market resulting in gas shortages since 1970).

29. See SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS OF THE SENATE COMM. ON GOVERNMENTAL AFFAIRS, 95TH CONG., 1ST SESS., THE STATUS OF THE NATION'S PREPAREDNESS FOR THE WINTER OF 1977-78, at 4 (Comm. Print 1977). Service curtailments to commercial, industrial, and utility users began during the 1970-1971 heating season. SENATE COMM. ON ENERGY AND NATURAL RESOURCES, NATURAL GAS POLICY ACT, S. REP. NO. 95-436, 95th Cong., 1st Sess. 8-9 (1977). The term "curtailment" refers to the difference between the amount of gas that an interstate pipeline has contracted to deliver and the amount that it is actually able to deliver. See Pierce, *Natural Gas Rate Design: A Neglected Issue*, 31 VAND. L. REV. 1089, 1091 n.5 (1978). Curtailments were approximately 1.0 Tcf in 1970-1971. See SENATE COMM. ON ENERGY AND NATURAL RESOURCES, NATURAL GAS POLICY ACT, S. REP. NO. 95-436, 95th Cong., 1st Sess. 8 (1977). By the 1976-1977 heating season volumes of gas curtailed reached 3.4 Tcf or 26% of interstate pipeline company delivery requirements. See FEDERAL ENERGY REGULATORY COMM'N, UNITED STATES DEP'T OF ENERGY, FEDERAL POWER COMM'N FINAL ANNUAL REPORT 1977, at 16 (1978). As a result of gas curtailments in 1976-1977, 4000 manufacturing plants were closed resulting in temporary unemployment of hundreds of thousands of workers. See SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS OF THE SENATE COMM. ON GOVERNMENTAL AFFAIRS, 95TH CONG., 1ST SESS., THE STATUS OF THE NATION'S PREPAREDNESS FOR THE WINTER OF 1977-78, at 4 (Comm. Print 1977). To alleviate the problem, passage of the Emergency Natural Gas Act of 1977 was necessary. Emergency Natural Gas Act of 1977, Pub.

Success of Free Market Pricing in the Intrastate Market

While the interstate market has experienced supply shortages, the unregulated intrastate market has not only been able to maintain an adequate balance between supply and demand, but has been able to produce a surplus of natural gas despite the greatly increased demand for gas.³⁰ The fact that intrastate customers have had ample supplies without experiencing service curtailments suggests that the higher priced intrastate gas more accurately reflects the true replacement cost of newly produced gas. Market pricing has served to stimulate new gas exploration and has enhanced recovery from old fields that otherwise would not have been worked due to economic constraints.³¹ The availability of natural gas at higher prices in the intrastate market has resulted in less gas flowing into the interstate market.³² So long as price parity existed between the two markets producers had no economic incentive to favor one market over the other. For example, in 1966, at which time there was market equivalency, eighty-four percent of the new gas produced from the lucrative Permian Basin Area in Texas was sold to interstate pipeline companies.³³ In 1970, however, intrastate prices had escalated above the interstate rates and only nine percent of Permian Basin gas was committed to the interstate market.³⁴

L. No. 95-2, 91 Stat. 4 (1977) (to be codified in chapter 15B of 15 U.S.C.). Under the Emergency Act the President was granted authority to allocate supplies of gas committed to intrastate contracts to interstate customers in the Northeast and Midwest at the prevailing intrastate rate. *Id.*

30. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 293 (1977); Long, *Surplus of Intrastate Gas Hits Big Producing States*, OIL & GAS J., July 17, 1978, at 19.

31. See UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at III-29 (June 1974). During the fourth quarter of 1977, 785 gas drilling rigs were in operation, more than double the 319 rigs in operation during the fourth quarter of 1972. Coincidentally, the average intrastate price increased from \$0.16 per Mcf to \$0.88 per Mcf over the same period. OFFICE OF THE COMPTROLLER OF PUBLIC ACCOUNTS, STATE OF TEXAS, 1977 ENERGY REPORT 3 (Feb. 1978).

32. See EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 18 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST. SESS., THE PRESIDENT'S ENERGY PROGRAM 88 (Comm. Print 1977). The average wellhead price of natural gas paid by interstate pipeline companies in 1977 was \$0.79 per Mcf. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 96 (Feb. 1979). The maximum allowable price for interstate gas was \$1.42 per Mcf. See 18 C.F.R. § 2.56a (1978) (FPC Opinion 770-A). In contrast, the average price of intrastate gas contracts was approximately \$1.80 per Mcf. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 95 (Feb. 1979). New intrastate gas contracts in Texas, however, have been negotiated for amounts in excess of \$2.51 per Mcf. See OFFICE OF THE COMPTROLLER OF PUBLIC ACCOUNTS, STATE OF TEXAS, 1977 ENERGY REPORT 4 (Feb. 1978).

33. See UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at I-23 (June 1974).

34. *Id.*

Such a dramatic shift to intrastate sales suggests that production of natural gas is responsive to market pricing the the presence of unregulated alternate market.

NATURAL GAS PROVISIONS OF THE NATIONAL ENERGY PLAN

Administration Proposal

Two days after President Carter announced his plan to establish a comprehensive national energy policy, he outlined the details of the National Energy Plan before a joint session of Congress.³⁵ The administration recognized that a viable natural gas pricing system should provide incentives necessary to encourage producers to explore and develop new supplies of more remote quantities of gas, that the distinction between the interstate and intrastate markets should be eliminated, and that federal regulation of natural gas prices had been responsible for shortages in the interstate market.³⁶ The administration further acknowledged that wellhead prices should reflect the true cost of producing new gas and that the present system of historic cost-based pricing was no longer an effective system.³⁷ Given these considerations the Carter administration was faced with the difficult task of devising a natural gas policy that would balance the interest of the consumer in continued low fuel bills against the need to provide sufficient financial incentives to stimulate the development of additional gas reserves, while avoiding profiteering by the gas industry.

35. Address by President Carter to a Joint Session of Congress (Apr. 20, 1977), reprinted in 13 WEEKLY COMP. OF PRES. DOC. 566 (Apr. 22, 1977). The National Energy Plan was based on ten fundamental principles: 1) government must take responsibility for the plan and the American people must understand the seriousness of the energy problem; 2) healthy economic growth must continue; 3) the environment must be protected; 4) reduction of our vulnerability to foreign embargo is essential; 5) the policy must be fair and equitable to all groups consumers, industry, and producers; 6) energy demand must be reduced through a broad conservation program; 7) energy prices should reflect the true replacement cost of energy; 8) governmental policy must be predictable and certain in order that producers and consumers can adequately plan for the future; 9) scarce fuels must be conserved and plentiful fuels must be put to their best use; and 10) new, unconventional fuels must be developed. See Office of the White House Press Secretary, Detailed Fact Sheet, The President's Energy Program 1-2 (Apr. 20, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST. SESS., THE PRESIDENT'S ENERGY PROGRAM 15-16 (Comm. Print 1977). The objectives of the plan were to reduce the United States' short term dependence on foreign oil through a conservation program aimed at reducing the growth of energy demand to less than two percent annually, to ride out the eventual medium term decline in availability of world oil supplies by mandating that industry and utilities convert from oil and natural gas to coal and other more abundant fuels, and to develop renewable and inexhaustible energy sources through a vigorous research and development program. *Id.* at 16.

36. See EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xi, xii, 29, 52 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST. SESS., THE PRESIDENT'S ENERGY PROGRAM 57, 58, 99, 122 (Comm. Print 1977).

37. *Id.*

Essential to the restructuring of the natural gas pricing system was an elimination of the price distinction between the interstate and intrastate markets. In this regard the President had two options: either deregulate the interstate market or impose price controls on the previously unregulated intrastate market.³⁸ The administration chose the latter course of action for its proposed natural gas policy.³⁹

Congressional Action

The version of the National Energy Act adopted by the House Committee on Interstate and Foreign Commerce essentially mirrored the President's proposal.⁴⁰ The bill contained three major provisions dealing with both pricing and non-pricing aspects of natural gas policy.⁴¹ Unlike the pricing provisions of the Natural Gas Act,⁴² the proposed legislation restructured the pricing system according to specific statutory definitions under which all natural gas sales were categorized for the purpose of determining applicable price ceilings.⁴³ The most significant and controversial of these definitions was that of "new natural gas"⁴⁴ since this gas qualified

38. Compare H.R. 6831, 95th Cong., 1st Sess. §§ 404-409 (1977) (original House version of the President's energy plan) with Natural Gas Act Amendments of 1977, H.R. 5289, 95th Cong., 1st Sess. §§ 204-209 (1977) (original Senate legislation deregulating certain interstate gas).

39. See EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xvii-xviii (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 63-64 (Comm. Print 1977).

40. Compare H.R. 6831, 95th Cong., 1st Sess. §§ 401-418 (1977) with EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xvii-xviii (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 63-64 (Comm. Print 1977).

41. See H.R. 6831, 95th Cong., 1st Sess. §§ 404 (new gas pricing), 405-08 (old gas pricing), 409 (high-cost gas provision), 410 (incremental pricing).

42. See Natural Gas Act of 1938, Pub. L. No. 75-688, §§ 4, 5, 52 Stat. 821 (1938) (current versions at 15 U.S.C. §§ 717c, 717d (1970)).

43. See Natural Gas Policy Act of 1978, §§ 102-109, 15 U.S.C.A. §§ 3312-3319 (West Supp. 1979). Under the 1978 Act the old system of rate setting based on historic costs is replaced by a series of operative definitions in the statute into which all natural gas is categorized for pricing purposes. It is essential to be aware of the scope and limitations of these definitions in order to understand the affect of the new legislation. See *id.*

44. See H.R. 6831, 95th Cong., 1st Sess. § 402(5) (1977); HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 96 (1977). "New natural gas" was defined as any gas produced onshore from a new well in a newly discovered reservoir at least 2.5 statute miles from any existing well, or gas produced from a new well having its completion location in a newly discovered reservoir within the 2.5 mile radius at least 1,000 feet deeper than the completion location of any old well. H.R. 6831, 95th Cong., 1st Sess. § 402(5)(B) (1977). Offshore gas qualified as new gas if produced from subsea acreage under federal lease granted on or after April 20, 1977, or from subsea acreage previously subject to a federal lease that had been terminated or abandoned and was subject to releasing. *Id.* § 402(5)(A), (7). A new well was any well the surface drilling

for special incentive pricing.⁴⁵ New natural gas was so restrictively defined, however, that large quantities of legitimate newly discovered gas would not have qualified for the higher new gas ceiling price.⁴⁶ Of similar importance was the authorization of a special flexible pricing authority for high-cost gas that could not be economically recovered at the BTU-related price applicable to new gas.⁴⁷ All other natural gas was considered to be old natural gas.⁴⁸ The initial ceiling price applicable to old gas was dependent on the nature of the contract under which the gas was committed.⁴⁹ The

of which commenced after April 20, 1977. *Id.* § 402(8). A newly discovered reservoir meant any porous and permeable underground formation containing a natural accumulation of natural gas confined by impermeable rock or water characterized by a single natural pressure system first penetrated by a well after April 20, 1977. *Id.* § 402(12), (13).

45. The initial maximum lawful price for any first sale of new natural gas, either interstate or intrastate, was set at the prevailing Btu-equivalent price per barrel of the average refiner acquisition cost of domestic crude oil less the wellhead tax on oil. H.R. 6831, 95th Cong., 1st Sess. § 403 (1977). This price would have been approximately \$1.75 per Mcf in 1978, adjusted monthly for inflation and real economic growth. *Id.*; see HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 96 (1977).

46. See H.R. 6831, 95th Cong., 1st Sess. § 402(5) (1977). The administration's definition of new gas as adopted by the Commerce Committee was known as the cylinder concept. Under this definition, any gas which had not previously been discovered within an imaginary cylinder drawn around an old well having a radius of 2.5 miles and a depth of 1,000 feet deeper than the completion location of the old well could not qualify as new gas, notwithstanding that separate and distinct geologic formations containing gas might exist within the cylinder. Interview with Bernard J. Wunder, Minority Counsel, House Comm. on Interstate and Foreign Commerce, by telephone, in Washington, D.C. (Jan. 26, 1979). The Ad Hoc Energy Committee remedied this problem by providing that gas produced from legitimate new reservoirs within the cylinder would qualify as new gas. See H.R. 8444, 95th Cong., 1st Sess. § 402(5) (1977).

47. See H.R. 6831, 95th Cong., 1st Sess. § 409 (1977). The FPC was authorized, but not directed, to establish prices in excess of the new gas ceiling price for four categories of high-cost natural gas. *Id.* High-cost gas was defined as gas produced from submerged acreage in water depths greater than 500 feet, reservoirs more than 15,000 feet below the surface location of the well, geopressurized brine, and gas produced from such other conditions as present "extraordinary risks or costs." *Id.* § 409(b).

48. See *id.* § 402(4). Old natural gas means any gas which is not new natural gas. *Id.* § 402(4).

49. *Id.* § 405-07. With respect to sales of old gas subject to existing contracts, that is, a contract entered into on or before April 20, 1977, the initial maximum lawful price was the FPC rate for new interstate contracts in effect on April 20, 1977. *Id.* § 405; see 18 C.F.R. § 2.56a (1978) (FPC Opinion 770-A). Any first sale of old gas under a new contract, that is, a contract entered into after April 20, 1977, was subject to a maximum lawful price of \$1.45 per Mcf. H.R. 6831, 95th Cong., 1st Sess. § 406 (1977). Sales of old gas pursuant to a rollover contract were subject to two price ceilings depending on the date on which the expiring contract was entered. *Id.* § 407. Contracts entered into prior to April 20, 1977, would have qualified for the old contract price, but in no event could the rollover price exceed \$1.45 per Mcf. *Id.* § 407(b)(1). Contracts entered into subsequent to April 20, 1977, would have qualified for a price no greater than the initial ceiling price for new gas, \$1.75 per Mcf. *Id.* § 407(b)(2). A "rollover contract" means a contract entered into after April 20, 1977, for the

major non-price element of the House legislation was a provision for incremental pricing, by which residential and small commercial gas users were to be temporarily insulated from substantial increases in the price of gas by allocating such increases to industry and utility companies.⁵⁰ Prior to deliberations in the full Commerce Committee, the House Energy and Power Subcommittee rejected President Carter's natural gas policy in favor of a deregulation proposal offered in the nature of a substitute by Representatives Krueger (D-Tex.) and Brown (R-Ohio).⁵¹ Under the Krueger-Brown bill, the price of new onshore gas would have been deregulated immediately upon enactment of the legislation, and new offshore gas would have been decontrolled five years thereafter.⁵² Rather than defining new gas in terms of its physical location, the Krueger-Brown bill made this determination on the basis of the date gas was discovered or produced, eliminating many of the administrative problems associated with the Administration's proposal.⁵³ With a single exception, the intrastate market would have remained unregulated under the Krueger-Brown legislation.⁵⁴ The Krueger-Brown bill was ultimately rejected in two close votes in the full Commerce Committee.⁵⁵

In an unsuccessful effort to gain bipartisan support for deregulation the Republicans introduced an alternative bill on the floor of the House during the Ad Hoc Energy Committee mark-up of the National Energy Act.⁵⁶ This alternative was an amended version of the Krueger-Brown bill rejected in committee. The new gas definition and other provisions represented a compromise between the Commerce Committee language and the

sale of natural gas previously subject to an existing contract that expired at the end of a fixed term specified in the expiring contract. *Id.* § 402(15).

50. H.R. 6831, 95th Cong., 1st Sess. §410 (1977). Under the incremental pricing provision initial price increases resulting from higher priced natural gas would be borne exclusively by low-priority users, such as industries and utilities, until the delivered price of natural gas to those users reached cost equivalency with substitute fuels. *Id.* Once price parity occurred any further increases would be shared by all natural gas users. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 97, 107 (1977).

51. See H.R. 2088, 95th Cong., 1st Sess. (Comm. Print 1977).

52. H.R. 2088, 95th Cong., 1st Sess. §§ 406, 410 (Comm. Print 1977).

53. *Id.* §405. The bill defined new natural gas as gas sold or delivered into interstate commerce for the first time on or after January 1, 1977; gas from a reservoir discovered on or after January 1, 1977; gas from a well initiated on or after January 1, 1977; and gas from a well initiated on or after January 1, 1977, and completed within a previously discovered reservoir, provided the well was necessary to deplete the reservoir. *Id.* §405. Price controls on old natural gas would have been maintained under the present FPC rate schedule. *Id.* §405.

54. *Id.* §404. The single exception would have been intrastate contracts that rollover as interstate contracts after January 1, 1977. *Id.* §404.

55. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 366 (1977) (votes of 23-20 and 22-21).

56. See H.R. 8555, 95th Cong., 1st Sess. §§3-26 (Comm. Print 1977).

Krueger-Brown language.⁵⁷ Under the Republican substitute, new natural gas would have been immediately deregulated while all old gas would have remained subject to permanent price controls.⁵⁸ Each of these rejected proposals would have allowed greater volumes of gas to qualify for higher prices immediately, thus providing a present stimulus for new production, while avoiding the undesirable effects of total deregulation by retaining permanent price controls on old gas.⁵⁹ Nonetheless, after two minor amendments to the language of the Commerce Committee bill by the Ad Hoc Energy Committee, the House of Representatives fully committed itself to the President's natural gas policy.⁶⁰

The Senate, on the other hand, took a very different approach than did the House. Rather than a complex piece of regulatory legislation, a relatively simple deregulation bill was adopted.⁶¹ Similar in many respects to the Krueger-Brown bill,⁶² which was defeated in the House, the Senate legislation contained a liberal definition of new natural gas⁶³ as well as a

57. *See id.* §5. New gas included any gas sold or delivered in interstate commerce for the first time on or after April 20, 1977; gas produced from new wells 2.5 miles or more from an old well; or any gas from a new reservoir outside the 2.5 mile limit; and gas from a well 1,000 feet deeper than any old well within the 2.5 mile limit or from a new reservoir within the distance limitations. *Id.* §5. The incremental pricing provisions of this bill would have protected residential and small commercial gas customers from fuel cost increases as a result of higher priced new gas to a greater extent than the administration proposal. *Id.* § 27. Initial cost increases would have been allocated to industrial and utility customers until the cost of gas reached 120 percent of the Btu-equivalent price of imported crude oil. *Id.* § 27; *cf.* H.R. 6831, 95th Cong., 1st Sess. § 410 (1977) (high-priority users only protected until price of gas to industry reached price equivalency with substitute fuels).

58. *Id.* §6.

59. *See* H.R. 2088, 95th Cong., 1st Sess. (Comm. Print 1977) (Krueger-Brown bill); H.R. 8555, 95th Cong., 1st Sess. (Comm. Print 1977) (Republican substitute); H.R. 8585, 95th Cong., 1st Sess. (Comm. Print 1977) (Krueger-Brown-Wirth bill).

60. *See* H.R. 8444, 95th Cong., 1st Sess. §§ 402 (new gas definition), 413 (jurisdiction of FPC over old intrastate gas sold to interstate pipelines) (1977). The Ad Hoc Committee amended the definition of new gas to include gas produced from legitimate newly discovered reservoirs within 2.5 miles or less than 1,000 feet deeper than an old well. *See* HOUSE AD HOC COMM. ON ENERGY, NATIONAL ENERGY ACT, H.R. REP. No. 95-543 Vol. I, 95th Cong., 1st Sess. 40-44 (1977). The second amendment provided the FPC with authority to authorize an intrastate pipeline company to sell gas to an interstate pipeline under terms set by the Commission. *See id.* at 44-45. The effect of this provision was to bring sales of gas in emergency situations under the jurisdiction of the FPC. *Id.* FPC jurisdiction, however, was strictly limited to interstate sales by intrastate pipeline companies. *Id.* at 45.

61. *See* Natural Gas Act Amendments of 1977, H.R. 5289, 95th Cong., 1st Sess. (1977) (the Senate bill has a House designation since it was attached to a private relief bill that originated in the House of Representatives).

62. *See* H.R. 2088, 95th Cong., 1st Sess. (Comm. Print 1977).

63. *See* Natural Gas Act Amendments of 1977, H.R. 5289, 95th Cong., 1st Sess. § 204, at 4 (1977). Under the Senate bill there would have been no distinction between onshore and offshore new gas. *Id.* Any gas sold or delivered in interstate commerce for the first time on or after January 1, 1977, gas produced from a reservoir discovered on or after January 1, 1977, or from a well initiated on or after January 1, 1977, and completed within an existing reservoir or the extension of an existing reservoir constituted new natural gas. *Id.* §204, at 5.

phased deregulation schedule for that gas.⁶⁴ Special pricing provisions were adopted for high-cost gas during the interim period when price controls were to be maintained⁶⁵ and, like the House bill, provisions were made for incremental pricing of initial gas cost increases.⁶⁶

THE NATURAL GAS POLICY ACT OF 1978

On October 14, 1978, the House-Senate conference concluded eighteen months of deliberation clearing the National Energy Act for the President's signature.⁶⁷ The most controversial element of the administration's energy package, the Natural Gas Policy Act, was signed into law by President Carter on November 9, 1978.⁶⁸ In general, the provisions of the Natural Gas Policy Act (NGPA) supersede the 1938 Natural Gas Act.⁶⁹ Under the NGPA the only category of natural gas that remains subject to the pricing provisions of the Natural Gas Act of 1938 is old gas sales under existing interstate contracts.⁷⁰ The balance of the natural gas sold in the United States, whether in interstate or intrastate commerce, is subject to the statutory pricing provisions of the NGPA.⁷¹ The NGPA establishes a statu-

64. *See id.* § 209, at 14. A ceiling price equal to the Btu-equivalent price of No. 2 fuel oil landed at New York City would have been imposed on gas subject to new onshore contracts for a period of two years beginning January 1, 1977, after which time the price ceiling would be terminated. *Id.* § 209, at 14. For new offshore interstate contracts a ceiling price tied to the Btu-equivalent price of domestic crude oil would have been imposed for five years with controls being lifted on December 31, 1982. *Id.* § 209, at 13.

65. *Id.* § 209, at 12. During the period when price controls were to be maintained the FPC would be authorized to define high-cost gas and establish rates for production of that gas in excess of the applicable new gas ceiling price. *Id.* § 209, at 12. No gas produced onshore would have been permitted to qualify as high-cost natural gas. *Id.* § 209, at 12.

66. *Id.* § 209, at 19. Incremental pricing under the Senate bill applied only to interstate sales of natural gas. *Id.* § 209, at 19.

67. *See* 124 CONG. REC. 13, 426-27 (daily ed. Oct. 14, 1978).

68. *See* Natural Gas Policy Act of 1978, Pub. L. No. 95-621, 92 Stat. 3350 (1978) (codified in chapter 60 of 15 U.S.C.), 15 U.S.C.A. § 3310 (West Supp. 1979).

69. *See* Natural Gas Policy Act of 1978 Interim Regulations, 43 Fed. Reg. 56, 447, 56, 451 (1978).

70. *See* Natural Gas Policy Act of 1978, § 104(a), 15 U.S.C.A. § 3314(a) (West Supp. 1979). The initial ceiling price for sales of old gas under existing contracts is \$1.45 per million Btu's (MMBtu), the just and reasonable rate established by the FPC in effect on April 20, 1977. *Id.* § 104 (b), 15 U.S.C.A. § 3314(b); *cf.* Natural Gas Act of 1938, Pub. L. No. 75-688, § 1, 52 Stat. 821 (1938) (currently at 15 U.S.C. § 717 (1970)) (all gas committed or dedicated to interstate commerce subject to jurisdiction of the Commission). There are two common methods of measuring units of natural gas — volume in cubic feet or heat content in Btu's. As a general rule, a volume of one thousand cubic feet (Mcf) of gas is equivalent to one million Btu's (MMBtu) of heat content of gas.

71. *See* Natural Gas Policy Act of 1978, §§ 102-109, 15 U.S.C.A. §§ 3312-3319 (West Supp. 1979). *See also* Complaint for Oklahoma v. Federal Energy Regulatory Comm'n, No. 78-01251T (W.D. Okla., filed Nov. 20, 1978). The states of Oklahoma, Texas, and Louisiana have filed a complaint in federal court alleging that the provisions of the Natural Gas Policy Act of 1978 concerning the imposition of federal regulatory authority over the intrastate

tory pricing system based on a series of maximum lawful prices for various categories of natural gas production.⁷² Initially, these prices range from the existing contract price to \$1.75 per million Btu's (MMBtu), except for two instances in which higher prices are authorized.⁷³ All categories of natural gas are allowed to increase in price based on a monthly inflation adjustment factor and in certain cases at a rate faster than inflation.⁷⁴

natural gas market are unconstitutional. *Id.* at 2, 5. The Supreme Court, however, has held that when intrastate commerce has a close and substantial effect on interstate commerce, Congress has the power to regulate intrastate commerce in order to protect interstate commerce. *Houston, E. & W. Tex. Ry. v. United States*, 234 U.S. 342, 351 (1914) (*Shreveport Rate Cases*).

72. See Natural Gas Policy Act of 1978, §§ 102-109, 15 U.S.C.A. §§ 3312-3319 (West Supp. 1979).

73. See *id.* First sales of natural gas subject to an existing intrastate contract or any successor to an intrastate contract are subject to ceiling prices based on the contract price in effect on the date of the Act's enactment. *Id.* § 105 (a), 15 U.S.C.A. § 3315(a). First sale generally means any sale of natural gas to any intrastate or interstate pipeline company, local distribution company, or any vendee for its own use. *Id.* § 2(21), 15 U.S.C.A. § 3301 (21). A successor to an existing contract is any contract not qualifying as a rollover or a new contract. *Id.* § 2(14), 15 U.S.C.A. § 3301(14). If the contract price on the date of enactment is less than the new gas ceiling price, the maximum lawful price is the lesser of the existing contract price or the new gas ceiling price. *Id.* § 105(b)(1), 15 U.S.C.A. § 3315(b)(1). If the contract contains an indefinite price escalator clause and the contract price on December 31, 1984, is greater than \$1.00 per MMBtu the maximum lawful price is the higher of the contract price or the new gas ceiling price for January 1985. *Id.* § 105(b)(3), 15 U.S.C.A. § 3315(b)(3). If the contract price as of the date of enactment is greater than the new gas ceiling price the initial price ceiling is the old contract price. *Id.* § 105(b)(2), 15 U.S.C.A. § 3315(b)(2). The ceiling price applicable to gas sold under rollover contracts depends on the nature of the old contract. The maximum lawful price for interstate rollovers is the FPC rate applicable at the time the existing contract expires, or \$0.54 per MMBtu. *Id.* § 106(a), 15 U.S.C.A. § 3316(a). Intrastate rollovers are limited to \$1.00 per MMBtu if the expiring contract price was less than \$1.00 per MMBtu, or to the contract price if the expiring contract price exceeded \$1.00 per MMBtu. *Id.* § 106(b)(1), 15 U.S.C.A. § 3316(b)(1). New natural gas is subject to an initial ceiling price of \$1.75 per MMBtu as of April 1977. *Id.* § 102(b)(1), 15 U.S.C.A. § 3312(b)(1). Gas produced from new onshore production wells is subject to basically the same ceiling price as new gas. *Id.* § 103(b), 15 U.S.C.A. § 3313(b). A new onshore production well generally is a well on which the surface drilling began on or after February 19, 1977. *Id.* § 103(c), 15 U.S.C.A. § 3313(c).

The two categories of gas for which prices in excess of the new gas price are permitted are stripper well gas and high-cost natural gas. See *id.* §§ 107, 108, 15 U.S.C.A. §§ 3317, 3318. "Stripper well gas" is natural gas not produced in association with crude oil production in quantities not exceeding an average of 60 Mcf per day at the well's maximum efficient rate of flow. *Id.* § 108, 15 U.S.C.A. § 3318. The initial ceiling price for this gas is \$2.09 per MMBtu. *Id.* § 108(a), 15 U.S.C.A. § 3318(a). The 1978 Act does not provide statutory prices for gas qualifying as high-cost gas; instead, FERC is authorized to establish higher prices on a case by case basis. *Id.* § 107(b), 15 U.S.C.A. § 3317(b). Any natural gas not specifically provided for in the Act is subject to an initial price ceiling of \$1.45 per MMBtu. *Id.* § 109, 15 U.S.C.A. § 3319.

74. See *id.* §§ 102(b), 108(a), 15 U.S.C.A. §§ 3312(b)(new gas), 3318(a) (stripper gas). New natural gas and stripper well gas are allowed to increase in price at an annual rate equal to the sum of an inflation factor based on the latest quarterly percent change in the GNP

Lack of Producer Incentives

The new gas pricing provisions of the NGPA purport to provide the necessary financial incentives to stimulate increased production of new gas by reflecting the actual replacement cost of the gas consumed.⁷⁵ This contention is illusory since the initial ceiling price established for new gas was tied to the price of domestic crude oil, which is also subject to federal price controls.⁷⁶ There is no good reason in the first place to base natural gas prices upon oil prices. Natural gas is a much more valuable fuel than oil because of its intrinsic characteristics, and therefore should be priced at a level that more accurately reflects its premium nature.⁷⁷ While the initial new gas price of \$1.75 per MMBtu is a substantial increase over the current just and reasonable rate of \$1.42 per MMBtu for interstate gas, over fifty percent of the new intrastate contracts negotiated in 1977 would not have been entered into had this price ceiling then been effective.⁷⁸ If a producer projects that his drilling and production costs will be at least \$1.75 per MMBtu to produce gas from a certain well, that well will not be drilled.

implicit price deflator, a correction factor based on the Commerce Department consumer price index, and a real growth factor of 3.5 percentage points from April 1977 to April 1981 and 4.0 percentage points thereafter. *See id.* §§ 102(b), 108(a), 15 U.S.C.A. §§ 3312(b)(new gas), 3318(a)(stripper gas); CONFERENCE REPORT TO ACCOMPANY H.R. 5289, H.R. REP. NO. 95-1752, 95th Cong., 2d Sess. 72-74, 76-77, reprinted in [1978] U.S. CODE CONG. & AD. NEWS 8978, 9167-69. All other categories of natural gas are allowed to escalate according to a statutory annual inflation adjustment factor. *See* Natural Gas Policy Act of 1978, § 101, 15 U.S.C.A. § 3311 (West Supp. 1979).

75. *See* EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xi (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST. SESS., THE PRESIDENT'S ENERGY PROGRAM 57 (Comm. Print 1977); HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 96 (1977).

76. *See* 10 C.F.R. §§ 212.71-.77 (1978) (crude oil pricing regulations). In the bill adopted by the House of Representatives calculation of the new gas ceiling price was determined by dividing the average per barrel refiner acquisition cost of domestic crude oil by a Btu conversion factor. H.R. 8444, 95th Cong., 1st Sess. § 403 (1977) (basis for initial new gas ceiling price in NGPA); *see* CONFERENCE REPORT TO ACCOMPANY H.R. 5289, H.R. REP. NO. 95-1752, 95th Cong., 2d Sess. 72-76 (1978), reprinted in [1978] U.S. CODE CONG. & AD. NEWS 9167-70. This calculation was changed and inserted as a dollar value in the enacted version. *See* Natural Gas Policy Act of 1978, § 102, 15 U.S.C.A. § 3312 (West Supp. 1979); CONFERENCE REPORT TO ACCOMPANY H.R. 5289, H.R. REP. NO. 95-1752, 95th Cong., 2d Sess. 76-77 (1978), reprinted in [1978] U.S. CODE CONG. & AD. NEWS 9170-72.

77. *See* D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 11 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 318 (1977); HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 90 (1977).

78. *See* Natural Gas Policy Act of 1978, § 102(b), 15 U.S.C.A. § 3312(b) (West Supp. 1979) (statutory maximum lawful price for new gas of \$1.75 per MMBtu initially). During the third quarter of 1977, 57.4% of all new intrastate contracts and 84.7% of all new intrastate contracts in Texas equaled or exceeded \$1.75. FERC News, December 2, 1977, at 4.

On the other hand, under a pricing arrangement based on the law of supply and demand, a producer could sell the same gas for \$1.92 per MMBtu making a ten percent return on his investment. Market pricing would help alleviate the need to compensate for the lack of domestic supply with costly substitute fuels such as Mexican and Canadian gas, Algerian liquified natural gas, fuel oil, and electricity.⁷⁹

Effect on New Gas Production

Under the NGPA natural gas is subject to a myriad of pricing categorizations⁸⁰ that often do not accurately reflect the replacement cost of the commodity. Certain categories of gas will be decontrolled under the Act, subject to the reimposition of controls should the need arise.⁸¹ The cumulative effect on production of the Act's complicated categorization of gas probably will be to exacerbate the current situation without providing significant relief until late in the century. The underlying deficiency in the Act was the failure of the President and Congress to deal with the need to

79. See OFFICE OF PIPELINE & PRODUCER REGULATION, FEDERAL ENERGY REGULATORY COMM'N, UNITED STATES DEP'T OF ENERGY, UNITED STATES IMPORTS AND EXPORTS OF NATURAL GAS 1977, at 5, 10 (July 1978) (Mexican natural gas \$2.25 per Mcf; Canadian gas \$1.99 per Mcf; Canadian liquified natural gas \$3.77 per Mcf; Algerian liquified natural gas \$0.86 per Mcf); NATIONAL ENERGY INFORMATION CENTER, UNITED STATES DEP'T OF ENERGY, PROJECTED NATURAL GAS CURTLEMENTS AND POTENTIAL NEEDS FOR ALTERNATE FUELS 1977-1978 HEATING SEASON 59 (Nov. 1977) (propane \$3.57 per Mcf; No. 2 heating oil \$2.72 per Mcf; electricity \$6.58 per Mcf; coal \$0.82 per Mcf).

80. See Natural Gas Policy Act of 1978, §§ 102-109, 15 U.S.C.A. §§ 3312-3319 (West Supp. 1979).

81. See *id.* §§ 121-123, 15 U.S.C.A. §§ 3331-3333. Under the NGPA new natural gas, gas produced from new onshore production wells, high-cost natural gas, and certain intrastate gas contracts will be decontrolled in 1985 or 1987. Price controls on high-cost natural gas will be terminated not more than one year after the FERC issues the first incremental pricing rule. *Id.* § 121(b), 15 U.S.C.A. § 3331(b); see *id.* § 201(a), 15 U.S.C.A. § 3341(a) (incremental pricing for industrial boiler fuel use). On January 1, 1985, price controls will be lifted on new natural gas and gas from new onshore production wells if such gas was not committed or dedicated to interstate commerce on April 20, 1977, and the completion location of the well is deeper than 5,000 feet. *Id.* § 121(a)(1), (2), 15 U.S.C.A. § 3331(a)(1), (2). Also decontrolled on January 1, 1985, will be intrastate gas contracts not committed or dedicated to interstate commerce as of November 9, 1978, (the date of enactment) if the contract price in effect on December 31, 1984, is greater than \$1.00 per Mcf. *Id.* § 121(a)(3), 15 U.S.C.A. § 3331(a)(3). The last category to be decontrolled, gas from new onshore production wells shallower than 5,000 feet, will take effect on January 1, 1987. *Id.* § 121(c), 15 U.S.C.A. § 3331(c).

Between July 1, 1985, and July 1, 1987, however, either Congress or the President can reimpose price controls for a maximum of 18 months without passing new legislation. See *id.* § 122, 15 U.S.C.A. § 3332. Reimposition of price controls by Congress requires passage of a concurrent resolution, and reimposition by the President requires approval by concurrent resolution of Congress. *Id.* § 122(c), (d), 15 U.S.C.A. § 3332(c), (d). Price controls cannot be reimposed prior to July 1, 1985, or later than June 30, 1987. *Id.* § 122(b), 15 U.S.C.A. § 3332(b).

increase domestic reserves of natural gas.⁸² The energy problem is a two-sided equation, with demand on one side and supply on the other. While it is essential that the United States reduce its rate of energy consumption, it is equally important that the government promote exploration and development of new energy supplies if a truly comprehensive national energy policy is to be realized.⁸³

Failure to deal adequately with the supply side of the natural gas problem is attributable to the administration's assumption that no significant new reserves of natural gas are recoverable at any price.⁸⁴ This assumption, however, has been generally discredited by experts in the executive branch and the petroleum industry.⁸⁵ Abundant evidence exists to support the premise that market-pricing serves as an incentive for new gas exploration.⁸⁶ For example, in Sutton and Edwards Counties, Texas, total new gas well completions increased from less than ten in 1968 to over 240 in 1974

82. See HOUSE AD HOC COMM. ON ENERGY, NATIONAL ENERGY ACT, H.R. REP. NO. 95-543 Vol. I, 95th Cong., 1st Sess. 296 (1977).

83. *Id.*

84. EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 18-19 (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST. SESS., THE PRESIDENT'S ENERGY PROGRAM 88-89 (Comm. Print 1977); EXECUTIVE OFFICE OF THE PRESIDENT, ESTIMATES OF PRODUCER REVENUES AND CONSUMER COSTS UNDER DECONTROL (June 9, 1977) (study prepared by White House staff concluding that no significant reserves of gas are recoverable at prices above \$1.75 per Mcf). See generally D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 5-6 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 316 (1977).

85. See 1 ASSISTANT SECRETARY FOR ENERGY TECHNOLOGY, UNITED STATES DEP'T OF ENERGY, MARKET ORIENTED PROGRAM PLANNING STUDY (MOPPS), INTEGRATED SUMMARY 12 (Review Draft, December 1977) (concluding that significant quantities of new gas would become economically recoverable at prices in excess of \$1.75 per Mcf); GEOLOGICAL SURVEY, UNITED STATES DEP'T OF THE INTERIOR, GEOLOGICAL ESTIMATES OF UNDISCOVERED RECOVERABLE OIL AND GAS RESERVES IN THE UNITED STATES 47 (U.S.G.S. Circular 725, 1975) (U.S.G.S. estimated undiscovered reserves of 2100 Tcf divided by 20 Tcf consumption in 1975 indicates up to 100 years supply remains at 1975 levels of consumption); DECONTROL OF NATURAL GAS, 123 CONG. REC. E3669 (daily ed. June 10, 1977) (government studies finding 37 to 54 years of remaining supply supported by industry studies showing 33 to 69 years of remaining gas supply); UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at III-29 (June 1974) (exploration and development of new fields and enhanced recovery from old fields would occur under price deregulation). Another premise relied upon by the administration was an assumption that the number of available drilling rigs was inadequate to allow increased production. This premise cannot be reconciled with the fact that United States manufacturers possessed the capacity to manufacture 779 new rigs in 1977 and had increased that capacity to 1057 in 1978. See *U.S. Has Surplus Rig-Building Capacity*, OIL & GAS J., April 4, 1977, at 60.

86. See e.g., J. COLLINS & H. MERKLEIN, AN ASSESSMENT OF THE SUPPLY EFFECTS OF NATURAL GAS DEREGULATION 1-4 (July 11, 1977); OFFICE OF POLICY AND ANALYSIS, FEDERAL ENERGY ADMINISTRATION, NATURAL GAS DEREGULATION ANALYSIS i (Jan. 23, 1976); UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at III-29 (June 1974).

as the intrastate price increased from \$0.14 per Mcf to \$1.40 per Mcf.⁸⁷ While increased drilling activity alone does not guarantee additional reserves, the Canyon Sands Gas Play, one of the most active gas fields in the continental United States, produced an additional 185 billion cubic feet of gas between 1971 and 1977 partly because of increased intrastate prices.⁸⁸

There is a lag time of five to eight years between changes in price levels and resulting changes in current marketed production levels.⁸⁹ Because of this lag, a decline in production resulting from artificial price levels will not be evidenced by reduced marketed supplies of natural gas until some time in the future. If total annual reserve additions continue to decline between now and 1985 as they have since 1967, marketed production of natural gas could continue to decline at least through the mid-1990's.⁹⁰ Thus, any production stimulus resulting from price increases following limited decontrol in 1985 and 1987 would not be apparent in the marketplace until the early 1990's. So long as alternative energy technologies continue to supply a relatively small percentage of the nation's domestic energy requirements, the bulk of the United States' energy needs will

87. J. COLLINS & H. MERKLEIN, AN ASSESSMENT OF THE SUPPLY EFFECTS OF NATURAL GAS DEREGULATION 1 (July 11, 1977).

88. *Id.* at 4; see 123 CONG. REC. E4488-89 (daily ed. July 14, 1977) (remarks of Rep. Collins).

89. See D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 17 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 321 (1977). The supply-response delay is due to the time involved in locating and acquiring prospective production areas, conducting seismic and geologic surveys, obtaining and financing mineral rights, obtaining drilling permits and other forms of regulatory approval, drilling exploratory wells, constructing gathering lines to new fields, completing production wells, and ultimately marketing to pipeline companies. *Id.* at 16.

90. New gas reserve additions began declining in 1967 and by 1973 were seventy percent lower than their 1967 peak. D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 17 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 321 (1977); accord, AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 118-19 (June 1978). Additions to reserves encompass new field discoveries, new reservoir discoveries in old fields, plus revisions or extensions to the estimated reserves determined in previous years. See *id.* at 104-06. Additions totaled 21.8 Tcf in 1967 and had declined to 6.8 Tcf in 1973. Despite this significant decline in gas field activity, current year production figures continued to increase until 1974 at which time current marketed production began to decline. *Id.* at 118-19. Marketed production increased from 18.4 Tcf in 1967 to a peak of 22.6 Tcf in 1973, and has declined thereafter. *Id.* at 119. It is possible to conclude that there is a five to eight year lag between market signals, prices, and corresponding changes in current year production. See D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 17 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 321 (1977).

continue to be dependent on fossil fuels.⁹¹ Shortfalls resulting from insufficient domestic production will have to be compensated by increasingly expensive imports, conventional petroleum, and natural gas substitutes.⁹² In response to the dramatic increase in world oil prices in the first two months of 1979, President Carter announced that price controls on domestic crude oil would be lifted beginning June 1, 1979, in an effort to stimulate domestic production and reduce foreign oil imports.⁹³ The effect of this decision may well create an artificial demand for natural gas by the nation's industrial and utility consumers since the low price of natural gas under the NGPA will be economically preferable to the cost of higher-priced oil.

Impact on Consumers

One of the primary concerns of the Congress in passing the Natural Gas Act in 1938 was the protection of the public from unreasonable energy costs.⁹⁴ In the last twelve years, however, the interstate gas consumer has been lulled into a sense of false security by the artificially low price of natural gas. Today it is inescapable that energy is going to cost significantly more in the future, for the era of abundant supplies of inexpensive oil and natural gas is over.⁹⁵ Unfortunately, present consumers must pay the costs of three decades of wasteful consumption in the form of higher fuel bills. With this in mind, the President and Congress attempted to devise a natural gas policy that balanced the interest in protecting the consumer from drastic fuel cost increases and service curtailments with the need to provide adequate financial incentives for new production without allowing producers to reap windfall profits.⁹⁶

91. Refined petroleum consumption accounted for 48.3 percent of the energy used in 1978. Natural gas accounted for 25.5 percent, while coal consumption amounted to 18.1 percent. Combined nuclear and hydroelectric power constituted 7.9 percent of the nation's domestic energy requirements. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 1 (Feb. 1979).

92. In 1978 energy imports, primarily crude oil, accounted for 23.8 percent of the United States' total energy requirements. See ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, MONTHLY ENERGY REVIEW 3 (Feb. 1979).

93. See Address by President Carter to the Nation (Apr. 5, 1979), reprinted in 15 WEEKLY COMP. PRES. DOC. 609-14 (Apr. 9, 1979); *President Will Gradually Phase Out Price Controls On Crude Oil To Spur Production, Curb Consumption*, Wall St. J., Apr. 6, 1979, at 3, col. 1.

94. See Natural Gas Act of 1938, Pub. L. No. 75-688, § 1, 52 Stat. 821 (1938) (current version at 15 U.S.C. § 717 (1970)).

95. See EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xi (Apr. 29, 1977), reprinted in SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 1ST SESS., THE PRESIDENT'S ENERGY PROGRAM 57 (Comm. Print 1977); Address by President Carter to a Joint Session of Congress (Apr. 20, 1977), reprinted in 13 WEEKLY COMP. PRES. DOC. 566 (Apr. 22, 1977).

96. See generally Natural Gas Policy Act of 1978, §§ 102-109, 201-206, 15 U.S.C.A. §§ 3312-3319, 3341-3346 (West Supp. 1979).

Residential and small commercial users of natural gas are temporarily insulated from the impact of higher prices under the incremental pricing provisions of the NGPA.⁹⁷ The benefit of this arrangement is that high-priority gas customers are assured of relative price stability in the short term while industry and utility users are encouraged to be more efficient in their use of natural gas or to convert to more plentiful fuel sources.⁹⁸ On the negative side, it is estimated that decreased production under continued price controls will result in a cumulative natural gas supply deficiency of twenty-five Tcf between 1978 and 1990.⁹⁹ This deficiency will have to be compensated with other energy sources substantially more expensive than the natural gas it will replace.¹⁰⁰ Customers who choose to discontinue gas service in favor of coal, oil, or electricity will be faced not only with higher fuel costs, but with the added expense of purchasing the equipment necessary to use these fuels.¹⁰¹ Remaining gas customers will have to absorb the costs of substitute fuels as well as the expense of increased unit transportation charges resulting from decreased volumes of gas flowing in pipelines and fewer customers among whom the pipeline companies can apportion their fixed costs.¹⁰²

97. See *id.* § 201, 15 U.S.C.A. § 3341. Incremental pricing under the NGPA is divided into two stages. Within 12 months of the enactment of the NGPA, the FERC must establish an interim incremental pricing rule for low-priority industrial and utility boiler fuel users served by interstate pipelines or local distribution companies served by interstate pipelines. See *id.* § 201, 15 U.S.C.A. § 3341. Within 18 months this rule must be amended to include other industrial users under the interim rule. *Id.* § 202, 15 U.S.C.A. § 3342. Agricultural users, small industrial users (those consuming less than 300 Mcf of gas per day), schools, and hospitals are exempted from the provision. *Id.* § 206, 15 U.S.C.A. § 3346. Increases in natural gas prices are then allocated to users subject to this incremental pricing provision until the delivered price of gas to those users equals the Btu-equivalent of No. 2 heating oil at which time further price increases are shared by all gas customers. See *id.* § 204, 15 U.S.C.A. § 3344; CONFERENCE REPORT TO ACCOMPANY H.R. 5289, H.R. REP. NO. 95-1752, 95th Cong., 2d Sess. 95 (1978).

98. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 97, 107 (1977).

99. D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 19 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 322 (1977).

100. See note 79 *supra* and accompanying text.

101. D. STOCKMAN & C. BROWN, THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 1 (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 314 (1977).

102. *Id.* at 13-16. The wellhead price of natural gas accounts for less than 16% of the total residential customer's fuel bill in New York City. See B. TIMM, DECONTROL AND THE CONSUMER Exhibit XIX (Aug. 1977). The average total cost of gas per Mcf to the New York City residential customer was \$4.25 per Mcf in 1976, with \$0.65 representing the wellhead cost of gas and \$3.60 representing pipeline and local utility company distribution charges. *Id.*

CONCLUSION

The natural gas policy of the United States for the last forty years has been based on federal regulation of gas sales in the interstate market.¹⁰³ Regulated prices in the interstate market have not kept pace with market clearing prices in the previously unregulated intrastate market.¹⁰⁴ The net effect of the price disparity between the two markets is that exploration and development of new gas reserves has been inhibited while the demand for natural gas has been artificially stimulated by its low price. Since 1968 the United States has consumed nearly twice as much natural gas as it has added to its proven reserves,¹⁰⁵ resulting in the current shortage of natural gas in the interstate market and winter curtailments of natural gas service.

Artificially low prices have benefited the residential gas consumer inasmuch as monthly fuel bills have been held at low levels. Such prices, however, have encouraged consumption of natural gas for purposes that could better have been served by other more plentiful fuels. The excessive use of natural gas as industrial boiler fuel is a prime example of such misuse.¹⁰⁶ The result of past consumption practices will be higher economic and environmental costs in the future.

The previously unregulated intrastate market demonstrated the effectiveness of the free market pricing system. Shortages experienced in the interstate market have not occurred in the intrastate markets of producing states; to the contrary, intrastate markets experienced a surplus of natural gas in 1977 requiring wells to be temporarily shut-in until supply balanced demand.¹⁰⁷ One result of the availability of natural gas in the intrastate markets was to encourage the nation's industrial gas consumers to consider relocation of their manufacturing facilities to the producing states to avoid the possibility of plant closures due to gas curtailments.

While conservation is essential for reducing the demand for natural gas, it must be recognized that conservation is but one part of the solution to

103. See *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672, 677 (1954); Natural Gas Act of 1938, Pub. L. No. 75-688, §§ 1-4, 52 Stat. 821 (1938) (current version at 15 U.S.C. §§ 717-717c (1970)).

104. See UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at I-9 (June 1974).

105. See E. DEGOLYER & L. MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 81 (34th ed. 1978). Between 1968 and 1977 the United States consumed nearly 210 Tcf of natural gas. *Id.*; see AMERICAN GAS ASSOCIATION, RESERVES OF CRUDE OIL, NATURAL GAS LIQUIDS, AND NATURAL GAS IN THE UNITED STATES AND CANADA AS OF DECEMBER 31, 1977, at 118-19 (June 1978). New additions to proved reserves totaled approximately 124 Tcf during the same period. *Id.*

106. See HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 88 (1977) (over 30% of gas consumed by industry in 1975 used as boiler fuel).

107. See Long, *Surplus of Intrastate Gas Hits Big Producing States*, OIL & GAS J., July 17, 1978, at 19.

the energy problem. The National Energy Plan purported to remedy the problems associated with past pricing policies, yet the NGPA does little to promote realization of this goal. Increased domestic gas production could save American consumers as much as forty-eight billion dollars in increased fuel costs by 1990.¹⁰⁸ As a result of market pricing in the intrastate gas market, new gas exploration and enhanced recovery of gas from old fields has been encouraged since producers could be assured of recouping their higher exploration, development, and production costs.¹⁰⁹ Under the NGPA federal price controls have closed the only market in which incentives previously existed to explore for and develop new high-cost gas supplies.¹¹⁰

Deregulation of natural gas prices would not be an end to the nation's energy problem. The possibility of massive windfall profit-taking by the natural gas industry is a valid interest against which the American consumer should be protected. Equally important, however, is the availability of sufficient energy supplies to meet the energy needs of the United States. Since the goal of a national energy policy is to reduce the United States' dependence on foreign energy until the time when renewable and inexhaustible sources of energy are available, congressional policy should aid, not hinder, development of domestic energy resources. In this regard the Natural Gas Policy Act of 1978 fails in its essential purpose.

108. D. STOCKMAN & C. BROWN, *THE COST OF NATURAL GAS DE-REGULATION: A RE-ESTIMATE 20-21* (July 11, 1977), reprinted in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NATIONAL ENERGY ACT, H.R. REP. NO. 95-496 Part IV, 95th Cong., 1st Sess. 323 (1977). Between 1978 and 1990 the total cost of supplying energy to the American consumer is estimated to be \$461.8 billion as opposed to a projected total energy cost of \$414.2 billion under immediate decontrol of new gas prices and continued decontrol of the intrastate market. *Id.*

109. See UNITED STATES DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED DEREGULATION OF NATURAL GAS PRICES, at III-29 (June 1974).

110. See Natural Gas Policy Act of 1978, §§ 102-109, 15 U.S.C.A. §§ 3312-3319 (West Supp. 1978).