The Impact of the Income Tax Laws on the Energy Crisis: Oil and Congress Don't Mix

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This Comment outlines the causes of the energy crisis, examines the financial investment needed to insure a continued supply of energy, criticizes current Congressional approaches to the problem, and evaluates the use of the income tax laws both to stimulate supply and to reduce demand. The Comment concludes that existing tax provisions regarding natural resources are effective and should be retained and recommends additional provisions to stimulate development of new energy forms to replace depleting fossil fuels.

The era of cheap energy[1] is over. The United States no longer controls,[2] but continues to consume,[3] the bulk of worldwide energy production. Other governments, in particular the nations of the Organization of Petroleum Exporting Countries (OPEC),[4] now virtually dictate

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1. Energy refers to all forms of fuel or power, regardless of how produced. Since the United States relies on oil and gas for over 75 percent of its energy needs, those particular energy forms dominate any discussion of the subject. U.S. FEDERAL ENERGY ADMINISTRATION, PROJECT INDEPENDENCE 46 (1974) [hereinafter cited as INDEPENDENCE].

2. Although the United States Government did little to influence directly oil-pricing policies, the economic power of the American-owned international oil companies dominated the oil-producing nations through the mid-sixties. For a complete discussion of the development and eventual demise of this power, see R. KRUEGER, AN EVALUATION OF THE OPTIONS OF THE U.S. GOVERNMENT IN ITS RELATIONSHIP TO U.S. FIRMS IN INTERNATIONAL PETROLEUM AFFAIRS 39-74 (1975) [hereinafter cited as KRUEGER].

3. In 1973, the United States consumed 17.2 million barrels of oil a day (MB/D) as compared to 14.5 MB/D for non-Communist Europe, 8.7 MB/D for all Communist countries, and 5.2 MB/D for Japan. INDEPENDENCE, *supra* note 1, at 3. Although the United States contains only 6 percent of the world's population, it consumes one-third of the world's energy. FORD FOUNDATION ENERGY POLICY PROJECT, A TIME TO CHOOSE 5 (1974) [hereinafter cited as FORD FOUNDATION].

4. OPEC was created in 1960 to respond to efforts of the international oil companies to reduce crude oil prices. KRUEGER, *supra* note 2, at 58-59. *See also* A. SAMPSON, THE SEVEN SISTERS (1975). The 13 member nations (Saudi Arabia, Libya, Kuwait, Iraq, Iran, Algeria, Ecuador, Venezuela, Nigeria, Indonesia, Qatar, Abu Dhabi, and the United Arab Emirates) control 55.4 percent of the world's oil reserves, nine times the reserves of the United States. FORD FOUNDATION, *supra* note 3, at 158.

the amount and price of future oil production. Escalating energy prices[5] and constant concern over the possibility of another oil embargo threaten the economic and political stability of many nations.[6] The result is an "energy crisis" and a major effort to redirect national policies toward developing new sources of energy while reducing energy demand.[7]

Meeting the seemingly limitless demand for energy requires costly efforts to develop remote resources or more expensive substitutes. These costs are exacerbated by society's demands for a cleaner environment and safe, efficient methods of energy production. Given these restraints, the traditional economic response of a free market is a rise in prices, which generates profits sufficient to meet those costs and which also dampens demand.[8] Rising prices, however, have proven anathema to Congress, particularly because the size of the increases has been largely dictated not by a free market but by OPEC, a foreign cartel. The result has been the enactment of a complex system of price controls[9] and artificial resource allocation mechanisms,[10] as well as increased calls for further governmental involvement in the marketplace.[11] Such government interference with the free market may not,

5. The average price paid by the United States on imported oil increased from $2.44 a barrel in 1971 to $11.77 in 1974. SENATE COMM. ON FINANCE, 94TH CONG., 1ST SESS., ENERGY STATISTICS 36 (Comm. Print 1975) [hereinafter cited as ENERGY STATISTICS].

6. OPEC supplies over 50 percent of the U.S. need for imported oil, which in turn amounts to about 40 percent of total U.S. oil consumption. *Id.* at 37. By contrast, Western Europe and Japan are dependent on imported oil for over three-quarters of their total oil requirements. FORD FOUNDATION, *supra* note 3, at 165.

7. As early as 1971, President Nixon asked Congress to develop a national energy policy. *The President's Message to the Congress, June 4, 1971*, 7 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 855 (1971). The Arab oil embargo brought a call for a new effort to achieve energy independence. *See The President's Message to Congress, Nov. 8, 1973*, 9 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 1319, 1322 (1973). The Ford Administration continued this basic theme, but oriented the nation's goals not toward immediate self-sufficiency, but toward a reduction in vulnerability to cutoffs of foreign oil. *The President's State of the Union Address*, 11 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 48-49 (1975). As Congress has enacted statutes dealing with the nation's energy needs, it too has expressed official recognition of a new national energy policy. *See* 15 U.S.C. §§ 751(a), 761(a), 791 (Supp. IV, 1974).

8. See text accompanying notes 56-60 *infra*.

9. See text accompanying notes 56-85 *infra*.

10. Since the Arab embargo most drastically affected oil supplies on the east coast, Congress enacted the Emergency Petroleum Allocation Act of 1973, 15 U.S.C. §§ 751-56 (Supp. III, 1973), which gives the President authority to allocate crude oil among the nation's refineries. For a discussion of the resultant market chaos and the development of complex bureaucratic rules needed to implement the program, see Note, *National Energy Goals and FEA's Mandatory Crude Oil Allocation Program*, 61 VA. L. REV. 903 (1975).

11. *See, e.g.*, 121 CONG. REC. H5740 (daily ed. June 19, 1975) (remarks of Mr. Conyers).

however, adequately promote efforts to overcome the nation's energy problems.

This Comment will examine one particular instrument of government and social policy, the income tax laws, and will evaluate its effectiveness in supporting present national energy policies. Before analyzing specific income tax provisions, however, the Comment will explore the actual dimensions of the energy problem, the financial requirements of the energy industry, and the adequacy of the present system of price controls in achieving national policy goals.

I

ENERGY, PRICES AND THE FREE MARKET

A. The Energy Crisis

The immediate crisis facing the United States in energy is simply one of demand outstripping supplies available within its borders. Although worldwide reserves have increased at a greater rate than consumption,[12] unfortunately for the United States the bulk of the new reserves is in the Middle East.[13] Since this country depends on imports for approximately 40 percent of its daily petroleum needs,[14] the politics, prices, and policies of petroleum-producing nations significantly influence the entire domestic energy picture.

Prior to 1970, American reliance on Middle East oil presented few problems. Demand grew at a moderate rate,[15] imports accounted for less than 20 percent of total domestic needs,[16] and, most importantly, the United States, through the international oil companies, virtually controlled the level of taxes and royalties paid to the producing nations.[17] Thus, foreign oil could be delivered to the east coast of the United States for a lower price than domestic oil. Domestic refinery construction slowed considerably.[18] As a result, the Eisenhower administration developed a system of import quotas to protect the domestic oil industry from cheap foreign oil.[19]

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12. *Panel Discussions on The Energy Crisis and Proposed Solutions Before the House Comm. on Ways and Means*, 94th Cong., 1st Sess., pt. 2, at 579 (1975) [hereinafter cited as *Proposed Solutions*, with part indicated].

13. *Id.*

14. *Id.*, pt. 1, at 70 (remarks of Rogers C.B. Morton, Secretary of the Interior). *See also* 1 S. PENNER & L. ICERMAN, ENERGY: DEMANDS, RESOURCES, IMPACT, TECHNOLOGY AND POLICY 1 (1974) [hereinafter cited as S. PENNER & L. ICERMAN].

15. FORD FOUNDATION, *supra* note 3, at 5.

16. *Id.*

17. See note 2 *supra*.

18. *See generally* U.S. FEDERAL ENERGY ADMINISTRATION, TRENDS IN REFINERY CAPACITY AND UTILIZATION (1975).

19. KRUEGER, *supra* note 2, at B-11. The oil import quota system was replaced in 1973 by a fee system. *Id.* at B-12.

The seventies brought an abrupt halt to American enjoyment of cheap energy. Domestic demand suddenly grew,[20] sparked in large part by increasing automobile gasoline consumption.[21] Meeting that demand was no longer easy. First, the drop in domestic refinery and tanker production caused by import controls prevented extra efforts to import petroleum. Second, a combination of inflation and government policies created a decline in domestic oil exploration and production.[22] Third, OPEC began flexing its new-found muscle[23] and exacted higher and higher taxes from oil companies, making imported oil 400 percent more expensive than in previous years. Fourth, the imposition of domestic price controls in 1971[24] effectively denied the domestic oil industry a full opportunity to develop new resources in response to the new demands. Fifth, society's new concern for the environment slowed efforts to increase energy production, blocking offshore drilling,[25] the proposed pipeline to the North Slope of Alaska,[26] and the

20. The average annual growth rate of domestic energy demand was 3.5 percent between 1950 and 1965, but jumped to 4.5 percent during 1965-73. FORD FOUNDATION, *supra* note 3, at 5.

21. Although lower fuel economy was an important factor in this period, 85 pereent of the increased gasoline consumption was due to a rise in vehicle population as more families purchased second and third cars. U.S. DEP'T OF TRANSPORTATION & U.S. ENVIRONMENTAL PROTECTION AGENCY, POTENTIAL FOR MOTOR VEHICLE FUEL ECONOMY IMPROVEMENT (1974), reprinted in *Proposed Solutions*, *supra* note 12, pt. 1, at 154, 182 [hereinafter cited as DOT/EPA STUDY].

22. *Proposed Solutions*, *supra* note 12, pt. 2, at 662, 818-19.

23. Although OPEC was formed in 1960, it did not use its collective power to any significant degree until 1970. For an interesting analysis of OPEC's economic and political capabilities, see A. LUFTI, OPEC OIL (1968). This book, written by a mideastern oil economist, recommended many of the same policies eventually implemented during the 1970's.

24. Domestic price controls were initiated by President Nixon on all domestic products in August 1971. Exec. Order No. 11,615, 3 C.F.R. 199 (Supp. 1971). Although the rest of the economy was released from such controls in 1974, the Emergency Petroleum Allocation Act of 1973, 15 U.S.C. § 753 (Supp. IV, 1974), authorized continued controls over the prices charged for all crude oil and petroleum products. For a complete history of price controls and the regulations issued thereunder, see Langdon, *FEA Price Controls for Crude Oil and Refined Petroleum Products*, 26 INST. ON OIL & GAS LAW & TAX. 55 (1975).

The subsequent regulations, 6 C.F.R. § 150.354 (1974), established a two-tiered pricing system for domestic oil. The level of monthly production from each property that equalled 1972 production levels was defined as "old oil" and was subjected to a price ceiling averaging $5.25 a barrel. Production above such 1972 levels was designated "new oil" and was freed from price controls. Although these controls were to expire in 1975, Congress enacted the Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871 (1975), which extended a form of controls until 1979. For a discussion of this new system of oil pricing, see text accompanying notes 72-82 *infra*. For a general discussion of the impact of price controls on energy production and supplies, see text aecompanying notes 56-71 *infra*.

25. The major oil spill in the Santa Barbara channel in 1969 led to a suspeusion of new offshore leasing. This suspension continued through 1975. INDEPENDENCE, *supra* note 1, at 76.

26. KRUEGER, *supra* note 2, at B-63.

plans of public utilities to develop nuclear power generating plants.[27] The capstone to these problems was the Arab oil embargo of 1973. Although it affected only 14 percent of total U.S. petroleum supplies,[28] the embargo had a heavy impact on the Northeast, where electric power generating plants were built to rely exclusively on the cheap foreign oil of the sixties.[29] The results were long lines at gasoline stations and an increase in the number of people unemployed.[30]

To the average consumer, however, the "crisis" of late 1973 has passed: gasoline is plentiful, albeit at higher prices;[31] tension in the Middle East has eased; construction on the Alaskan pipeline is underway. But today may only be the lull before the storm. The "crisis" of the next three decades is embodied in the likelihood that proven oil reserves may dry up relatively soon and that, without major policy changes, the United States in the meantime may be forced increasingly to rely on imports.[32] Such reliance will result in massive outflows of capital[33] and will leave the economy subject to price manipulation and sudden disruptions caused by foreign political and military crises.

At present rates of consumption, recoverable U.S. reserves[34] of oil will be gone in 11.1 years; Middle East reserves may last 60.[35] New

27. Environmental objections have not been the only reasons for delays in nuclear power plant construction. Design problems, shortages, strikes, and licensing procedures have all added to the problem. CONGRESSIONAL RESEARCH SERVICE PAPER FOR THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 94TH CONG., 1ST SESS., HIGHLIGHTS OF ENERGY LEGISLATION IN THE 94TH CONGRESS 94 (Comm. Print 1975) [hereinafter cited as CONGRESSIONAL RESEARCH SERVICE PAPER].

28. INDEPENDENCE, *supra* note 1, at 2.

29. Fifty-seven percent of the energy needs of the east coast of the United States are met by oil. This area is the largest single regional oil consumer, accounting for nearly 40 percent of nationwide consumption. THE CHASE MANHATTAN BANK, OUTLOOK FOR ENERGY IN THE UNITED STATES TO 1985, at 34 (1972).

30. The Arab oil embargo was responsible for an estimated $10 to 20 billion drop in the nation's gross national product and for an additional 500,000 people unemployed. INDEPENDENCE, *supra* note 1, at 2.

31. From October 1973 to October 1974, gasoline prices rose 44 percent. 121 CONG. REC. H5125 (daily ed. June 9, 1975).

32. For the first time in history, the United States recently imported more oil in one week than it produced. NEWSWEEK, Mar. 29, 1976, at 76.

33. *See generally Hearing on the Effect of Petrodollars on Financial Markets Before the Subcomm. on Financial Markets of the Senate Comm. on Finance*, 94th Cong., 1st Sess. (1975).

34. Any discussion of reserves immediately flounders on definitions of terms. Discovered reserves are confused with potentially discoverable reserves. These figures in turn are relatively useless unless one knows the potential recoverability of those reserves. This ability to recover is determined by the degree of technology involved and the price received for the oil. Obviously, the higher the market price of oil, the greater the amount of economically recoverable reserves. Finally, one must consider the geographical area under discussion. Two estimates of U.S. reserves, for example, may differ in the extent to which offshore oil is included. *See generally Proposed Solutions*, *supra* note 12, pt. 3, at 1101-1211.

35. S. PENNER & L. ICERMAN, *supra* note 14, at 45-46. *See also* INDEPENDENCE,

discoveries[36] and new techniques for secondary and tertiary recovery[37] will only somewhat delay these "dry-up" times. At some point humanity must be ready to rely on new forms of energy to propel vehicles, heat homes, and run industries. The best estimates are that alternative energy forms[38] will not be feasible on a large scale until 1985 or later.[39] But meeting that timetable will require an enormous investment of capital,[40] expertise, and research during the next 25 years.

In the meantime, the world will continue to need oil. Over half of worldwide energy needs through 1985 will be in the form of oil.[41] Meeting such demands will require 600 billion barrels of new oil worldwide, 50 percent more than that found and developed during 1955-1970.[42] This is a formidable task requiring oil exploration in more remote locations under adverse conditions and at a significantly higher cost than historical norms.[43] Additional research and investment in existing wells is also necessary to exact the maximum possible production from each oil field. If such efforts are not made, a severe oil shortage will result, crippling the American economy, perhaps financially hampering development of new energy alternatives. Obviously, energy

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supra note 1, at 17. Coal supplies, however, can last 800 years at present rates of consumption. *Id.* The FEA estimates presently recoverable U.S. reserves at 35.3 billion barrels and Middle East reserves at 316.0 billion. *Id.* at 3.

36. Annual rates of discovery have exceeded annual rates of consumption for each 5-year period from 1920 to 1970. S. PENNER & L. ICERMAN, *supra* note 14, at 116-17. Estimates of undiscovered petroleum reserves in the United States vary from 55 billion barrels to 458 billion barrels. ENERGY STATISTICS, *supra* note 5, at 3.

37. Primary well production recovers about 15 to 20 percent of the total oil available. Use of injected water allows another 15 to 20 percent recovery, called secondary production. The balance of the original oil can only be brought to the surface through the use of expensive tertiary recovery methods. Such methods include steam injection, propane injection, carbon dioxide injection, or injection of micellar emulsions of oil. Present technological and financial limitations allow only about a 40 percent overall recovery rate. *Proposed Solutions*, *supra* note 12, pt. 2, at 883, pt. 3, at 1172.

38. Forms of energy that may be alternatives to the traditional hydrocarbon fuels of oil, gas, and coal include geothermal, solar, nuclear, shale oil, and other synthetic substitutes. INDEPENDENCE, *supra* note 1, at 6.

39. *Id.* at 423-24.

40. See text accompanying notes 44-54 *infra*.

41. THE CHASE MANHATTAN BANK, HOW MUCH OIL—HOW MUCH INVESTMENT 4 (1975) [hereinafter cited as HOW MUCH OIL].

42. *Id.* at 5.

43. In addition, inflation has had an exceptional effect on drilling materials. Average costs for a 3000-foot well in Illinois, for example, more than doubled between December 1972 and December 1974. *Proposed Solutions*, *supra* note 12, pt. 2, at 972. To some extent, these cost increases may be attributed to a bidding war between oil developers for the suddenly scarce items needed to drill oil wells. Oil industry suppliers were also surprised by the Arab oil embargo and the subsequent surge in interest in new drilling. JOINT ECONOMIC COMM., 94TH CONG., 1ST SESS., OIL PROFITS, PRICES, AND CAPITAL REQUIREMENTS 9 (Jt. Comm. Print. 1975) [hereinafter cited as JOINT ECONOMIC COMM.].

will continue to be expensive. The extent to which the energy industry is capable of meeting these expenses is examined next.

B. *Financial Requirements of the Energy Industry*

The magnitude of the financial requirements facing the energy industry is extraordinary. The Ford Foundation estimates total needs of $1.75 trillion from 1975 to 2000.[44] The Chase Manhattan Bank's study of the petroleum industry alone reveals its total financial requirements from 1970 to 1985 to be $1.2 trillion, of which $770 billion is for new investment.[45] This figure compares with the $275 billion actual investment made in the previous 15 years.[46] Clearly, use of traditional yardsticks of "excessive" or "windfall" in describing profits are no longer valid when compared to the industry's documented investment requirements.

One way of envisioning these costs is by comparing total capital costs per day of various methods of oil production. Facilities in the Persian Gulf cost only $100 to $300 per production day while less politically sensitive sources on the North Slope or the Outer Continental Shelf are estimated at $3000 to $4000.[47] More exotic forms of production such as oil shale may run as high as $9000 a day.[48] The combination of inflation and more remote and hostile drilling locations increases these costs daily.

The energy industry may not meet these financial needs under present circumstances.[49] Accounting for inflation, taxes, and increased

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44. FORD FOUNDATION, *supra* note 3, at 470. Of that amount, about $750 million is for the electric utility industry. *Id.*

45. HOW MUCH OIL, *supra* note 41, at 7. *But see* JOINT ECONOMIC COMM., *supra* note 43, at 21 ($187 to $215 billion for 1972-85).

46. *Id.* For comparison, the entire Apollo moon-landing program cost approximately $25 billion. *Hearings on the Administration's Emergency Windfall Profits Tax Before the House Comm. on Ways and Means*, 93d Cong., 2d Sess. 443 (1974).

47. S. PENNER & L. ICERMAN, *supra* note 14, at 217. These figures reflect the capital costs spread over the life of the well, adjusted for the expected output of the well during that life.

48. *Id.*

49. The longrun ability of the petroleum industry to meet projected capital requirements is hotly disputed. Part of the difficulty stems from differing estimates of future profitability, inflation, and financial needs beyond those for capital investments. In addition, the extent to which any estimate considers oil company investment and research in energy alternatives to oil and gas can skew the figures enormously. Failure to include these latter amounts is unrealistic and overstates the financial health of the petroleum industry. If the petroleum industry, with all its capital and expertise, cannot easily venture into new energy forms, smaller enterprises have little chance indeed. The Congressional Joint Economic Committee, for example, issued a widely quoted report that the oil companies will have little trouble meeting capital needs, despite price controls. JOINT ECONOMIC COMM., *supra* note 43.

The study can be faulted for inadequately considering inflation rates, industry needs

borrowing, Chase Manhattan estimates that petroleum companies must earn $845 billion between 1970 and 1985; yet in the first 4 years of this period, the oil industry generated only $60 billion, or 7 percent of that amount.[50] Despite cries of "obscene profits," the oil companies enjoyed only an illusory bulge in profits in 1974,[51] owing primarily to the method of accounting used in preparing their financial statements.[52] The drop in profits in 1975 has already erased most of the gains made out of the Arab embargo.[53] Indeed, over the last 15 years, oil companies have averaged a lower rate of return on their fixed investments than other manufacturing companies.[54]

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for working capital and dividend payments, and the large investments projected in alternative energy forms. *See id.* at 20-25. Likewise, Project Independence concluded that the financial future of the petroleum industry was rosy, but that study failed to allow for industry diversification or for those changes recently made in the income tax laws that affect the industry. INDEPENDENCE, *supra* note 1, at 26, 289-90. The banking community, which faces huge credit demands from the industry, has also prepared financial estimates. Since these firms have the most to lose from overestimating the ability of the industry to finance the energy future, their studies appear to be the most practical and realistic available. Consequently, this Comment relies on them to a large extent.

50. HOW MUCH OIL, *supra* note 41, at 8.

51. For 29 major oil companies, 1974 revenue increased 83 percent over that of 1973, but operating costs rose 94 percent. Income taxes jumped 117.5 percent. Capital investments made in the United States alone were double the amount of 1974 profits. THE CHASE MANHATTAN BANK, 1974 ANNUAL FINANCIAL ANALYSIS OF A GROUP OF PETROLEUM COMPANIES 9-10, 19 (1975) [hereinafter cited as THE CHASE MANHATTAN BANK].

52. For accounting purposes, a corporation may use a method of inventory valuation called first-in first-out (FIFO). Under this method, sales made at current (and presumably increased) prices have deducted from them the costs of the oldest items of inventory on hand. In a period of rising costs, the company will sell its product at a price high enough to cover the increased costs of replacing that product, but for accounting purposes will only deduct the earlier lower costs when calculating net income. Thus, if the company has a high inventory of low-cost products on hand, any increase in sales price will automatically increase reported profits; yet the profits are illusory in that continued company operations now require a higher level of cash investment because of increased costs. This "inventory profit" quickly disappears as the older inventory items are used up and the accounting system begins reflecting more recent, higher costs. *See* Wall St. J., Aug. 5, 1974, at 10, col. 1 (Pac. Coast ed.) (editorial). The oil companies faced this same inventory profit in 1974 as the sudden rise in prices were offset only by the lower costs of oil produced previously. THE CHASE MANHATTAN BANK, *supra* note 51, at 12.

53. For the first half of 1975, Exxon's profits were 24.0 percent lower than 1974's, Texaco's 60.3 percent lower, and Gulf's 41.4 percent lower. *Oil Companies Count Their Profit Losses*, BUSINESS WEEK, Aug. 11, 1975, at 18. A 50 percent drop wipes out a 100 percent gain made the previous year. The industry's return on sales during this period averaged only 4.7 percent, the lowest since 1968. THE CHASE MANHATTAN BANK, THE PETROLEUM SITUATION, Aug. 29, 1975, at 3.

54. During the 1960's, the after-tax earnings of oil companies averaged 11.7 percent on net worth compared to 12.4 percent for other manufacturing companies. In 1973 the rate of return jumped to 15.6 percent, but the average for a group of 2000 manufacturing companies was 14.5 percent. FIRST NATIONAL CITY BANK, ENERGY MEMO, Jan. 1975, at 3. *See also* 121 CONG. REC. S4800 (daily ed. Mar. 22, 1975).

Higher prices charged per barrel of oil do not necessarily translate into higher industry profits. Most of the recent price rises have been on imported oil and thus represent payments made from the energy consumer through the oil companies directly to the energy-producing nations. Although the consumer may blame the oil companies for higher prices, less and less of these increases remain in oil company hands. The marginal profit per barrel of imported crude oil has dropped significantly despite the higher gross price per barrel.[55] It is this marginal profit that allows oil producers to reinvest in new facilities and develop new energy resources.

The petroleum industry must be allowed to increase its profits in order to generate sufficient investment capital for the next three decades. Meeting the challenge of the energy crisis will require both continued emphasis on oil production and concentrated efforts by the energy industry in developing new energy alternatives as well as a national effort in conserving energy. The question, however, is whether the present reliance on price controls can achieve these results.

C. *Price Controls on Energy*

1. *The Politics of Price Controls*

It is elementary economics that whenever demand for a product exceeds supply, a rise in the price of that product should stimulate new sources of supply and also dampen demand.[56] Unfortunately, such a simple statement fails to account for external forces that may preclude the effective expansion of supply or the effective drop in demand.[57] It is the political debate over these effects, coupled with concerns over possible secondary results—such as environmental and economic impacts—that currently blocks the existence of a free market for energy.

A free market would offer the greatest economic incentive for the maximum utilization of existing energy supplies and the development of new fossil fuel alternatives.[58] But a rise in price would produce the following consequences: an immediate "windfall" to the energy indus-

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55. See note 68 *infra*.

56. E. MANSFIELD, MICROECONOMICS 13 (1970) [hereinafter cited as E. MANSFIELD].

57. For example, if the market is monopolized, suppliers may not expand production, making it difficult for new companies to enter the field. In addition, if an increase in supply requires large capital investments, suppliers may not be able to react quickly to changes in demand. Consumers, though, may not be able to forego the product easily or to substitute another when the price exceeds acceptable levels. In the long run, however, suppliers do react, substitutes are found, and supply and demand reach an equilibrium point. *Id.* at 89, 224-29, 239-40.

58. G. BRANNON, ENERGY TAXES AND SUBSIDIES 12-14 (1974) [hereinafter cited as G. BRANNON]; KRUEGER, *supra* note 2, at 142.

try as old oil found at historically low cost is sold at higher prices;[59] a relatively small shortrun drop in individual energy consumption[60] and, consequently, a sudden economic squeeze on low-income families;[61] higher national inflation;[62] and an effective tying of U.S. energy prices to the level of prices set by the OPEC cartel.[63] To elected officials these liabilities far outweigh the positive effects on energy supplies.[64]

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59. The Ford Administration originally proposed complete oil and gas price decontrol and a windfall profits tax to recapture the resulting sudden jump in oil industry profits. The proposal was not well received by Congress because of the economic impact of a sudden price rise. *See Hearings Before the Senate Comm. on Interior & Insular Affairs on the Economic Impact of President Ford's Energy Program*, 94th Cong., 1st Sess. 153, 727-28 (1975). *See also* JOINT ECONOMIC COMM., *supra* note 43, at 26-28.

60. In the short run, demand for petroleum products is highly inelastic: a given rise in price does not result in an equal drop in consumption. *Proposed Solutions*, *supra* note 12, pt. 4, at 1748. While the price of imported oil jumped from $2.48 a barrel in January 1972 to $13.28 per barrel in March 1975, total U.S. oil consumption per day remained almost unchanged—thus implying the lack of responsiveness of demand to price. CONGRESSIONAL RESEARCH SERVICE PAPER, *supra* note 27, at 12-13. The general standard of living, industrial activity, level of employment and incomes, and weather are more important than price in determining aggregate demand for energy. T. RIFAI, THE PRICING OF CRUDE OIL: ECONOMIC AND STRATEGIC GUIDELINES FOR AN INTERNATIONAL ENERGY POLICY 192 (1974). For a comparison of longrun elasticities of demand for each type of fuel and seetor of use, see INDEPENDENCE, *supra* note 1, Appendix A-II at 61-62.

61. Families with incomes under $7500 per year spend the highest proportion of their income on energy and consequently will suffer most from any increase in the price of oil or gas. *See* INDEPENDENCE, *supra* note 1, at 339-43; U.S. FEDERAL ENERGY ADMINISTRATION, THE EFFECTS OF RISING ENERGY PRICES ON THE LOW AND MODERATE INCOME ELDERLY (1975); Note, *The Short-Run Incidence of a Tax Induced Rise in the Price of Gasoline*, 9 J. OF ECON. ISSUES 409 (1975).

62. Of the 9.8 percent rise in consumer prices from November 1973 to November 1974, one-third was due to higher oil prices. INDEPENDENCE, *supra* note 1, at 18.

63. Traditionally, cartels do not hold together long because individual members cannot resist shaving the otherwise fixed price in order temporarily to achieve a greater market share and greater shortrun profits. E. MANSFIELD, *supra* note 56, at 320-21. There is some evidence that this type of price deterioration is taking place within OPEC. Wall St. J., Nov. 4, 1975, at 4, col. 2 (Pac. Coast ed.); Wall St. J., Nov. 13, 1975, at 12, col. 3 (Pac. Coast ed.). Continued deterioration, however, seems unlikely. Since the spread between actual cost and the market price is now so large, OPEC nations would drastically reduce their aggregate revenues by promoting competition among themselves. KRUEGER, *supra* note 2, at 12. Although this tendency may tend to hold the cartel together longer than historically has been the case with traditional artificial pricing collusions, its demise would be assured by the development of new energy sources and the subsequent drop in reliance on OPEC's resource. At the same time, however, as OPEC becomes aware that such new developments are near maturity, it can lower oil prices to a point where expensive alternatives are no longer economical. To some extent, existing legislation gives the President authority to counter such an effort by purchasing energy production at a guaranteed minimum price. 42 U.S.C. § 5906(a)(4) (Supp. IV, 1974). Use of this power would insulate private industry from the cartel's actions, but would put the U.S. Treasury at the mercy of international oil politics.

64. *See, e.g.*, 121 CONG. REC. H7868-69 (daily ed. July 30, 1975) (remarks of Mr. Ottinger). *See generally* 121 CONG. REC. H7877-87 (daily ed. July 30, 1975).

2. *The Economics of Price Controls*

Price controls are artificial mechanisms for allocating market resources and, to the extent that they are imperfect, dislocate both supply and demand. By holding prices below market levels or by rolling prices back from market levels, controls give the consumer a greater incentive to consume.[65] Indeed, if price controls also disrupt sources of supply and therefore cause a need for federal financial aid to the energy industry, the consumer is not actually saving money on his energy purchases. Higher taxes or inflation caused by a greater need for federal funds can more than offset any artificial energy savings.

In addition, price controls are a means of income redistribution in that poor consumers, who spend the greatest percentage of their incomes on energy,[66] receive proportionately a greater benefit than do wealthy consumers. But this redistribution effect is erratic and inefficient. The poor who are unable to use much energy or who reduce energy demand through conservation are in effect subsidizing the poor who use a greater amount of energy. Thus not all the income redistribution is from the rich to the poor; moreover, not all of the poor benefit. Price controls, therefore, take the profits forbidden to the oil industry and distribute them among the population in accordance with each person's propensity to consume—a propensity aggravated by the artificially low price. Conservation is not served by this system.

A more efficient pricing system, which could achieve the desired incentives for locating new supplies and increasing conservation, while ameliorating the financial burden on the poor, would permit energy prices to find their own free market levels and would provide additional welfare and other transfer payments to those families most affected. In this way the decision to consume would become more difficult for the population at large, but without the adverse effects on low-income families. If the additional transfer payment were not based on energy consumption, then the recipient family could also make a rational decision regarding the reduction of energy demands without affecting their income from the government. Such an approach would, however, require a restructuring of the federal transfer payment program, a problem far beyond the scope of this Comment.

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65. Price controls on oil and gas caused the consumer to pay $6 billion more than estimated free market prices in 1969, but $11 billion per year less in 1973. E. MITCHELL, U.S. ENERGY POLICY: A PRIMER.50 (1974). To the extent that reductions in industry tax liabilities allowed by tax incentives are passed on to the consumer via lower prices, this policy also creates an artificial price level for the products affected. The pass-through of such tax relief is not, however, perfect. For the percentage depletion allowance, studies show only about 50 percent of the tax benefit is reflected in lower petroleum prices. G. BRANNON, *supra* note 58, at 41.

66. See note 61 *supra*.

Furthermore, price controls affect the wrong economic factor in the supply function, since the economic incentive to meet market demands is not the gross price received for the product, but the marginal rate of return involved.[67] By fixing a price ceiling without examining marginal profit data, Congress can subject an industry to a longrun squeeze on margins[68] and thus stifle the incentive to expand production.

The experience of the natural gas industry with price controls illustrates their problems. Since 1954, the United States has set strict price controls on interstate sales of natural gas. The inability or unwillingness of the Federal Power Commission to respond to market and industry needs has resulted in a severe gas shortage.[69] With costs rising 57 percent, but permitted sales prices increasing only 20 percent, the industry curtailed drilling and production; yet the depressed price caused a constant high level of demand.[70] Despite this failure, Congress has refused to decontrol natural gas.[71] The recent Energy Policy and Conservation Act, which maintains price controls on oil, reaffirms Congress' refusal to let the free market provide the incentives for new energy production. This Act is examined in the next section.

3. *The Energy Policy and Conservation Act*

In late 1975, as earlier oil price control authorization expired, a political struggle ensued between proponents of price incentives for supply and proponents of continued government control over the energy market. The resulting energy bill[72] was publicly described as

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67. E. MANSFIELD, *supra* note 56, at 126-47, 192, 219.

68. There is evidence that such a longrun squeeze on margins is taking place within the oil industry. Aramco's profit margin on Saudi Arabian crude dropped from 38¢ a barrel in 1969 to 9¢ a barrel in 1974. Exxon's margin dropped from 24¢ to 14¢ a barrel in the same period. PETROLEUM INTELLIGENCE WEEKLY, Apr. 14, 1975, at 5. In the United States, the cost of new oil found in 1973 averaged $8.63 to $9.81 per barrel, but the average price per barrel sold in the United States equalled only $3.89. For 1974, cost averaged $12.73, but receipts only $6.85. ENERGY STATISTICS, *supra* note 5, at 13, 28-29. Of course, the average receipt-per-barrel figure includes old oil controlled at $5.25 a barrel from wells that already have incurred the bulk of their production costs.

69. Breyer & MacAvoy, *The Natural Gas Shortage and the Regulation of Natural Gas Producers*, 86 HARV. L. REV. 941 (1973).

70. INDEPENDENCE, *supra* note 1, at 88.

71. The House of Representatives recently came very close to agreeing with the Senate to deregulate the sale of natural gas, but the prospect of higher heating bills caused an abrupt reversal on the floor of the House. A substitute bill passed that removes price controls for only 30 percent of the industry but extends such controls to all sales, including previously exempt intrastate sales, made by the large natural gas producers. 122 CONG. REC. H749-79 (daily ed. Feb. 5, 1976); Wall St. J., Feb. 6, 1976, at 3, col. 1 (Pac. Coast ed.).

72. Energy Policy and Conservation Act, Pub. L. No. 94-163, 89 Stat. 871 (1975).

"phasing out" price controls.[73] In reality, however, it extends controls over a larger amount of oil than previously controlled, rolls back oil prices to an arbitrary level, and offers only a limited opportunity for complete decontrol by 1979.

The energy bill abandons the two-tiered system that had exempted new oil discoveries from controls.[74] Instead, the Congress ordered the President, through the Federal Energy Administration, to establish regulations setting ceiling prices on all crude oil produced in the United States so that the average price of oil sold does not exceed $7.66 per barrel.[75] This $7.66 figure represents a rollback in prices of over $1.00 a barrel,[76] but apparently is not based on any economic analysis of the relationship between price and supply.[77] In effect, by relying on an average price calculation, Congress has tied the incentive to drill for new oil to the level of old oil remaining in proven fields. As the old reserves drop in production, the product mix of all oil sold will shift to new, high-cost oil. In order to maintain a fixed average price, the new oil must be continually reduced in price.[78] Such a result is hardly an incentive to invest in new, expensive oil fields.

The provision in the bill supposedly designed to offset the above effect and to provide for the "phase-out" of controls is the authorization of the President to make specific findings that higher prices will provide "positive incentive" for new discoveries, enhanced recovery techniques, or sustained production from marginal wells.[79] Upon such a finding, the President may amend the price ceiling to allow for inflation and

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73. *Statement by the President on Signing S. 622*, 11 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 1392 (1975).

74. See note 24 *supra*.

75. Energy Policy and Conservation Act, Pub. L. No. 94-163, § 401, 89 Stat. 871 (1975) (to be codified as 15 U.S.C. § 757).

76. At the time of enactment of the new law, the average U.S. oil price was $8.75 a barrel. Wall St. J., Jan. 8, 1976, at 4, col. 1 (Pac. Coast ed.).

77. Ideally, price controls to insulate the oil industry from cartel pricing practices should be set at the "real" free market price, which would balance supply and demand. Unfortunately, no one knows what that figure might be. The $7.66 figure apparently was a compromise amount based on the average pretariff price prevailing in January 1975. 121 CONG. REC. S22474 (daily ed. Dec. 17, 1975).

78. The bill did not specify how the regulations were to be designed in order to achieve the $7.66 figure. The FEA subsequently ruled that old oil would remain at the $5.25 a barrel price. Since this old oil amounts to about 60 percent of U.S. production, the $11.28 price level set for new oil follows mathematically in order to balance all production at $7.66. Wall St. J., Mar. 2, 1976, at 36, col. 2 (Pac. Coast ed.). Thus, to the extent that old oil becomes a smaller proportion of national production, yet remains at $5.25 a barrel, new oil must be reduced in price to achieve the required average price. FEA proposals currently anticipate no change in the price of old oil, although an alternative of increasing old oil prices by 5 percent a year is under consideration. *Id.*

79. Energy Policy and Conservation Act, Pub. L. No. 94-163, § 401, 89 Stat. 943 (1975) (to be codified as 15 U.S.C. § 757(d)(3)).

up to a 3 percent price incentive, but the total increase in the average price may not exceed 10 percent per year.[80] In addition, either house of Congress has an absolute veto power over such an amendment via a simple resolution,[81] passed with strict limitations on the amount of hearings or floor debate.[82] These provisions point to an interpretation opposite to that publicly made: price controls on oil remain even tighter than before and are here to stay. As long as worldwide oil prices remain high, it will be expedient for elected politicians to vote against any changes in the ceiling price. Also, it will be as politically expedient in 1979 as it was in 1975 for politicians to extend the expiration date on price controls.

It makes economic sense to permit the industry to sell old oil and gas at a price reflecting replacement cost,[83] despite the resultant short-run profit bulge. Controls on the price of new oil may be more logical in view of the influence of OPEC on world prices, but only if those controls are flexible enough to allow a sufficient profit margin in the face of escalating costs.

The recent experience of the natural gas industry with price controls indicates that such a pricing system cannot effectively meet the complexities of the petroleum industry.[84] Nonetheless, Congress persists in implementing price controls; to the extent that these controls fail, the case is strengthened for financial aid to the industry via tax legislation.

Arguably, a Congress that imposes complex price controls on an industry is not likely to enact tax legislation favorable to that industry; however, such an argument overstates the case. An examination of

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80. Energy Policy and Conservation Act, Pub. L. No. 94-163, § 401, 89 Stat. 943 (1975) (to be codified as 15 U.S.C. § 757(d)(1)).

81. Energy Policy and Conservation Act, Pub. L. No. 94-163, § 401, 89 Stat. 944 (1975) (to be codified as 15 U.S.C. § 757(e)(3)).

82. Energy Policy and Conservation Act, Pub. L. No. 94-163, § 551, 89 Stat. 996-97 (1975) (to be codified as 42 U.S.C. § 6421). Use of the simple resolntion to veto any substantive rulemaking power of the Executive, such as the setting of controlled price levels, may be attacked as an unconstitutional breach of the separation of powers doctrine. Comment, *Congress Steps Out: A Look at Congressional Control of the Executive*, 63 CALIF. L. REV. 983, 1065-81 (1975); *cf.* Buckley v. Valeo, 44 U.S.L.W. 4127 (U.S. Jan. 30, 1976).

83. *See* E. MANSFIELD, *supra* note 56, at 237.

84. First, energy so pervades the complex life of a highly industrialized nation that any attempt to manage the entire system is laden with difficulty. Because many important aspects of the system are insufficiently understood, it is very readily overmanaged, in the sense that well-meaning intervention is quite likely to have unpredicted and not necessarily desirable secondary and tertiary consequences. The technology probably is better and more rapidly understood than are the economic aspects.

ACADEMY FORUM, NATIONAL ACADEMY OF SCIENCES, ENERGY: FUTURE ALTERNATIVES AND RISKS 212 (1974) [hereinafter cited as NATIONAL ACADEMY OF SCIENCES].

the floor debate on the Energy Policy and Conservation Act reveals that Congress is acutely aware of the needs of the petroleum industry. But in an election year, the legislators were also acutely aware of the political impact of allowing a rise in prices.[85] Once election concerns diminish, it is reasonable to assume that assistance not immediately reflected in higher prices at the gasoline pump will be received more positively. At the very minimum, the continued existence of present tax incentives is likely. Consequently, an examination of existing and proposed incentives is appropriate.

II

INCOME TAXES AND ENERGY DEVELOPMENT

A. Tax Expenditures vs. Direct Federal Aid

The threshold question whether selective tax legislation is an appropriate method of providing financial aid to private enterprise must be considered before addressing the specific needs of the energy industry. The question is a difficult one and raises a multitude of currently debated issues.[86] Any "special" provision in the tax law that results in a lower income tax liability for one taxpayer than for another similarly placed may be labeled a "tax expenditure."[87] Arguably, such leg-

85. *See* 121 CONG. REC. H12696 (daily ed. Dec. 16, 1975) (remarks of Mr. Staggers, describing the bill as "a Christmas present"). Congress had expected as much as a 3.3¢ drop in gasoline prices as a result of the new energy bill, but owing to pass-throughs of previously incurred cost increases, oil companies may not lower gasoline prices at all, despite the crude oil price rollback. *Compare* Wall St. J., Dec. 11, 1975, at 4, col. 2 (Pac. Coast ed.), *with* Wall St. J., Dec. 23, 1975, at 3, col. 2 (Pac. Coast ed.).

86. The existence of tax provisions that differentiate among otherwise similar taxpayers is central to the debate over tax reform. Many reformers would prefer a vastly simplified tax system with rates applied against a "comprehensive tax base." Proponents of this reform view most tax allowances and special tax deductions as detrimental to the goals of tax simplification and equity. *See generally* Bittker, *A "Comprehensive Tax Base" as a Goal in Income Tax Reform*, 80 HARV. L. REV. 925 (1967); Pechman, *Comprehensive Income Taxation: A Comment*, 81 HARV. L. REV. 63 (1967); Galvin, *More on Boris Bittker and the Comprehensive Tax Base: The Practicalities of Tax Reform and the ABA's CSTR*, 81 HARV. L. REV. 1016 (1968); Bittker, *Comprehensive Income Taxation: A Response*, 81 HARV. L. REV. 1032 (1968).

87. The term "tax expenditures" means those revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability . . . .

31 U.S.C. § 1302(a)(3) (Supp. IV, 1974). This definition does little, however, to differentiate between truly "special" tax provisions—those that substitute for direct federal subsidies—and provisions actually necessary to the fair determination of a taxable income that reflects an individual's ability to pay. *See* Bittker, *Accounting for Federal "Tax Subsidies" in the National Budget*, 22 NAT'L TAX J. 244 (1969); Surrey & Hellmuth, *The Tax Expenditure Budget—Response to Professor Bittker*, 22 NAT'L TAX J. 528 (1969); Bittker, *The Tax Expenditure Budget—A Reply to Professors Surrey & Hellmuth*, 22 NAT'L TAX J. 538 (1969); Surrey, *Federal Income Tax Reform: The*

islation is the counterpart of a budgetary or "direct expenditure": by granting special favor to one taxpayer, the government is foregoing revenue equal to the tax reduction allowed, and the taxpayer is receiving a financial benefit much as if the government had taxed him fully and then appropriated a special grant for him. Professor Stanley Surrey has led the attack on this "back-door" approach to federal assistance programs.[88] The criticisms of using tax expenditures to perform social or economic engineering,[89] though often theoretically valid, are, however, less compelling when analyzed in a political context. These criticisms are dealt with below.

The criticism, for example, that tax allowances are enacted and forgotten[90] is no longer valid. The annual budget as presented to Congress now must contain a "tax expenditure budget" reflecting the Treasury Department's estimate of the revenue foregone as a result of the existence of "special" tax provisions.[91] Although the accuracy of these estimates may be questionable,[92] they do raise Congressional awareness of the approximate impact of existing tax legislation. Such awareness is not, of course, as effective as an annual or biennial[93] reconsideration of direct expenditures; however, in some cases the latter method of Congressional review would undermine the very purpose of the aid involved. For example, any measure that has as its goal the stimulation of capital investment would have limited effect if businessmen knew that every one or two years the entire program would likely be restructured or eliminated. Long term investment decisions cannot be made on such uncertain grounds. Although tax provisions may also be changed regularly,[94] their history of relative permanence—which

Varied Approaches Necessary to Replace Tax Expenditures with Direct Governmental Assistance, 84 HARV. L. REV. 352 (1970); Bittker, *Income Tax "Loopholes" and Political Rhetoric*, 71 MICH. L. REV. 1099 (1973).

88. Surrey, *Tax Incentives as a Device for Implementing Government Policy: A Comparison with Direct Government Expenditures*, 83 HARV. L. REV. 705 (1970) [hereinafter cited as Surrey].

89. *Id.* at 734. *See also* McNulty, *Tax Policy and Tuition Credit Legislation: Federal Income Tax Allowances for Personal Costs of Higher Education*, 61 CALIF. L. REV. 1, 70-74 (1973); Surrey, *Income Tax Reform: The Varied Approaches Necessary to Replace Tax Expenditures with Direct Governmental Assistance*, 84 HARV. L. REV. 352 (1970); Wolfman, *Federal Tax Policy and the Support of Science*, 114 U. PA. L. REV. 171, 182-83 (1965).

90. Surrey, *supra* note 88, at 728-30.

91. 31 U.S.C. § 11(e) (Supp. IV, 1974).

92. McNulty, *supra* note 89, at 71-72.

93. Appropriations passed by Congress are generally limited to a 2-year period. 31 U.S.C. §§ 701-07 (1970), *as amended* (Supp. IV, 1975). Longer periods are authorized, however. 31 U.S.C. § 708 (1970).

94. For example, the investment tax credit, originally enacted in 1962, was suspended in 1966, restored in 1967, repealed in 1969, reenacted in 1971, and increased in 1975. For an analysis of the detrimental effect on investment caused by this

critics find unacceptable[95]—is a favorable characteristic in terms of inducing taxpayer action.

Another major criticism of tax incentives is that they are economically inefficient: some taxpayers receive windfalls since they would act in the desired way without the tax assistance.[96] Arguably, as Professor Surrey maintains,[97] a direct expenditure program can be designed to direct the largess to specific needy recipients, thus avoiding this economic waste. Such an approach, however, is based on the false assumption that Congress can in fact design an efficient program for implementing a closely organized distribution effort. Given the political and bureaucratic difficulties of enacting and operating any major economic direct assistance program,[98] any advocate of a particular program must consider tax incentives a practical and viable alternative.[99] If the relative efficiencies of a tax incentive[100] and a direct expenditure were equal, the disadvantages of using the tax system might preclude its use. Empirical data do not exist, however, from which to draw such a conclusion.[101] Consequently, the tax expenditure should not be dismissed

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legislative uncertainty, see Klein & Taubman, *Estimating Effects within a Complete Econometric Model*, in TAX INCENTIVES AND CAPITAL SPENDING 197, 218 (G. Fromm ed. 1971).

95. Surrey, *supra* note 88, at 731.

96. *Id.* at 719. *See also* Rice, *Tax Reform and Tax Incentives*, 34 LAW & CONTEMP. PROB. 782, 789-90 (1969).

97. Surrey, *supra* note 88, at 717-18, 727.

98. In the energy field Congress, to date, has been unable to act in an efficient, rational manner. In the 93d Congress, some 2000 energy-related bills and resolutions were introduced, over 1000 collective days of hearings were held, and 40 energy-related laws were enacted. CONGRESSIONAL RESEARCH SERVICE PAPER, *supra* note 27, at 2. Forty-six federal agencies, seven House committees, and six Senate committees have direct responsibility for energy legislation enactment and implementation. In addition, more than 20 other agencies and committees have secondary energy jurisdiction. COMMITTEE FOR ECONOMIC DEVELOPMENT, ACHIEVING ENERGY INDEPENDENCE 57, 65-66 (1974). For a discussion of the self-generating growth of the Federal Energy Administration, see Wall St. J., Mar. 9, 1976, at 1, col. 1 (Pac. Coast ed.). Given this history, it is difficult to imagine an efficient energy-related direct expenditure program.

99. [I]t must be borne in mind that where it is decided that a given activity, such as investment in oil production, should be subsidized, an evaluation of the cost-effectiveness of existing subsidies to that activity must take into account the indirect but very real costs that would attend their replacement by other, "more efficient" subsidies. For instance, the political costs to the President or the Congress of creating a new form of subsidy may cause them to prefer the continuation of a relatively inefficient existing subsidy.

KRUEGER, *supra* note 2, at 118. *See also* L. THUROW, THE IMPACT OF TAXES ON THE AMERICAN ECONOMY 46 (1971).

100. New tax provisions also entail a certain level of administrative costs; however, the basic system for the filing and auditing of tax returns is already in place. The extent to which a new tax measure would add to that system is debatable, but it surely would be less expensive and time consuming than creating a new administrative body to implement a cash subsidy program.

101. Even Professor Surrey admits this fact. *See Panel Discussions Before the*

as merely politically expedient.[102]

Tax incentives in the form of deductions have also been criticized[103] for their income variant effect: the amount of tax reduction granted to any one individual varies directly with that taxpayer's present tax bracket. Thus, although two taxpayers may have made their economic decisions in the desired manner, the higher bracket taxpayer is "rewarded" by a greater reduction in his tax. Tax reformers seize upon this lack of vertical equity as a major argument in favor of eliminating tax preferences.[104] In its simplicity, however, the argument fails to account for methods of eliminating the bulk of this effect by allowing the deduction only to corporate taxpayers[105] or for possible affirmative reasons for retaining an income variant effect for individual taxpayers.

Specifically, three closely related arguments support income variant provisions in the Internal Revenue Code. First, given the present

House Comm. on Ways and Means on the Subject of Tax Reform (Invited Panelists), 94th Cong., 1st Sess. 92 (1975) (discussion between committee members and S. Surrey).

102. Some members of Congress appear to regard tax expenditures as more efficient, in some circumstances, than direct expenditures. To the question, "Does anyone on the panel believe that appropriations is [sic] a more suitable way of executing public policy than [a] tax credit?", there was no recorded comment from the committee. *Id.* at 110-11. *See also* Wall St. J., Dec. 22, 1975, at 9, col. 4 (Pac. Coast ed.) (letter to the editor from Congressman Kemp). *But see* H.R. REP. No. 94-221, 94th Cong., 1st Sess. 224 (1975) (additional views of Messrs. Gibbons, Mikva, Corman & Stark).

103. Surrey, *supra* note 88 at 720.

104. *Id.*

105. There would, of course, still be an income variant effect between corporations subject to the full 48 percent tax rate and those small enough to be taxed at only 22 percent. In addition, corporations in a loss year would receive no tax benefits at all. But these differences are probably not significant in terms of the broad spectrum of corporate taxpayers, particularly in the energy industry. Although such a proposal would not fulfill a theory of pure tax equity, the worst examples of social inequities among individuals would be removed, an important step politically. In addition, when the purpose of the tax provision is to encourage large capital investments, use of the provision by individuals and partnerships probably does not add significantly to the overall investment base. For the energy industry, for example, income taxes saved by individuals using the percentage depletion allowance and the intangible drilling cost deduction will amount to only 15 percent of the total 1975 estimated tax savings by all taxpayers using those provisions. STAFFS OF THE TREASURY DEP'T AND JOINT COMM. ON INTERNAL REVENUE TAXATION, 94TH CONG., 1ST SESS., ESTIMATES OF FEDERAL TAX EXPENDITURES 8 (Jt. Comm. Print 1975).

The Tax Reform Bill of 1975, H.R. 10612, 94th Cong., 1st Sess. (1975), would limit the extent to which individuals could take certain deductions, such as the intangible drilling deduction for oil and gas wells, to the amount of net related income from that property. This reform is a step in the direction of eliminating the worst effect of the income variant phenomenon: using the income tax provisions to generate artificial losses used to offset other income. *See* H.R. REP. No. 94-658, 94th Cong., 1st Sess. 54-60 (1975). The energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. (1975), which has passed the House of Representatives, includes a number of tax provisions related to energy that specifically limit the related tax reduction to corporate taxpayers.

structure of the Code, the elimination of one provision will tend to cause the taxpayer to reorient his economic decisionmaking toward another provision that gives him tax relief. In addition, any effort to encourage him to act in a desired manner must offer him a level of economic benefit at least equal to the tax relief available in other fully deductible activities. Absent a complete reform of the tax laws, even a direct cash expenditure program would have to take into account net rewards and risk-taking among taxpayers of different brackets. Otherwise, taxpayers will not respond in the desired manner.

Second, the act of investing in a socially desirable way is an event in the taxpayer's life worthy of recognition apart from the incentive effect of such recognition. Thus, although a complete tax reform could eliminate all nonbusiness deductions and avoid future income variant effects, such a reform could not ignore certain events in a taxpayer's life and still be considered equitable. Casualty losses and unexpected medical expenses, for example, surely must always be deductible if only to reflect the human suffering involved;[106] in a similar vein, given the variety of investment possibilities, any tax law should not ignore the "event" of investing in socially desirable ways. Arguably, this recognition of one taxpayer could take many forms, only one of which need be a tax deduction. Without a loss of complete progressivity in the tax laws, however, any use of the tax code to effect this recognition involves some income variant effect.[107] Although a nonprogressive system is an interesting concept, worthy of future study, given the present reliance on progressive tax rates, the only way to avoid the income variant problem is by compensating the taxpayer outside the tax system with a cash payment from the government. But such a program would result in a wholesale transfer of the investment encouragement function to some bureaucratic agency. The social and economic costs of such a transfer seem an enormous price to pay to remove what may be only a potential inequity from the tax laws.

Third, in terms of investment encouragement, the inequity claimed to be present in the income variant provisions may be illusory

106. For a variation of this argument as applied to the medical expense and charitable contribution deductions, see Andrews, *Personal Deductions in an Ideal Income Tax*, 86 HARV. L. REV. 309 (1972).

107. Income variance is intrinsic even to a tax credit. Although a credit is technically income stable (that is, level in amount regardless of the recipient's income), the marginal benefit to the taxpayer from receiving a fixed sum of money is actually dependent on the recipient's gross income. To a taxpayer with a $5000 income, a $50 credit is a significant addition to his disposable income, while that same $50 may be of minimum siguificance to a $100,000 a year taxpayer. Thus, the incentive effect is reversed from that which is economically desirable: the taxpayer with the lowest ability to invest receives the greatest incentive to act in the desired manner. Since differences in income between the two taxpayers account primarily for this reverse effect, it can be labelled an income variant effect.

if no low bracket taxpayers can or could invest. The competition for investment dollars is conducted, for all practical purposes, only among wealthy taxpayers. There is no evidence to show that if low income families could receive the same tax benefit from any given investment function as taxpayers in the 70-percent bracket, they would be likely to divert their funds from consumption to investment. Perhaps these arguments suggest little more than the conclusion that the entire tax system could use a massive overhaul. Yet they also suggest that merely labeling any existing or proposed tax provision as income variant is not a sufficient reason for rejecting it out of hand. Piecemeal reform is neither an efficient nor a desirable approach to changes in our tax structure.

Underlying the contest between tax expenditures and direct expenditures is a basic difference of political belief: the proper amount of government involvement in the private sector. Critics of tax incentives seem to presume that government has an absolute right to its share of the national income and that any release of this claim is an "expenditure" that must be justified. Although most critics emphasize the selectivity of tax incentives, and not the overall level of government revenues involved, they ignore the argument that such tax provisions are acknowledgments of a prior private claim to the income in certain cases.[108] The adoption of this private claim perspective would shift the burden to those who advocate any new tax or the closing of a "loophole"[109] to show that the specific revenue generated is actually needed.

Criticism of tax expenditures is also based on the premise that the private sector is equally motivated by a tax reduction or a direct government grant.[110] Little data exist to support or refute such an argnment,[111] but it is possible that given the difference between the two approaches in terms of governmental interference, a tax incentive is a greater spur to immediate action. The taxpayer merely files his tax return in a slightly different manner and the benefit is automatically his;[112] an expenditure program, though, involves additional paperwork

108. For an elaboration of this argument, see Madden & Morris, *Tax Incentives: Employment and Training of the Disadvantaged*, in TAX INSTITUTE OF AMERICA (SYMPOSIUM), TAX INCENTIVES 231, 234-35 (1971).

109. Describing any tax provision as a "loophole" is simply a reflection of the speaker's point of view. What may be a loophole to one observer is likely an essential recognition of fairness and equity in the eyes of another. *See* Bittker, *Income Tax "Loopholes" and Political Rhetoric*, *supra* note 87.

110. *See* Surrey, *supra* note 88, at 733.

111. A spokesman for the Treasury Department has indicated that studies show that taxpayers respond better to tax incentives than to subsidy programs. TAX INSTITUTE OF AMERICA (SYMPOSIUM), TAX INCENTIVES 74-75 (1971) (remarks of Robert T. Cole).

112. The benefit is, of course, subject to refund to the government after an unfavorable tax audit.

and government control.[113] The speed alone of receiving the benefit under a tax approach may better motivate a taxpayer to act in a desired manner. Also, a taxpayer may be better motivated by a simple change on his tax return because it involves less intrusion into his private life.

Finally, tax expenditures are legitimately criticized for increasing the complexity of the tax laws[114] and for confusing the Congressional process of evaluating and debating new legislative proposals.[115] Admittedly, simplicity in the tax laws is an appealing goal; however, until a major reform is politically expedient, the complexities and potential inequities of tax expenditures must be tolerated. Indeed, the inefficiencies of tax expenditures may be preferable to those associated with direct expenditures.

Tax provisions affecting natural resources do exist and more are proposed. Their general effectiveness in meeting the specific needs of the energy industry is the next subject of this Comment. This analysis assumes a negative answer to the threshold question whether some other method of providing financial aid is more appropriate.

B. Present Income Tax Provisions

1. Depletion Allowance

Since the enactment of the earliest income tax laws, Congress has recognized that natural resources are nonreplaceable assets and that consequently the taxpayer should be allowed a deduction from gross income equal to the resultant capital consumption incurred in production. Originally this deduction was similar to that allowed for depreciation of plant and equipment: a deduction of the total cost of the property over its estimated life.[116] In 1918 Congress recognized that mere cost recovery would not provide sufficient capital for replacing these nationally vital but disappearing assets and therefore granted the taxpayer the option of using either discovery cost or fair market value as the basis on which depletion could be calculated.[117] The enormous administrative difficulties of establishing acceptable property market values,[118] however, led to the enactment of a percentage depletion al-

113. For a discussion of how a nonexpenditure government program has caused a proliferation of government regulations and bureaucrats, see VA. L. REV. Note, *supra* note 10.

114. *See* Surrey, *supra* note 88, at 731.

115. *Id.* at 728.

116. Revenue Act of 1913, ch. 16, §§ II(B), II(G)(b), 38 Stat. 167, 172-73.

117. Revenue Act of 1918, ch. 18, §§ 214(a)(10), 234(a)(9), 40 Stat. 1067-68, 1078-79.

118. Burke, *Incentives to Develop Natural Resources: Factors Affecting Industries Involved in Natural Resource Exploitation; Oil and Gas; Hard Minerals; Timber*, 33 INST. ON FED. TAX. 1541, 1544-45 (1975). For a complete analysis of the history of the depletion allowance, see *id.* at 1542-47.

lowance in 1926[119] for the oil and gas industry.[120] Under this approach, a fixed percentage, originally 27.5 percent, of gross income from an oil or gas producing property was deductible as depletion, with a maximum allowance set at 50 percent of net income from that property.[121] As with using fair market value as the measure of cost depletion, percentage depletion focuses on the replacement, rather than the historical, resource cost.

Percentage depletion has been attacked regularly as an unnecessary financial boon to the oil industry. Numerous bills and floor amendments have been introduced in Congress to reduce or repeal the allowance.[122] Until 1969 these efforts failed, primarily because of the strength of the oil industry constituency, executive branch support of the allowance, and lack of a strong opposition.[123] In considering tax reform in 1969, however, Congress was forced to examine this highly visible tax allowance and compromised on a reduction in the depletion rate from 27.5 to 22 percent.[124] The impact on oil and natural gas exploration was immediate and dramatic: in 1 year the number of wells drilled dropped 21 percent.[125]

In the midst of a national cry for greater oil production, Congress, without benefit of committee hearings or extensive floor debate,[126] added to the Tax Reduction Act of 1975 provisions that eliminated[127]

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119. Revenue Act of 1926, ch. 27, § 204(c)(2), 44 Stat. 16.

120. Gradually, a depletion allowance of varying amounts was also enacted for other minerals. *See* INT. REV. CODE OF 1954, § 613(b).

121. Revenue Act of 1926, ch. 27, § 204(c)(2), 44 Stat. 16.

122. B. OPPENHEIMER, OIL AND THE CONGRESSIONAL PROCESS 20-23, 26 (1974) [hereinafter cited as B. OPPENHEIMER].

123. *Id.* at 42-43, 100-12.

124. Originally, the House voted a reduction to 20 percent and the Senate increased it to 23 percent. The conference committee eventually settled on 22 percent. *Id.* at 17.

125. *Proposed Solutions, supra* note 12, pt. 2, at 621.

126. The original tax cut bill as voted out of the House Committee on Ways and Means did not include any changes in the depletion allowance. The House Democratic Caucus proposed, and the majority of the House accepted, a rule that permitted floor amendments only on the subject of depletion and that limited debate to 2 hours for each side on the bill itself and only 5 minutes a side on any depletion amendments. Actually, most of the 4 hours were used debating the motion to repeal the percentage depletion allowance for major oil companies. *See* 121 CONG. REC. H1132-40 (daily ed. Feb. 27, 1975). The Senate Finance Committee deleted any reference to percentage depletion before reporting the House bill to the floor of the Senate, but amendments reviving the House's changes in the allowance were offered and accepted during floor debate. *See* 121 CONG. REC. S4225-78 (daily ed. Mar. 18, 1975).

127. The allowance was effectively eliminated for all integrated oil and gas producers by the proviso that the allowance shall not apply to any taxpayer who sells his production through any retail outlet operated by the taxpayer or to any person obligated to distribute the oil or gas under a trade name owned by the taxpayer. INT. REV. CODE OF 1954, § 613A(d)(2). In addition, the allowance is available to other taxpayers only to the extent of 2,000 barrels a day in 1975, decreasing to 1,000 barrels a day by 1980. INT. REV. CODE OF 1954, § 613A(c)(3). Finally, the applicable percentage on this

percentage depletion for more than 70 percent[128] of all oil and gas production.[129] The rhetoric used at the time by some members of Congress suggests that this drastic change in the income tax treatment of oil companies was effected for political rather than economic purposes.[130] The impact on the voters, not on the national energy needs, was the predominant Congressional concern.

The percentage depletion allowance has been the subject of many economic studies; most have concluded that the incentive to explore for new oil was not increased significantly by its existence.[131] Predictably, oil industry economists have vehemently disagreed.[132] This Comment will not rehash the arguments traditionally made by both sides in the debate,[133] primarily because the energy crisis has rendered

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decreasing amount of oil drops from 22 percent to 15 percent by 1984. INT. REV. CODE OF 1954, § 613A(c)(5). The limitation on the allowance was increased, however, from 50 percent to 65 percent of the taxpayer's taxable income computed without regard to depletion. INT. REV. CODE OF 1954, § 613A(d)(1).

128. Producers with retail outlets, who are thus ineligible for the allowance, account for 72.6 percent of all crude oil production. Only 12.9 percent of total producers have no outlets and less than 3,000 barrels a day production. *Proposed Solutions, supra* note 12, pt. 2, at 849. The number of producers totally unaffected by the changes in the allowance is even smaller using the statutory 2,000 barrels a day cut-off.

129. Cost depletion was not affected by the bill. *See* INT. REV. CODE OF 1954, § 611.

130. "[I]t will serve notice on the major oil companies that this new Congress will not be subservient to their unreasonable demands . . . ." 121 CONG. REC. H1150 (daily ed. Feb. 27, 1975) (remarks of Mr. Cotter). "These oil companies are making an outrageous profit." *Id.* at H1151 (remarks of Mr. Green). "Over the years, the depletion allowance has become the most visible symbol of tax injustice and special privilege in our revenue laws, a symbol of the greed and profiteering of a private industry that fails to serve the public interest." 121 CONG. REC. S4232 (daily ed. Mar. 18, 1975) (remarks of Mr. Hollings).

131. *See, e.g.*, Davidson, *Public Policy Problems of the Domestic Crude Oil Industry*, 53 AM. ECON. REV. 85, 107 (1963); Lichtenberg & Norgaard, *Energy Policy and the Taxation of Oil and Gas Income*, 14 NATURAL RESOURCES J. 501, 506 (1974); Williams, *Some Ingredients of a National Oil and Gas Policy*, 27 STAN. L. REV. 969, 975 (1975). Many opponents of the allowance cite the so-called CONSAD report, which concluded that tax incentives, particularly the percentage depletion allowance, do not significantly increase oil reserve levels. *See* CONSAD RESEARCH CORP., THE ECONOMIC FACTORS AFFECTING THE LEVEL OF DOMESTIC PETROLEUM RESERVES, in U.S. TREASURY DEP'T, TAX REFORM STUDIES AND PROPOSALS, 91st Cong., 1st Sess., pt. 4, at 2.2 (Joint Publication of the Comm. on Ways and Means of the U.S. House of Representatives and Comm. on Finance of the U.S. Senate 1969). The basic premise of the CONSAD Report, that production would be held constant despite changes in the price level, has been criticized as unrealistic. *Hearings on Fiscal Policy and the Energy Crisis Before the Subcomm. on Energy of the Senate Comm. on Finance*, 93d Cong., 1st Sess., pt. 1, at 239-40 (1973).

132. *See, e.g.*, AMERICAN PETROLEUM INSTITUTE, PETROLEUM TAXATION AND ENERGY INDEPENDENCE (1974), reprinted in *Proposed Solutions, supra* note 12, pt. 2, at 597.

133. For an example of such arguments, see 121 CONG. REC. S4232-34, S4290-92 (daily ed. Mar. 18, 1975).

much of the previous work obsolete. For example, critics originally condemned the bias of the allowance toward production and consumption as wasteful,[134] but this bias is exactly what is required today. High production levels today may hasten the inevitable dry-up of our oil reserves, but at the same time would insure that the demands of the American economy are met while alternative sources are under development.[135] It is folly to argue that because past policies may have encouraged the development of an oil-oriented industrial society, present policies should work to shut off the flow of oil needed to maintain existing facilities.[136] The resultant economic upheaval would be drastic and would counteract any incentives to develop alternative energy forms. Elimination of the allowance combined with price controls, particularly on old oil, means that more costly methods of secondary and tertiary production[137] are no longer economical. At a time when national goals require a maximum domestic production effort, loss of percentage depletion is counterproductive.

More basically, the repeal of the allowance annually removes $2.0 billion from the industry, reducing its potential ability to find new oil by the equivalent of 3 billion barrels.[138] Although huge financial expenditures are required to meet national energy demands, Congress' action has effectively reduced industry investments by 10 percent.[139] The estimated effect of such a financial loss is either a 9 percent price increase and a 11.2 percent drop in domestic oil reserves, or no price increase but a doubling of reliance on imported oil.[140] None of these alternatives is consonant with the goal of energy independence.[141]

134. KRUEGER, *supra* note 2, at 123; Lichtenberg & Norgaard, *supra* note 131, at 506.

135. One could also argue, however, that the nation's economy should be "geared down" to lower levels of energy demand rather than that the nation's energy production be "geared up." Such an approach, though, is unrealistic given the size and complexity of our industrialized economy. The ripple effects throughout the U.S. society and the world cannot be underestimated; the changes required would be drastic and arguably unacceptable to the populace.

136. *See* Comment, *Taxation as a Tool of Natural Resource Management: Oil as a Case Study*, 1 ECOLOGY L.Q. 749, 768-71 (1971).

137. See note 37 *supra*.

138. THE PETROLEUM SITUATION, *supra* note 53, at 3.

139. Early estimates of 1975 investments in the United States alone were $26.2 billion. CONGRESSIONAL RESEARCH SERVICE PAPER, *supra* note 27, at 29. The loss of $2 to 3 billion obviously reduces industry ability to make such financial commitments. Either an equivalent drop in investments or a rise in outside borrowings is necessary.

140. *Panel Discussions on General Tax Reform Before the House Comm. on Ways and Means*, 93d Cong., 1st Sess., pt. 9, at 1321-22, 1326 (1973).

141. The term "energy independence" is somewhat a misnomer. Short of a complete change from fossil fuels to some new energy source, the United States will never be completely free of the need for imported oil and gas. The concept of "independence" refers to an ability to weather disruptions in this foreign supply. See note 7 *supra*.

Use of a percentage depletion allowance to improve financial returns from oil production was not a perfectly efficient method of resource allocation. Possibly its existence led to somewhat lower oil prices and therefore higher levels of demand.[142] Nonetheless, it enabled a strong domestic oil industry to develop and insured a relatively greater level of oil production. Five years ago, before the onset of present energy problems, the case for repeal of the allowance was not unreasonable. It is unfortunate that the final act of repeal came at a time when new changes and needs in the worldwide energy picture call strongly for its retention.

2. *Intangible Drilling Costs*

Under an exception to the usual rule that permanent improvements to property must be capitalized and depreciated over its useful life, the Internal Revenue Code authorizes the Treasury Department to develop regulations allowing an immediate deduction of all intangible drilling costs (IDC).[143] The deduction applies to all costs for items lacking salvage value incurred in the development of an oil or gas well. Thus all labor, fuel, repairs, hauling, and supplies used to construct a derrick are immediately deductible, but the derrick itself must be capitalized and depreciated. The financial benefit to the driller of having an immediate deduction is great[144] and enables him to reinvest more quickly in new wells. Such a benefit is particularly important to the small, independent driller without significant financial resources.[145] Since these "independents" account for 90 percent of all domestic wildcat drilling,[146] retention of this tax provision is important to our national energy policies.

In the past, the primary criticism of the IDC deduction was that the driller who used it along with percentage depletion could in effect expense his drilling costs twice.[147] Now that percentage depletion has

142. KRUEGER, *supra* note 2, at 123; FORD FOUNDATION, *supra* note 3, at 246.

143. INT. REV. CODE OF 1954, § 263(c).

144. Taxes saved by corporations utilizing this deduction may be as high as $950 million in 1974 and over $1.2 billion in 1976. Savings on individuals' tax returns are estimated at $100 million and $130 million in 1974 and 1976, respectively. STAFFS OF TREASURY DEP'T AND JOINT COMM. ON INTERNAL REVENUE TAXATION, 94TH CONG., 1ST SESS., ESTIMATES OF TAX EXPENDITURES 8 (Jt. Comm. Print 1975).

145. There is evidence that most small drillers rely much more heavily on this tax provision than on percentage depletion. In fact, efforts to insure its retention may have led to the 1969 reduction in the percentage depletion allowance as a quid pro quo. B. OPPENHEIMER, *supra* note 122, at 125-27.

146. *Proposed Solutions*, *supra* note 12, pt. 2, at 794. These efforts have led to the discovery of 75 percent of all new oil and gas fields, which have produced 50 percent of all new reserves (excluding Prudhoe Bay). *Id.*

147. KRUEGER, *supra* note 2, at 125. Since the IDC deduction effectively covers most of the costs of drilling a well, the benefit from percentage depletion can far exceed

been virtually eliminated for the integrated oil and gas producers responsible for more than 70 percent of all production,[148] this criticism has lost much, if not all, of its force. The integrated driller now must rely on IDC and cost depletion[149] for capital recovery. Moreover, since the small driller for whom percentage depletion is still available is less likely than larger operators to be able to recoup his initial drilling investment via percentage depletion,[150] his deduction of IDC is not as likely to result in a double expensing of drilling costs.

Another argument against expensing IDC stresses the reverse incentive involved in rewarding a taxpayer who is already rewarded by his success in finding oil;[151] it is contended that an incentive is most appropriate during the exploratory, not the production, stage. This view, however, fails to recognize that the major incentive of the IDC deduction is to encourage immediate reinvestment, without the necessity of waiting for the benefits of the producing well. Of course, this tax benefit will amount to a windfall should the successful driller stop after finding oil. Hence, underlying the IDC deduction is the business assumption that a driller will continue to try to repeat his success. The immediate IDC deduction enables him to do so more quickly.

3. *Foreign Tax Credit*

American oil companies generated over 60 percent of their 1974 profits from foreign operations.[152] Petroleum earnings account for over one-third the total foreign taxable income of all U.S. corporations.[153] If this income is repatriated,[154] an oil company must include

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an amount that can be justified by capital recovery arguments. Of course, without IDC, a driller could fail to recover costs via percentage depletion if the well were unproductive.

148. See text accompanying notes 127-28 *supra*.

149. INT. REV. CODE OF 1954, §§ 611-12.

150. B. OPPENHEIMER, *supra* note 122, at 124-27.

151. G. BRANNON, *supra* note 58, at 102.

152. THE CHASE MANHATTAN BANK, *supra* note 51, at 14.

153. STAFF OF JOINT COMM. ON INTERNAL REVENUE TAXATION, 93D CONG., 2D SESS., ENERGY TAXATION: POSSIBLE MODIFICATIONS ON THE TAX TREATMENT OF FOREIGN OIL AND GAS INCOME 4 (Jt. Comm. Print 1974) [hereinafter cited as ENERGY TAXATION].

154. If the corporation is operating an overseas branch of the U.S. operation in order to avail itself of the depletion allowance and the intangible drilling costs deduction, then the federal income tax laws ignore national boundaries and consolidate all sources of income, whether repatriated or not. If the foreign operation is in the form of a subsidiary, then income normally is not taxed to the domestic parent until it receives dividends from the subsidiary. Thus, such a subsidiary could reinvest its profits in the foreign country and postpone the U.S. tax indefinitely. For a general discussion, see J. CHOMMIE, FEDERAL INCOME TAXATION §§ 266-72 (2d ed. 1973). Consequently, Congress enacted Subpart F of the Internal Revenue Code, which provides that certain forms of income earned by a controlled foreign corporation must be included in the gross

this revenue in its annual U.S. income tax return and presumably will be subject to the U.S. 48 percent tax rate.[155] But in many cases the foreign country in which the revenues were generated has also taxed the company, often at rates greater than those of the United States. To subject the earnings to both the foreign and U.S. tax could conceivably tax that income at an overall rate in excess of 100 percent. To avoid international double taxation Internal Revenue Code sections 901-907 allow the corporation to offset U.S. taxes with foreign income taxes[156] already paid on that foreign-source income. Thus, the Code recognizes both that the country in which the income is earned has the primary right of taxing that income and that double taxation on foreign earnings is inequitable and a bar to foreign investments. Congress, however, has placed several restrictions on the use of the foreign tax credit by the oil industry.

First, despite oil industry argnments,[157] Congress in 1975 added a new provision to the Internal Revenue Code that specifically declares that taxes paid to any foreign country in connection with the extraction of oil or gas are not income taxes when (a) the taxpayer holds no economic interest in the oil and gas, and (b) the price upon which the tax is based is not the fair market price.[158] This new section ends a

income of each U.S. shareholder. INT. REV. CODE OF 1954, § 951. The relevant types of income so taxed are outlined in INT. REV. CODE OF 1954, §§ 952-54. Although the definition of "foreign base company sales income" (section 954(d)) would seem to cover most foreign oil and gas transactions, section 954(b)(4) allows an "escape" if the foreign corporation is not established for the purpose of a substantial reduction of income taxes. In a few instances, a foreign subsidiary of a U.S. oil company ean still avoid U.S. income taxes by reinvesting overseas instead of transferring its profits to the parent.

Because of the importance of the U.S. tax provisions regarding natural resource income, however, most foreign oil and gas production is done by branches of the U.S. corporation and then sold to controlled foreign corporations. Although some income is generated by this method, it is not difficult to minimize this amount by setting low transfer prices among the internal members of the company. Thus, the largest profits are generated by foreign subsidiaries and U.S. tax is avoided until repatriation of those profits. *But see* INT. REV. CODE OF 1954, § 482. Due to the high level of foreign tax credits that can be generated, however, companies may actually prefer a complete consolidation of worldwide income. *See generally* Ross, *Structuring for International Oil & Gas Exploration*, 25 INST. ON OIL & GAS LAW & TAX. 359 (1974).

155. INT. REV. CODE OF 1954, § 11. Small corporations with income of less than $50,000 are subject to lower rates. *Id.*

156. War profits and excess profits taxes paid also qualify for the credit. INT. REV. CODE OF 1954, § 901(b)(1).

157. *Proposed Solutions, supra* note 12, pt. 2, at 609-16.

158. INT. REV. CODE OF 1954, § 901(f). *See also* INT. REV. CODE OF 1954, § 907(d). The producing country calculates its taxes and royalties against artificial prices termed "posted prices." Although realized market prices are significantly influenced by higher posted prices (which cause higher payments to be made to the foreign government), the market rarely rises to the exact level of the posted price. T. RIFAI, *supra* note 60, at 8-10.

longstanding debate over whether payments made to OPEC nations are really income taxes, fully creditable against U.S. taxes, or are merely royalty payments, limited to a deduction from gross income. By denying the credit, the new provision substantially increases the U.S. tax liabilities of oil companies.[159] Nonetheless, the change more correctly reflects the economic realities of the relationship between OPEC and the oil companies[160] and properly eliminates an abuse of the tax laws. Since this abuse was made possible by OPEC's structuring its oil payment schedule to give the oil companies the best possible U.S. tax effect,[161] it is appropriate that Congress put an end to the practice of elevating form over substance.

Although the section apparently denies the foreign tax credit for all payments now made to OPEC nations, it will not be difficult for those nations to redesign their laws to account for this change. Royalties could be raised high enough to give the corporations the same tax result as a credit, or a true income tax could be designed based on realized prices rather than posted prices. In addition, the relationship between posted prices and market price is not clear;[162] no doubt the IRS and the oil industry will argue extensively over what price is used by the producing nations in calculating their taxes and whether the Code bars the credit in particular cases.

Second, oil companies are restricted in their use of the credit when several nations are involved. Prior to 1975, oil companies had the

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159. The difference in treatment may result in a substantial variation in total payments made to governments. For example, if the corporation earns $100 overseas and pays the foreign country $48, viewing the payment as an income tax results in the usnal $48 U.S. tax being offset by the $48 foreign tax credit. The corporation thus retains $52 of the original $100. By viewing the payment as a deductible royalty, however, the U.S. taxable income is now $52 and the U.S. tax $25. Since there are no offsetting credits, the company pays a total of $73 to both governments, retaining only $27. *But see* INT. REV. CODE OF 1954, § 902.

160. Income taxes normally cannot be shifted to the customer and thus are fully borne by the taxpayer. Consequently, special tax treatment in the form of a credit for such taxes paid to foreign governments makes economic sense. Excise taxes, however, are recovered from the consumer and are correctly barred from a foreign tax credit. Recent events in the petroleum industry reveal that each increase in payments made to OPEC governments is immediately reflected in higher oil prices in the world energy market. This ability so to shift the burden of the tax makes its status as an income tax highly suspect. In addition, the tax is not actually based on net income, but "on a hypothetical gross income, calculated from a posted price, reduced by a hypothetical cost." G. BRANNON, *supra* note 58, at 94-95.

161. KRUEGER, *supra* note 2, at 119-21; G. BRANNON, *supra* note 58, at 102-03. A recent study of the oil industry states, however, that this tax treatment was specifically developed by the U.S. State Department in order to assist the oil companies in meeting the demands of the King of Saudi Arabia for additional oil revenues. Later, the policy was justified as an indirect form of foreign aid. A. SAMPSON, *supra* note 4, at 110-12.

162. *Cf.* ENERGY TAXATION, *supra* note 153, at 6.

choice under Internal Revenue Code section 904(a) to use either the per-country or the overall limitation in calculating the credit. The per-country limitation was particularly effective when, as a result of deducting intangible drilling costs,[163] start-up operations in certain nations showed a net loss. In effect, the corporation could deduct that loss directly from American net income yet still claim full credit for the taxes paid in profitable countries.[164] Five of the seven largest U.S. oil companies chose this alternative from 1968 to 1972.[165] In 1975, however, Congress enacted section 907, which enumerates special rules applicable only to foreign oil and gas income. Section 907(b) specifically forbids the use of the per-country limitation for foreign oil related income.[166]

Some reformers would have instead preferred denial of the overall limitation to the oil industry.[167] Under this method, taxes paid in one country that individually exceed the allowable credit may be used against low-taxed income from other countries.[168] When taxes in oil-

163. See text accompanying notes 143-51 *supra*.

164.

	Foreign income or loss	*Foreign tax*	
		Amount	*Credit*
Country			
A (producer)	100	72	
B	100	48	0
C	(100)	0	
All foreign countries	100		
Foreign tax credits			
—per country limitation			96
—over-all limitation			48

G. BRANNON, *supra* note 58, at 93. In the above example, each $100 in profits from a foreign nation is eligible for a $48 foreign tax credit. Since two such profitable operations paid foreign taxes, by using the per-country limitation a total of $96 may be credited against U.S. income taxes, yet the total net foreign income added to domestic profits is only $100. Obviously part of the foreign tax credit is in effect offsetting taxes on U.S. income.

165. KRUEGER, *supra* note 2, at 122.

166. Foreign oil-related income includes income derived overseas from the extraction, processing, transportation, and distribution of oil and gas. INT. REV. CODE OF 1954, § 907(c)(2)-(3).

167. *E.g.*, G. BRANNON, *supra* note 58, at 101.

168.

	Foreign income or loss	*Foreign tax*	
		Amount	*Credit*
Country			
A	100	72	
B	0		
C	100	24	
All foreign countries	200	96	
Foreign tax credits			
—per country limitation			72
—overall limitation			96

Id. at 93 (1974). In this example, Country A, probably the producer nation, imposes a

producing nations are much higher than the 48 percent U.S. limit,[169] oil companies locate other facilities, such as shipping or refining, in low-tax foreign countries in order to gain the most benefit from the high taxes already paid when they extracted the oil. Thus, the credit creates an incentive to invest in facilities outside the United States. This incentive may not be in the best interest of the United States, particularly in terms of assuring a secure flow of petroleum. Since foreign petroleum facilities are vulnerable to energy attack or political manipulation, any tax provision that encourages new foreign investment should be examined carefully.[170]

Third, the enactment of section 907(a) limits the amount of tax credit that may be carried forward under section 905(d). In 1971, for example, the oil industry used only 45 percent of the foreign tax credit claimed and was able to carry forward 67 percent of the excess.[171] This ability to preserve the unused tax benefit may dampen oil company resistance to higher taxes imposed by host nations and may serve to offset other foreign income earned in later years in low-tax countries. The enactment of section 907(a), however, has significantly reduced the amount of possible carryforward. The new section limits the amount of foreign tax that will be allowed as a tax credit, based on a sliding scale related to current U.S. corporate tax rates.[172] After 1976 any foreign tax paid that exceeds 50 percent[173] of oil and gas extraction income will be ineligible for the credit. Thus, the most carryforward possible under the new laws will be 2 percent. This section combined with the new definition of oil and gas taxes[174] may not significantly change the tax burden of the oil industry, however, if host nations respond by amending their own tax laws.

Examining these changes in the foreign tax credit in terms of national energy goals presents a difficult assessment of competing considerations. On the one hand, to the extent that tax burdens are increased worldwide as a result of these changes, the law has an unsatisfactory

high tax, only $48 of which may be currently credited against U.S. taxes. Consequently, the company locates some other profit-making operation in Country C, a low-tax country. By using the overall limitation, the company can credit a full $96 against the U.S. tax on the foreign income.

169. The correctness of this assertion depends on the outcome of the royalty *vs.* income tax debate. See text accompanying notes 157-62 *supra.*

170. *See* G. BRANNON, *supra* note 58, at 100.

171. ENERGY TAXATION, *supra* note 153, at 4.

172. For taxable years ending in 1975, the limit is 110 percent of the corporate tax rate; for taxable years ending in 1976, it is 105 percent of that rate; for later years, the limit is 2 percentage points over the usual corporate tax rate. INT. REV. CODE OF 1954, § 907(a)(2).

173. This figure assumes that the corporate tax rate on incomes over $50,000 remains at the present 48 percent.

174. See text accompanying notes 157-62 *supra.*

financial effect.[175] On the other hand, the taxation of foreign income should remove national tax differences as a factor of competition among international oil companies, yet with no additional incentive to invest overseas instead of in the United States. Arguably, the present tax structure encourages the development of foreign resources,[176] a situation contrary to the concept of domestic energy independence.[177] But unrelated changes in the U.S. treatment of foreign income could disadvantage domestically owned companies competing against foreign owned petroleum producers.[178] If all home countries of producer companies adjusted their tax treatment together, however, it is conceivable that the tax laws could become a weapon to be used against the OPEC cartel. Such an effort could, for example, deliberately increase the costs of operation of all oil companies. At some point, worldwide demand for oil could not tolerate any further OPEC price rises. The squeeze between demands for relief by the oil companies (in the form of lower OPEC taxes or higher oil prices) and this long-run price ceiling could only reduce the net OPEC income.[179] But the possibility of such a result would have to be balanced against the resultant longrun financial damage to the industry. In the meantime, the foreign tax credit, as recently amended, remains an equitable approach to the taxation of foreign income. Its retention is important both for the financial security of the multinational oil companies and for international tax neutrality.

4. Other Income Tax Provisions

Few other tax sections relate directly to the exploration and development of natural resources.[180] The petroleum companies, like any other qualifying U.S. corporation, can take advantage of the investment tax credit,[181] accelerated depreciation provisions,[182] and research and

175. The effective tax rates including federal, state, local, and foreign taxes (exclusive of excise taxes) for 10 large oil companies averaged 70.3 percent in 1973. 121 CONG. REC. S4290 (daily ed. Mar. 18, 1975). If some of the foreign taxes are in fact royalties, this figure would be considerably lower.

176. KRUEGER, *supra* note 2, at 129.

177. In 1973 new capital investments made by the oil industry in the United States rose 18 percent, but new investments in the foreign sector rose by 22 percent. THE CHASE MANHATTAN BANK, CAPITAL INVESTMENTS OF THE WORLD PETROLEUM INDUSTRY 5 (1974).

178. G. BRANNON, *supra* note 58, at 99.

179. *Id.* at 103-04. Through the Organization for Economic Cooperation and Development, the United States has agreed to the formation of the International Energy Agency. Many areas of international energy cooperation are under study, but coordination of tax changes is not under active discussion. KRUEGER, *supra* note 2, at 319-33.

180. *See* INT. REV. CODE OF 1954, §§ 617, 631-32.

181. INT. REV. CODE OF 1954, §§ 38, 46. *But see* INT. REV. CODE OF 1954, § 48(a)(2)(B)(x) (offshore drilling platforms used outside of the Western Hemisphere are not eligible for the credit).

182. INT. REV. CODE OF 1954, § 167.

development deductions.[183] These tax incentives combined with those sections discussed previously constitute a "tax package" which successfully insures that despite price controls, the industry can financially support the continued production of oil, natural gas, and coal. The failure to provide similar incentives for the development of alternatives to these energy staples is the subject of the next section of this Comment.

C. *New Tax Incentives for Energy Development*

Existing tax provisions exclusively favor the traditional energy resources of oil, natural gas, and coal. By favoring these fuels, the Code arguably misallocates economic resources relative to other possible investments, including other energy investments. The importance of directing huge amounts of capital into all energy fields demands that new energy fuels also be given tax advantages. Such tax benefits would encourage investment into all types of energy production, a highly desirable result.[184] Congress should therefore consider adding new Code sections designed to encourage the investment of huge sums into unproven but promising methods of energy production. Each of the new possibilities is examined below with suggestions for new tax legislation.

1. *Shale Oil*

This petroleum-like product is the most viable of several synthetic fuels. A tarlike organic material called kerogen must be removed from laminated rock formations and heated to extremely high temperatures to yield the raw product, which in turn can be refined much like petroleum.[185] This process yields only 10 to 40 gallons per ton of shale and consequently is extremely expensive.[186] The Federal Energy Administration calculated that if oil were selling at $11 a barrel, this price level would stimulate extensive shale development.[187] Despite the current high price of oil, however, several industrial efforts have been recently cancelled because of the uneconomic costs involved.[188]

The potential of this resource is immense, perhaps as high as 1,800 billion barrels of oil.[189] With appropriate government stimulus,

183. INT. REV. CODE OF 1954, § 174. *But see* § 174(d).

184. Such a result retains a "misallocation" of resources in the sense that the Code is still not investment-neutral. But when the nation's economic survival is at stake, one wonders whether this result is really a misallocation.

185. INDEPENDENCE, *supra* note 1, at 129.

186. *Id.* One company is planning a 125,000 barrel-a-day project to produce synthetic crude at an estimated cost of $2.5 billion. *Proposed Solutions*, *supra* note 12, pt. 2, at 593.

187. INDEPENDENCE, *supra* note 1, at 132.

188. *See, e.g.*, Wall St. J., Dec. 22, 1975, at 4, col. 4 (Pac. Coast ed.); *Proposed Solutions*, *supra* note 12, pt. 2, at 630.

189. INDEPENDENCE, *supra* note 1, at 130.

production could reach 1 million barrels per day by 1985,[190] yet efforts to provide federal loan guarantees for a development program recently died in the House of Representatives.[191] Earlier in 1975, however, the House passed the Energy Conservation and Conversion Bill of 1975, which included a specific tax incentive for shale oil conversion.[192] The bill would allow corporations or individuals[193] to amortize shale oil conversion equipment over a 60-month amortization period.[194] This rapid writeoff would be an excellent financial incentive to the shale oil industry[195] and would be similar to that given purchasers of certain pollution control and railroad equipment.[196] The Senate, however, has yet to act on the bill; it should do so quickly and should also consider extending percentage depletion allowances to shale oil.[197]

The above proposals apply equally well to the development of synthetic fuels from coal.[198] Coal is the most abundant natural resource in the United States,[199] but is difficult to transport, too bulky for use in transportation, and often highly polluting.[200] Efforts to convert coal to synthetic liquid or gas fuels have experienced moderate success in the past, but suffered from high costs.[201] A concerted effort now, however, could assure a 3 to 4 million barrel-a-day production level of synthetic fuels by the year 2000.[202]

190. *Id.* at 134.

191. 121 CONG. REC. H12,421 (daily ed. Dec. 11, 1975).

192. H.R. 6860, 94th Cong., 1st Sess. § 521 (1975).

193. Noncorporate lessors would not be eligible for this amortization. *Id.*

194. *Id.* Qualified shale oil conversion equipment includes equipment used to reach extract or convert the shale oil. *Id.*

195. Shale oil production has serious environmental problems, which, until overcome, may justify delaying any new tax incentives. The principal concern is for the large quantities of water needed in the shale oil process and the high level of emissions generated by surface conversion plants. INDEPENDENCE, *supra* note 1, at 134. The water usage is especially important since much of the oil shale deposits are located near the Colorado River. The entire flow of this river is committed to the states in the river basin and to Mexico. Consequently, any effort to recover oil shale in this area must not interfere with these commitments. NATIONAL ACADEMY OF SCIENCES, *supra* note 84, at 96.

196. INT. REV. CODE OF 1954, §§ 169, 184-85.

197. Such tax incentives are superior to loan guarantees since they result in government involvement only in successful ventures. Guarantees, by definition, come into play only after someone has failed in his attempt to develop an alternative energy source.

198. Section 521 of the Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. (1975), also provides for amortization of coal processing equipment.

199. Coal reserves can last 800 years at present consumption rates. INDEPENDENCE, *supra* note 1, at 103.

200. Less than 60 percent of the nation's coal reserves can meet federal environmental standards for sulphur content. Most of the "clean" coal is located in the western portion of the nation. *Id.*

201. *Id.* at 135.

202. *Id.* at 138.

Given price controls on oil and gas, these alternatives to present energy forms will not be developed without some form of financial aid. The U.S. Government owns 80 percent of the shale reserves[203] and nearly half of the coal.[204] Unless Congress prefers to fund all of a federal developmental effort, it must reconsider its aversion to assisting interested private companies.

2. *Geothermal Energy*

The use of heat sources within the crust of the earth to produce electricity is a recent development, but its potential contribution to energy supplies by the turn of the century could be large.[205] High costs, bureaucratic delays, and tax uncertainties now block further development.[206] The tax problems involve the applicability of the percentage depletion allowance and the intangible drilling cost deduction to geothermal facilities. Although the Tax Court has twice ruled that the provisions do apply,[207] the Internal Revenue Service refuses to acquiesce.[208]

The enactment of Internal Revenue Code section 623A, limiting percentage depletion for oil and gas wells,[209] specifically exempts "any geothermal deposit . . . which is determined to be a gas well . . . ."[210] But this exemption has not resolved the continuing conflict between the Treasury Department and the Tax Court regarding whether geothermal deposits are in fact gas wells. Absent Congressional clarification, this problem may continue for years; in the meantime, the uncertainty over the tax ramifications of geothermal investment[211] can only hinder efforts to use this resource. Congress should act now to allow

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203. *Id.* at 130.

204. *Id.* at 103.

205. *Id.* at 151. *But see Proposed Solutions, supra* note 12, pt. 3, at 1226 (estimating that geothermal energy will provide but approximately 1 percent of the nation's energy needs by 1990).

206. *Geothermal Power: Strangled by Red Tape*, BUSINESS WEEK, Aug. 11, 1975, at 68-69. Yet Congress recognizes the potential of this resource and has mandated a program of development. *See* the Geothermal Energy Research, Development and Demonstration Act of 1974, 30 U.S.C. §§ 1101-64 (Supp. IV, 1974).

207. Arthur E. Reich, 52 T.C. 700 (1969); George D. Rowan, 28 C.C.H. Tax Ct. Mem. 797 (1969), *both cases aff'd*, 454 F.2d 1157 (9th Cir. 1972).

208. *See Proposed Solutions, supra* note 12, pt. 3, at 1334 (letter from the Office of the Secretary of the Treasury). For a complete discussion of this problem, see Eisenstat, *Tax Treatment of Exploring and Developing Geothermal Resources*, 22 OIL & GAS TAX Q. 76 (1973).

209. See text accompanying notes 116-42 *supra.*

210. INT. REV. CODE OF 1954, § 613A(b)(1)(c).

211. At least $10 billion must be invested in developing this energy resource in order for it to meet 5 percent of the nation's energy needs by 1985. *Proposed Solutions, supra* note 12, pt. 3, at 1280.

percentage depletion for geothermal wells in order to insure timely research and development of this interesting natural resource.

3. *Solar Energy*

Harnessing the inexhaustible energy of the sun has fascinated mankind for decades, yet only recently have technological advances enabled serious consideration of solar energy. Solar systems are highly capital intensive, particularly for the individual consumer who must install sunlight collectors and storage devices.[212] Present solar technology is limited to heating water and some space heating; cooling or complete residential heating is not yet possible. Consequently, large-scale use of solar energy is not feasible without considerable additional research and development.[213] Since the willingness of the consumer to accept this new energy concept depends on the ability of industry to reduce costs and improve equipment aesthetics,[214] major investments in solar development are exceptionally risky.

Of all the energy alternatives, solar energy offers the most longrun potential yet the most remote possibility of significant impact within the next decade.[215] Although work should continue in this industry, the number of unknowns involved do not justify additional federal tax incentives.[216] At this time, the revenue loss cannot be justified without significant advances in the state-of-the-art. Since the work to be done in this area is that of basic research before the solar concept is commercially applicable, the present program of government sponsored research and demonstrations[217] is the correct approach.

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212. *See* INDEPENDENCE, *supra* note 1, at 141.

213. At least $1 billion in additional investment research is needed in the next 5 years to reduce delivered costs to economically acceptable levels. *Id.* at 142.

214. *Id.* at 143.

215. *Id.*

216. The Energy Conservation and Conversion Act of 1975, H.R. 6860, 94th Cong., 1st Sess. § 332 (1975), would allow a 25 percent credit up to $750 for installation of equipment using solar energy to heat, cool, or heat the water of the taxpayer's principal residence. Yet the House Committee on Ways and Means heard testimony from one of the few experts in the industry that the cost of changing an existing home to a solar system would average $7000 and that oil savings are presently unknown because of the lack of good operational data. *Proposed Solutions*, *supra* note 12, pt. 3, at 1326. In the report accompanying the bill, the Committee admitted that this credit would be used by very few taxpayers. H.R. REP. No. 94-221, 94th Cong., 1st Sess. 17 (1975). Since much research and development is required before most homeowners will be able seriously to consider solar energy as an alternative, Congress should not burden the tax codes with such an ineffective credit.

217. *See* The Solar Heating and Cooling Demonstration Act, 42 U.S.C. §§ 5501-17 (Supp. IV, 1974); The Solar Energy Research, Development, and Demonstration Act, 42 U.S.C. §§ 5551-66 (Supp. IV, 1974).

4. *Tax Incentives for Public Utilities*

The demand for energy has enormously strained the capacity of electric utilities. Regulatory agencies controlling rate increases have been slow to respond to the rise in fuel costs and interest rates.[218] At the same time, the Federal Energy Administration estimates that to meet 1985 electricity demands without excessive dependence on foreign oil, utilities must increase their nuclear generating capability[219] tenfold and double the output of coal-fueled plants.[220] The industry cannot rely on debt alone to finance such massive investments,[221] yet their ability to sell equity issues has deteriorated significantly owing to the lack of growth of profits. In addition, internal funds have been absorbed by higher costs, making it difficult to declare dividends high enough to compete with yields on bonds or other fixed-income securities.[222]

The Tax Reduction Act of 1975[223] gave public utilities a temporary tax reduction by increasing their allowable investment tax credit from 4 percent to 10 percent[224] and by permitting utilities to offset 100 percent of tax liabilities with this credit.[225] To assure that a lower tax liability is not used by regulatory authorities to justify lower electric rates, the credit is lost if benefits are used to reduce immediately the rate of return or cost of service for ratemaking purposes.[226] The effect is to relieve public utilities of a need for funds to pay their federal in-

218. *See* Wall St. J., Jan. 13, 1976, at 1, col. 6 (Pac. Coast ed.) (regulatory agencies delay automatic pass-through of higher fuel costs).

219. At present 53 nuclear-powered plants provide 8 percent of the nation's electricity. *Proposed Solutions*, *supra* note 12, pt. 2, at 1068. President Ford has called for a total of 200 units by 1985. *The President's State of the Union Address*, *supra* note 7, at 51. Yet many fundamental policy questions remain to be resolved before the nation's electric utilities can rely on nuclear power to fulfill their needs. For a general discussion of these policy issues, see CONGRESSIONAL RESEARCH SERVICE PAPER, *supra* note 27, at 77-98.

220. INDEPENDENCE, *supra* note 1, at 127.

221. Nuclear plants cost about a third more to build than coal-fueled units, but cost less than half to operate. *Id.* at 286. The Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. (1975), includes a provision (section 532) that would deny the investment tax credit on electrical generating property fueled by petroleum or natural gas. Thus, the utility industry would be forced to choose between coal-fueled plants and all the resulting pollution problems or nuclear power with all its controversy.

222. INDEPENDENCE, *supra* note 1, at 286.

223. Pub. L. No. 94-12, 89 Stat. 26 (codified throughout 26 U.S.C.).

224. INT. REV. CODE OF 1954, §§ 46(a)(1)(A), 46(c)(3)(A). This latter section previously limited public utilities to four-sevenths of the normal credit for all investment property.

225. INT. REV. CODE OF 1954, § 46(a)(6). The maximum allowable offset decreases by 10 percent a year through 1980, after which the use of the credit by public utilities cannot exceed 50 percent of the tax liability over $25,000. *Id.*

226. INT. REV. CODE OF 1954, § 46(f).

come taxes. But the extent to which this aid actually improves their financial situation depends on the ability of the industry to generate sizeable profits and tax liabilities. Given the tight control held by rate-setting authorities over profits, this tax reduction may not significantly enhance the financial picture of public utilities.

Accordingly, federal assistance should be directed at the crux of the financial crisis facing utilities: their inability to market equity securities. One possibility is to allow the utilities a deduction from gross income for dividends paid on utility common stock. Since the total dollar amount of dividends paid must remain the same in order to maintain a good yield on the stock, such a provision would reduce the tax liability of the company. The problem with such a proposal is that the savings, rather than improving utility profitability, may be passed on to the consumer by the regulatory agencies.

A more direct incentive to equity sales would be an increase in the dividend exclusion[227] for dividends on utility stock or a new exclusion section[228] making utility dividend income tax-free to the shareholders. Both approaches would raise the effective yield on utility stocks, making them relatively more attractive to investors. Making such income tax-free would also allow utilities to reduce the gross amount of dividend payments while still increasing effective dividend yields. But such tax changes might have drastic effects on markets for other securities;[229] in addition, the income variant effect of such a provision would raise new cries of social inequities in the tax laws. Although no definite conclusions can be reached here, the ideas should be examined closely.

The dividend-reinvestment exclusion offers another tax approach to the problems of public utilities, and it contains less potential for broad policy criticism. Under this concept a taxpayer could exclude from income all dividends received on utility stock as long as those dividends are reinvested in that stock.[230] His basis in his total stock holdings would remain the same as his original purchase price, unchanged by dividend reinvestment activity. Thus these dividends would eventually be taxed at capital gains rates upon disposition of the securities.[231]

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227. INT. REV. CODE OF 1954, § 116.

228. The income exclusion sections are INT. REV. CODE OF 1954, §§ 101-24.

229. *E.g.*, INT. REV. CODE OF 1954, § 103 (municipal securities).

230. *See Proposed Solutions*, *supra* note 12, pt. 4, at 1584.

231. For example, a taxpayer who purchased 100 shares in a utility for $1000 and then received $200 in dividends that were reinvested in, say, 20 more shares of stock, would hold 120 shares with a basis of $1000. If he then sold these shares for $10 each after holding the securities for over 6 months, the $200 gain would be taxed at capital gains rates. In this simple example, the $200 dividend income, normally taxed as ordinary income, has been "converted" into capital gains income, taxed at lower rates.

The dividend-reinvestment exclusion, therefore, would make utility investments more attractive, and thus could provide the industry a needed boost in equity capital. Such an exclusion, however, discriminates in favor of the wealthy taxpayer who does not need the dividend income for living expenses. For investors who rely on this source of income, their inability to reinvest results in a higher tax.[232] In addition, this proposal suffers from the familiar income variant effect that may be unacceptable to tax reformers.[233] Ultimately, if any tax approach is adopted, the decision must be based on a trade-off betwen the importance of stimulating new sources of equity capital for the utility industry and the possible inequities involved.

5. *Energy Recovery*

Energy recovery involves the conversion of municipal solid waste into useable energy forms, usually heat. Theoretically, such conversion could replace over 500,000 barrels of oil a day, but known plans to install conversion systems reveal likely 1980 savings of only 10 percent of that amount.[234] Both technological and economic restraints exist that make improvements in these figures difficult. Waste conversion is a highly capital-intensive process,[235] so only large metropolitan areas can support a plant under present-day technology.

Because municipalities file no federal tax returns, income tax provisions concerning energy recovery are clearly out of place. Yet the House of Representatives passed legislation in 1975 that would allow a 60-month amortization of waste conversion equipment.[236] Since it is unlikely that anyone other than a governmental body will be involved in such investments, the new tax measure is unusual indeed. If the federal government wants to assist local municipalities, other means such as revenue sharing are far more appropriate.

III

DAMPENING THE DEMAND FOR ENERGY

A. The Dimensions of Demand

Efforts to increase energy supplies may not be sufficient to achieve energy independence unless national energy policies also en-

232. Since the aim is to encourage new equity investment and since the wealthy obviously are better able so to invest, favoring that economic class may not be inequitable nor a reason for rejecting the dividend-exclusion concept.

233. See text accompanying notes 103-05 *supra.*

234. OFFICE OF ENERGY CONSERVATION, U.S. FEDERAL ENERGY ADMINISTRATION, ENERGY CONSERVATION STUDY 101-02 (1974) [hereinafter cited as ENERGY CONSERVATION STUDY].

235. One planned facility is expected to cost $25,000 per ton-day. *Id.* at 108.

236. Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. § 521 (1975).

courage a decrease in energy demands. Prior to the Arab oil embargo of 1973, the U.S. rate of growth of energy demand was accelerating.[237] Electric power requirements doubled between 1960 and 1970 and were growing at a rate of 7.4 percent a year.[238] Increased public awareness of energy problems, the impact of higher prices, a lower national speed limit, and a national recession caused a reversal of this trend; energy use declined in both 1974 and 1975 for the first 2-year drop since 1945-46.[239] It is unclear, however, whether this decline in overall energy consumption will continue once the economy recovers and industrial demands for energy increase.

The longrun aggregate demand for oil has significant ramifications for the United States. The Ford Foundation calculates that "zero energy growth" would result in a demand in the year 2000 of 44.7 percent less oil than would result from continuing growth at historical rates.[240] This potential drop in demand represents a huge difference in capital investment and exploration efforts required to develop energy supplies. In light of the great financial burden facing the energy industry[241] and the difficulty with which the industry will be able to develop new supplies, efforts to reduce demand become extremely important.

The shortrun solution of relying on higher prices to reduce demand may be unsatisfactory for two reasons. First, the price elasticity of demand for petroleum products is very low: a given rise in price does not result in a commensurate drop in consumption. For example, although the price of imported oil jumped from $2.48 a barrel in January 1972 to $13.23 a barrel in March 1975, total U.S. oil consumption per day remained almost unchanged.[242] Japan and Italy present additional examples: in 1973-74 those countries experienced a rise in oil prices of over 150 percent, but oil consumption was reduced by only 1.9 and 3.1 percent respectively.[243] Second, a reliance on higher prices may prove socially undesirable. As discussed earlier,[244] significantly higher prices would create enormous hardships on low-income families. A reliance on higher prices, therefore, would operate to disadvantage low-income consumers without achieving a general reduction

237. FORD FOUNDATION, EXPLORING ENERGY CHOICES 1 (1974).

238. *Id.* at 5.

239. Wall St. J., Apr. 5, 1976, at 11, col. 1 (Pac. Coast ed.). The bulk of the drop in 1975 was due to the economic recession. *Id.* Despite a 2-percent decline in per capita energy use, however, the nation's reliance on petroleum as an energy source increased. *Id.*

240. FORD FOUNDATION, *supra* note 3, at 508.

241. See text accompanying notes 44-55 *supra.*

242. See note 60 *supra.*

243. *Proposed Solutions, supra* note 12, pt. 4, at 1933.

244. See text accompanying note 61 *supra.*

of energy consumption in the short run. The policy question remains, however, whether the increased investment in energy resources that presumably would be triggered by higher prices outweighs the adverse economic and social effects. In the long run, price elasticity for oil would improve,[245] but the social effects of having high-cost energy would be magnified. Although government programs can be developed to ameliorate such social problems,[246] their cost could be enormous; the political ramifications of the combination of high oil prices and an enlarged social welfare program make the option untenable.

Any longrun solution must address the economic reality that the American economy and standard of living are built on a high level of energy consumption. If efforts to reduce that level retard economic growth[247] or disrupt living habits, public resistance may thoroughly impede national efforts at energy conservation. Changing public attitudes to accommodate the national rather than the individual good is a time-consuming and difficult job. Yet in the long run such efforts merely buy time; for example, a 20 percent drop in per capita consumption would stretch the quantity of energy historically used over 30 years over a period of about 45 years,[248] an improvement perhaps not even worth attempting in view of the drastic resultant change in lifestyle that would be required. More amenable to improvement than public attitudes are the inefficiencies in methods and machines used. These inefficiencies, to some extent, account for the high per capita consumption in the United States.[249] They can be removed without major social or economic disruption, and significant amounts of energy can be saved. The next sections to this Comment will examine several examples and will discuss possible income tax provisions designed to encourage change.

B. Automobile Gasoline Consumption

Transportation uses 31 percent of all energy consumed in the United States,[250] with petroleum the dominant fuel consumed.[251] Over 38 percent of the nation's daily oil requirements is for gasoline for high-

245. INDEPENDENCE, *supra* note 1, at 155-56.

246. See text accompanying note 66 *supra*.

247. The Ford Foundation's "zero energy growth" scenario would reduce the gross national product by 4 percent by the year 2000. FORD FOUNDATION, *supra* note 3, at 89.

248. NATIONAL ACADEMY OF SCIENCES, *supra* note 84, at 68.

249. The average American household consumes the energy equivalent of 848 gallons of gasoline, 8000 kilowatt hours of electricity, and 142,000 cubic feet of natural gas in 1 year. FORD FOUNDATION, *supra* note 3, at 115.

250. ENERGY STATISTICS, *supra* note 5, at 19.

251. *Proposed Solutions*, *supra* note 12, pt. 1, at 99.

way use.[252] Yet the efficiency of the average automobile has decreased in recent years[253] as Americans purchased larger cars weighted down by luxury options and burdened with inefficient pollution controls. The public response to gasoline shortages during the embargo shifted the automobile demand to smaller, more efficient vehicles.[254] The auto industry also responded to this new market force by improving fuel economy 13.5 percent in 1975.[255] But much larger improvements by 1980 are possible through technological advances, smaller engine sizes, and an increased shift to small cars in the existing auto fleet.[256] Although Congress has ordered the industry to meet certain efficiency goals by 1985,[257] it has done little to influence directly the public's buying habits. One possibility for future Congressional action is to use the income tax laws to encourage purchase of more efficient automobiles.[258]

One alternative examined by the House Committee on Ways and Means is allowing a tax credit to individuals who purchase automobiles with a low fuel consumption rate.[259] The credit would increase as fuel economy improved, but no credit would be allowed for vehicles with less than 20 miles per gallon consumption.[260] Arguably, this bonus would increase public demands for better gasoline mileage on all cars and would spur the auto industry as a consequence. The United States, however, has little experience with using tax credits to influence consumer demand.[261] One expert warns that such a credit would become a subsidy for the purchase of second family cars and thus cause an increase in gasoline consumption rather than the desired decrease.[262] Another argues that such a credit discriminates against large

252. S. PENNER & L. ICERMAN, *supra* note 14, at 4.

253. DOT/EPA STUDY, *supra* note 21, at 182.

254. *Id.* at 184.

255. *Id.* at 174.

256. *Id.* at 184. For an estimate of the various levels of improvement possible, *see id.* at 227.

257. Section 301 of the Energy Policy and Conservation Act, Pub. L. No. 94-163, 89 Stat. 902 (1975) (to be codified as 15 U.S.C. § 2002), mandates that the average fuel economy of automobiles sold in the United States equal 18.0 miles per gallon (MPG) in 1978, 19.0 MPG in 1979, and 20 MPG in 1980. Standards for later years must be promulgated by the Secretary of Transportation no later than July 1, 1977.

258. A 40 percent improvement in the gas mileage of the existing car fleet will reduce gasoline consumption by 10 percent by 1980, a savings of 600,000 barrels of gasoline a day. *Proposed Solutions, supra* note 12, pt. 3, at 1419.

259. *Id.* pt. 1, at 13.

260. *Id.*

261. The most recent attempt to encourage consumer spending is the temporary new personal residence credit, designed to stimulate the housing market. INT. REV. CODE OF 1954, § 44. This provision is still too new to permit an evaluation of its effectiveness.

262. *Proposed Solutions, supra* note 12, pt. 2, at 565.

families who must have larger cars.[263] In addition, there is no evidence that the credit would be more of an incentive to small car purchasers than existing economic incentives of lower maintenance and operating costs.[264] Finally, the credit would have to be available to automobile buyers for many years before the existing auto fleet is significantly affected. Consequently, much further study is needed before this tax credit is enacted.

In a similar vein, the Energy Conservation and Conversion Bill of 1975 included a tax credit of 25 percent of the purchase price, up to a maximum credit of $750, of any electric powered vehicle purchased for personal or family use.[265] The proposed credit suffers not only from the same problems as the small car purchase credit, but also from a lack of information on the existence of a viable electric auto industry or the potential demand created by this tax incentive.[266] If such an industry does not exist, using the tax laws in the hope of creating enough of a consumer demand to justify its development is inefficient.

C. *Residential Energy Consumption*

Although only 22 percent of energy consumption is in the home, nearly three-quarters of that amount is for heating, cooling, and ventilation.[267] Residential construction traditionally relies on a minimum of insulation or other energy saving devices, resulting in a 10 to 20 percent waste.[268] Since over 20 percent of all natural gas and over 10

263. *Id.*, pt. 3, at 1465.

264. Similarly, any financial penalty for the purchase of inefficient automobiles would have to be very large before it would influence many big-car buyers. Most luxury cars are purchased with a conscious recognition of the higher initial costs, higher insurance rates, higher fuel bills, and more expensive maintenance costs involved. An additional tax of a few hundred dollars, as has been proposed from time to time, is hardly a significant financial blow to someone already committed to an expensive form of transportation. DOT/EPA STUDY, *supra* note 21, at 248-49. Such a tax, levied as a manufacturer's excise tax, was added to the Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. (1975), during debate on the floor of the House. 121 CONG. REC. H5350 (daily ed. June 12, 1975). The bill, however, has not yet passed the Senate.

265. Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess., § 333 (1975).

266. This credit was not a part of the original bill, but was added after little debate on the floor of the House. No hearings were ever held regarding the possible impact of such a tax provision. Although the Congressmen who introduced the amendment had held hearings on the industry in general, they admitted that many manufacturers of electric vehicles were in financial trouble. *See* 121 CONG. REC. H5426-28 (daily ed. June 13, 1975).

267. INDEPENDENCE, *supra* note 1, at 164. *See also Proposed Solutions, supra* note 12, pt. 4, at 1712.

268. INDEPENDENCE, *supra* note 1, at 164.

percent of all petroleum is consumed in heating and cooling,[269] the potential for savings is large. Insulating 4 million homes, for example, could reduce oil consumption by 1.5 million barrels a day,[270] or 25 percent of present imports.

With heating oil at 30¢ a gallon, it makes economic sense for the homeowner to borrow the necessary funds to insulate, particularly in cold weather areas.[271] Yet inflation and recession make families reluctant to invest in this manner. Chase Econometics, Inc., an economic forecasting organization, studied the possible effect of enacting a tax credit to encourage installation of insulation in existing homes. It concluded that a 25 percent credit would encourage 2.5 million homeowners to act each year between now and 1985, and a 50 percent credit would do so for 4 million homeowners.[272] Although the revenue loss to the government could be as high as $1.2 billion, the study estimated that new jobs created in the insulating and related industries would more than offset this loss with higher tax revenues.[273]

Based primarily on this study, the House of Representatives passed provisions in 1975 that would allow a temporary 30 percent credit up to $150 for certain insulation or storm window or door improvements in a taxpayer's principal residence.[274] Obviously, this credit is too little for too short a period. Assuming that the Chase study is valid, Congress has before it one of the few meaningful attempts to predict the impact of a new tax section. The study should encourage the legislators to enact a homeowner's insulation credit not that acts as a short term palliative, but that has longrun potential. The House Committee on Ways and Means estimated that its provision will result in a 50,000 to 100,000 barrels-a-day savings by 1985.[275] Such a small

269. Twenty-two percent of all petroleum consumption and 40.6 percent of all natural gas consumption were in the household and commercial sector. *Proposed Solutions, supra* note 12, pt. 1, at 99. Seventy percent of all energy in this sector was consumed by households, 72 percent for heating and cooling. INDEPENDENCE, *supra* note 1, at 164. Multiplying these figures together reaches the percentages cited in the text.

270. *Id.*, pt. 4, at 1647.

271. The average home costs $700 to insulate. A 10-year loan for that amount would amortize at the rate of approximately $110 per year. The increased insulation should save an average of 400 to 500 gallons of heating oil a year, a savings of $120 to $150 (assuming a 30¢ per gallon cost). The savings on fuel expense is more than enough to pay for the insulation. FORD FOUNDATION, *supra* note 3, at 48-49.

272. *Proposed Solutions, supra* note 12, pt. 4, at 1647.

273. *Id.*, pt. 4, at 1646-51.

274. Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. § 331 (1975). The proposal would limit the credit to taxpayers who installed insulation or other named improvements prior to January 1, 1978. In addition, the basis of the property would not be increased to reflect that portion of the improvement equal to the credit allowed. *Id.*

275. H.R. REP. No. 94-221, 94th Cong., 1st Sess. 17 (1975). By contrast, the

energy impact is hardly worth adding a new tax section to the Code. The Senate has yet to act on this measure; before it does, it should either broaden the credit or drop it altogether.

D. *Energy and America's Industry*

Inefficiencies in industrial use of energy can be grouped into three categories: (1) failure to recycle waste materials; (2) failure to maintain operating and furnace systems at peak efficiency; and (3) failure to implement new process technologies that utilize lower amounts of energy.[276] Reducing these inefficiencies could have a marked effect on the nation's energy problem, with recycling alone generating a total potential savings of from 1.0 to 2.3 percent of the total energy bill.[277] Many constraints, including financing, deter industrial concerns from undertaking a major conservation effort.[278] Once again, selective tax legislation can ease the process and, to the extent that industry responds, enhance the outlook for energy independence.

Specific income tax changes that should be enacted include accelerated depreciation/amortization for energy saving equipment,[279] or additional investment tax credits for the purchase of such equipment. Unlike incentives to produce energy, however, these provisions are not designed to encourage new profit-related investment.[280] As a consequence, their incentive value may be quite limited.[281] The Federal Energy Administration, after evaluating several types of incentives for conserving industrial energy, concluded that tax incentives are the least effective in saving energy.[282] Nonetheless, assuming that financial assistance is necessary to insure that industry will conserve energy, these

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Chase study anticipated an annual 135 million barrel savings by 1977 from a continuing 25 percent/$150 credit. *Proposed Solutions, supra* note 12, pt. 4, at 1648.

276. *See* ENERGY CONSERVATION STUDY, *supra* note 234, at 149.

277. *Id.* at 64-65.

278. *Id.* at 156-57.

279. For example, section 521 of the Energy Conservation and Conversion Bill of 1975, H.R. 6860, 94th Cong., 1st Sess. (1975), would allow a 60-month amortization period for solar energy equipment.

280. Energy conservation can improve profits by reducing fuel expenses. But this incidental profit usually offers a much lower rate of return than do investments made specifically in manufacturing or other direct income-producing equipment.

281. For example, although the Internal Revenue Code allows an accelerated write-off of pollution control equipment (INT. REV. CODE OF 1954, § 169), it is the regulations established by federal legislation that have stimulated industry to invest in these facilities. In fact, industry has generally chosen not to use this special tax provision, but instead has found it more beneficial to take advantage of existing investment tax credit and accelerated depreciation provisions. ENERGY CONSERVATION STUDY, *supra* note 234, at 168-69.

282. *Id.* at 182.

tax proposals must be compared to other proposals in terms of administrative costs as well as economic effect.[283]

CONCLUSION

Today's crisis in energy is as much a crisis of capital as it is one of diminishing natural resources. The size of the problem far exceeds historical financial norms of the energy industry, yet national policies as reflected in Congressional activities seem to fail to grasp this development. Price controls are counterproductive to efforts both to conserve energy and to develop new sources of supply. A free market, while solving the supply problem, would have mixed effect on demand and would involve high social and political costs; consequently, price controls on oil and gas appear here to stay. Given these realities and given that private industry remains this nation's most viable resource for economic problem-solving, some form of economic assistance is needed to insure that price controls do not stifle new risk-taking investment.

Tax incentives are a realistic method of providing financial aid and economic stimulus to the energy industry. Existing provisions favoring fossil fuel development must be retained to insure continued high production of those resources. In addition, selective tax legislation can accelerate investment in new forms of energy, which can eventually substitute for the rapidly dwindling stocks of oil and gas. Use of the tax laws to encourage conservation, however, may have only a limited effect.

The importance of meeting the energy challenge cannot be underestimated. The Internal Revenue Code can be particularly effective, both politically and economically, in achieving national energy goals.

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283. The Energy Policy and Conservation Act, Pub. L. No. 94-163, §§ 371-76, 89 Stat. 936 (1975) (to be codified as 42 U.S.C. §§ 6341-46), also mandates the Federal Energy Administration to set an industrial efficiency improvement target for each of the most energy-consumptive industries. Corporations must make progress reports, under pain of contempt, but no specific penalty for failing to meet the goals is imposed.