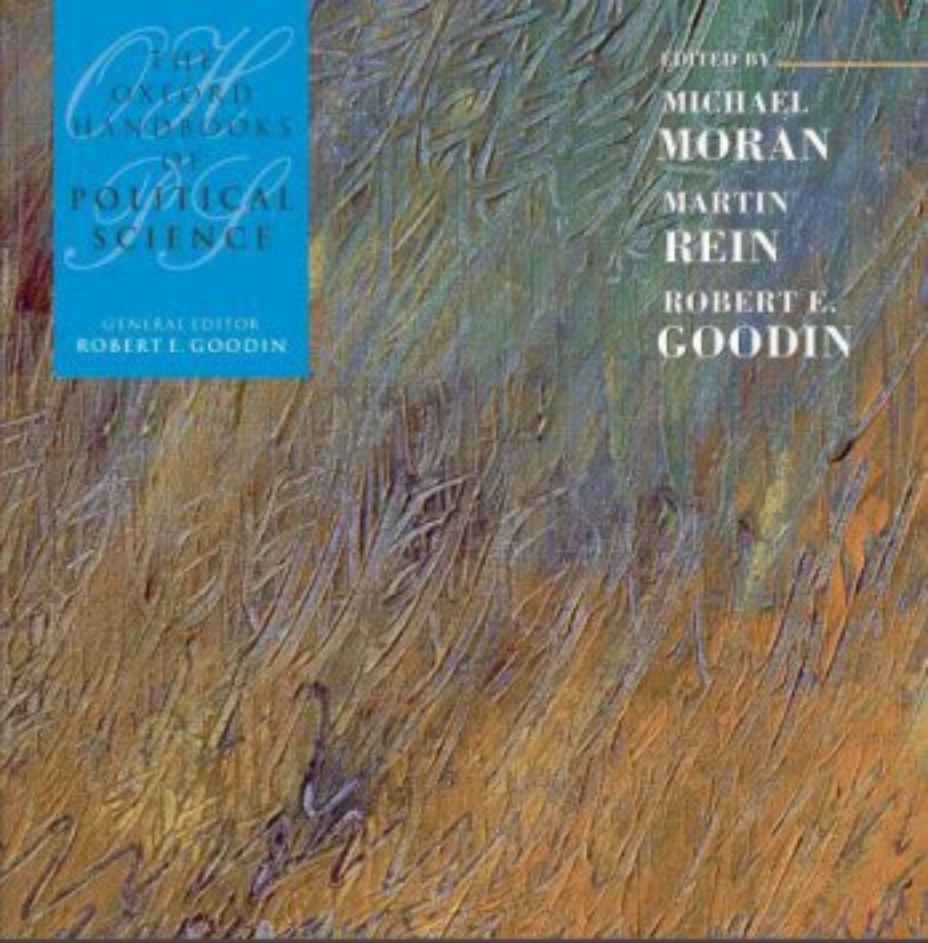

The Oxford Handbook *of* PUBLIC POLICY

(19**) admonition: "scholars often neglect the hard realities that impinge on ideal solutions and the day-to-day requirements that constrain the statesman's options."

3. "Politics," "Institutions," "Interests," and "Energy"

Whatever policy or innovation one may have in mind does depend upon a fourfold connection of technology, economics and finance, law, and politics. If the proposal violates scientific knowledge and the related technology, it will not work. But it will not make any difference either, unless the innovation can be financed by someone, somehow. Finance depends upon defining parties' rights and duties (such as the terms on which the financier can sue if payment is not made). But in the end, there is some point at which those who would do something must resort to politics, trading amongst incommensurable values.

"Politics" is the defining framework of "policy" organizations. "Politics" can mean the use and control of an energy resource in order to achieve some result that has nothing to do with energy per se. It can also mean as the emergent term "the geopolitics of energy" suggests, the ability to interdict because of physical location. So it was in 1973. But the main interest in this chapter is in the making of decisions in order to achieve some result about energy both for now and for the future.

Those who would pay attention to energy would find it useful to know the institutions of energy policy making. Institutions may not be adequate causes to explain results. But the ways they come into existence, gain a presence, and assume functions indicate that decision makers, acting from interests deem them important.

In most countries, an energy decision seems to be a function mainly of the executive—whether this is the political part of the executive or the career/technical bureaucracy—with fairly limited effects from any collective representative body. Equally important is what interests or influence gives the agency its tone and function, and how the agency asserts its self-perceived mission. Perhaps the intense passion that people felt about the discomforts of the 1973 crisis explains why the United States was the only country with a separate Department of Energy, compared with nine IEA countries in 1983 and three in 1976.

As of 2005 the Secretary of Energy, under whose domain some of the major energy industries lie, is head of a department that had been established for a supply objective with responsibility also for collecting data from a national survey of greenhouse gas emissions. It is also the department for weapons development.

The idea of combining functions into one unified department is very influential in American (and possibly other countries') thinking about the organization of government. There is a special set of institutions in the regulatory agencies. These

agencies seem to have new roles almost everywhere, or themselves to be new, and studies of them are beginning to become available.

Regulation is a process in which in principle, private parties may be asked to secure prior clearance, to accept concurrent oversight and after-the-fact review, with rewards and penalties being attached.

The role of the judiciary has been a very big factor in American decision making about energy issues. Through judicial decision, the natural gas part of the energy market was put under price regulation.[1] Judicial interpretation of what a statute (the Natural Gas Policy Act of 1938) required an agency (the Federal Power Commission) to do in interpreting a contract (by the Phillips Petroleum Company), imposed legal authority for producer price regulation for almost twenty-four years. Similar phenomena have been major factors in German decision making about nuclear plants, about subsidies to encourage wind and solar electric power, and have some role in the emerging Australian regulatory system. Regulatory systems have existed in some form through much of history, since ancient Rome. But regulatory systems that seem somewhat like the American format have been created in many countries within the past two decades.

Economists under the impact of neoclassical reasoning, talk of "command and control" regulation. In fact, there is not all that much "command" and little "control." The strength and the limitations of a regulatory agency's dealings with regulated firms can be expressed in terms of how much it can actually command the firm, and how much it bargains with the firm on a continuing basis. Four variables determine the strength or weakness of the regulatory agency's actual ability to make decisions. These are: the degree of *complexity* of the subject being regulated; the changing *beliefs, myths, and values* that encourage the society and its political leadership to invest the agency with authority and latitude or to withhold that authority and latitude; the *access of the regulated interests* to other influential decision points that have some control over the regulatory agency; and the *reality of tomorrow* or the expectation of future engagement with the regulated interests.

Federalism can also be extremely important if the political regime allows different national and subnational decision making on energy questions. This has been notably important in the United States and has at least sometimes been important in Canada, and should be taken into account in thinking about Australia and India.

As regards legislative law *making*, it is well known that US party discipline or cohesion is nowhere near that in otherwise similar countries such as the United Kingdom, Canada, and Australia. The US president, powerful as he is, does not control the agenda of either House; nor does either House take precedence over the other.

Political scientists generally find it useful to deal with institutions but the true first principle of political analysis is "interest." Interest is not merely the same thing as "overt attitude." It is the inherent necessity.

[1] See below on how this happened.

What we must know is what are the uses and who are the users. We must know the gains and losses *and therefore, the interests likely to be affected, activated, or neutralized politically*, in any set of imagined decisions. From this, we are likely to have some better idea of the likelihood of feasibility and viability.

Energy policy is necessarily involved with the inherent conflict between producer interests and consumer interests. Industrial customers in all sectors have interests that diverge from those who purchase energy in some form to use in their residences, in contrast to those who purchase energy to use in their shops and stores. Political science can take some account of energy issues within the conventional understandings of a petroleum regime. In 1900 total world oil production was something like 150 million barrels annually. In 2002, the world as a whole produced about 30 billion barrels per annum. By that count, the world is 200 times more dependent on petroleum in the twenty-first century than it was at the beginning of the twentieth century.

The importing country—or the importing part of a country with adequate resources—has the necessity of finding a supply of energy. In the circumstances of the early twenty-first century this most often means petroleum or natural gas. There are a variety of other issues that can emerge. In the contemporary United States, one of the contending positions is not to find new physical supply, but to practice conservation and efficiency as an equivalent means of supply (Lovins et al. 2004). Physical protection by force or threat of force is another means. In addition, there is economic protection via purchase contracts, storage mechanisms, and reserves as part of means of doing business.

Implicitly what we have described is the problem of allocating supply. Allocation can be done by a completely free market, by some kind of regulated market, or (in theory) by complete central control. If supply is taken as the objective, what is integral is the question of whether or not money making is also an objective. On the other hand, in exporting countries, money making is a crucial objective, whether for the government or for governmental facilitation so that private persons can make money. This distinguishes such different countries as the former Soviet Union, present Russia or the other of the former Soviet republics, Saudi Arabia, Nigeria, or Venezuela.

There are, especially for exporting countries, the issues of adopting market terms for governmental action, as in the creation of state-operated companies that behave more or less as if they were private companies (Grayson 1981; Scholes 1989, 19–21).

As both the oil and uranium cases show, energy policy has involved a permanent intersection, not only for the United States but also for Britain with military policy. This war/defense-related interest goes back almost a hundred years. The example was set first by the United Kingdom. The naval objective was to convert warships from coal-burning engines to oil-burning engines. The Anglo-Persian Oil Company was set up about 1907, evidently as a private venture (Caroe 1951, 71). In just a few years, Winston Churchill, not yet forty years old, pushed successfully to get the government to take half-ownership of the company.[2]

[2] Black (2004, 128 65) offers a detailed discussion of the negotiations and finally, parliamentary sanction of the arrangement that gave the British government a 50% interest in Anglo Persian Oil Company.

American firms were interested in the Middle East, in competition with their British and Anglo-Dutch rivals. They desired governmental help for their business purposes. But the United States military had no particular interest. The situation changed as of the Second World War. The United States was then the second biggest oil-producing country and domestic United States oil was deemed virtually invulnerable. The Second World War left a strong argument amongst members of American elites, that "resources for America's future" must be conserved, and that Middle East oil should be secured.

The Conservation/Environmental Objective historically may have involved the protection of energy resources. By now, the protection of the total environment from adverse impacts is the bigger political question. As of the 1970s, this meant the "Faustian bargain" concern about permanent custody of supra-dangerous nuclear wastes. Now it also means the global climate change issues that are embodied in the Kyoto Treaty.[3]

The Social Objective is to deal with policies as supplements to presumptive market failure. These may include short-term, sudden, disruptive price changes, even for prosperous and middle-class consumers.[4] They may also involve the issue of distribution of benefits to different classes of owners, such as was undertaken by the Texas system of pro-rationing that protected independent producers and royalty owners from the impact of the major international companies.

What pass as conservation/environmental objectives may in reality be distributive social protection. This may be illustrated when the question of "environmental impact" is advanced to prevent some energy facility, such as a liquified natural gas (LNG), from being developed in what prior users find a desirable area for other purposes.

4. Experience from US Policy Making

4.1 The Problem of Massive Legislation

Energy legislation at least since the 1973 crisis has two qualities:

1. *The conflicts are so intense and protracted that new legislation appears almost impossible.* During the Carter administration, Speaker Thomas P. O'Neill adopted the tactic of the omnibus bill. "This practicing of 'packaging' or 'bundling' a number of legislative proposals into one legislative measure"—known as "omnibus legislation"—"has been engaged in for about half a century" (Patterson 2001, ix). Glen S. Krutz (2001, 122) "found omnibus use

[3] Since the Kyoto Treaty issues are so strongly advocated, one should call attention to one forceful advocate of the other side (Michaels and Balling 2000, 209 13).

[4] See below on the natural gas case.

to be a positive and significant influence on legislative productivity." It worked well for passing the Carter program through the House. It has not worked so well in energy since.

From 1954 onward, the industry aim was get Congress to override the *Phillips* decision and deregulate natural gas. After what was probably the hardest-fought energy battle during the Carter administration, Congress adopted a law (the Natural Gas Policy Act of 1978) that provided for phased price increases.

There followed a tortuous fourteen years until another major energy law was adopted: the Energy Policy Act of 1992, adopted by a Democratic Congress when George H. W. Bush was president. In some respects, it is a far-reaching law. To give some sense of its physical size it amounts to 443 printed pages and, one may estimate crudely about 250,000 words.

In American law-making terminology, a major section of a statute is called a "title." The Energy Policy Act has some thirty titles. Every provision is there for a reason. Or the provision is there because some person of influence or reputation suggested it, or was in any case prepared to sanction it.[5]

The politically salient questions are: "Who was interested in energy efficiency and why? What did they give for it? What has been done with it since the law was adopted?" Title VII deals, as noted with electricity and contains important modifications of the Federal Power Act. That provision more or less assumes the theory that generation is not a natural monopoly that has to be regulated.

Nearly all other energy legislative efforts have been blocked by what Uslaner (1989) calls "destructive coalitions of minorities." The net result has been that there has been no comprehensive energy legislation in the United States since that time.

The Energy Policy Act of 2003 is said to be 900 pages, which means it is about twice the size of the Energy Policy Act of 1992. In 2003, the crucial and difficult features were manifestations of the petroleum regime. One was the proposal for drilling in the Alaskan National Wildlife Reserve (ANWR). This is a high-priority item for the petroleum industry, as the area is estimated to contain about 10 billion barrels.

The other issue was rather technical, involving a chemical known as MTBE (methyl tertiary butyl ether). MTBE was used in reformulated gasoline. Reformulated gas is required in some circumstances, under Act of Congress, to satisfy EPA requirements in cities with the worst smog.[6] On the other hand, MBTE has been found to have leached into the underground water supply in some areas, to be extremely difficult to remove, and apparently to be cancer related. As a result, litigation has been brought against some companies. We would not spend time on so

[5] Most students of the legislative process know how important staff is (are), but the present author has never seen a detailed, informed, quantitative study that shows how often legislative provisions result from staff initiatives that members neither know about nor approve nor have left within the scope of the staff.

[6] The summary explanation of MTBE in this paragraph comes from the Environmental Protection Agency: www.epa.gov/mtbe.faq.htm.

arcane a matter as MTBE, except that it illustrates how "technical" matters may become the critical items that jam the entire process. If somewhere in the legislative process, there had not been some actor determined to protect MTBE, the 2003 legislation almost surely would have passed and been signed by the president.

2. *The massive legislation, once adopted is likely to lack intellectual coherence.* The far-reaching effects of energy generate a demand for comprehensive decisions, in contrast to "piecemeal" decisions. It is likely to be so complex that no one understands it, and therefore is likely to be unadministrable.

The two features join to impose special burdens upon the regulatory process, which also plays a large role in energy decision making. United States energy policy also involves "research and development," or the spending of large amounts of money from the federal treasury. That, except for passing references, is one also that is also bypassed in this chapter.

4.2 Regulatory Decision Making

Regulation in the United States has been primarily a means of dealing with the social protection objective. In petroleum proper, there has been relatively little governmental regulation over many years, though there have been increases during patent national emergencies (Bradley 1996, vol. i). There was a period in which oil producers were limited in the amount they could pump, theoretically on the ground of protecting the oil source from wasteful or damaging exploitation. But a significant element of this was to protect smaller producers from the really major producers (Bradley 1996). There were also controls for a time, to prevent too much cheaper oil (mainly Middle Eastern) from being imported. The advantage in such regulation was in favor of domestic producers against the international firms that had the money, skill, and diplomatic backing to operate in Saudi Arabia and elsewhere (Engler 1961).

The distributional issue became most apparent in the regulation of pricing in the natural gas market. Natural gas was a fuel not widely marketed before the 1940s. The incentive for investing in long-distance pipeline technology was not very high. Then came the Second World War. The federal government paid for big pipelines to move gasoline run from the producing areas in Texas to the East Coast. After the war, these pipelines were sold, and a company known as the Texas Eastern Transmission Company converted them to carry natural gas (Goodwin 1980, 130–2).

Protection of urban customers, now that gas could become big business in the cities, had a different economic and political meaning. Natural gas policy was one of the matters where technology, economics and finance, politics, and law created an issue in the 1940s that had hardly existed before.

It provided a new reality to test the language of the Natural Gas Act of 1938. Under the law, the prices from the transmission companies to the distributors were regulated by the Federal Power Commission. The producers charged what they saw fit, and these became part of the transmission prices automatically to be passed through to the distributors and, through them automatically to the end-use customers.

The issue arrived in the form of a dispute about what contracts would mean and how to interpret them. Producers (who brought the gas out of the ground) and pipelines (people who bought the gas and transported it to sell to their customers) had contracts with each other. The contract would state that Producer would sell X million cubic feet of gas to Y for price Z. The contract would also say, "if such and such event occurs, then the price will go to 125% of Z."

The fight that began in 1948 in the FPC went on in a virtual thirty years' war. Its settlement came in the form of the Natural Gas Policy Act of 1978, mentioned before, the complex new statute to govern this fuel. The Federal Energy Regulatory Commission had to figure out how to administer this law, and to do so in a way compatible to most of the forces at play in Congress.

In the 1978 legislation, Congress set some higher gas prices than the contracts called for. The question is: did that mean that the existing contracts would have to stay at the old price until they expired, which might mean several years? Within the Commission there were Commissioners and staff members who wanted to move as rapidly as possible to something like deregulation. There was the minority of Commissioners (the present author among them, and sometimes the present author only) and staff who wanted to retain as much as possible of the regulation, in the interest of the household customer. Suffice it to say, the former won and the latter lost.

This discussion is intended to show that the regulatory process has an important part in the United States natural gas policy arena. It has, and characteristically has had a relatively modest role in the petroleum arena. It has a very large part in the electric arena. In the past twenty years, since the Reagan administration officially advocated deregulation, the regulators have been prone to advocate deregulation as well. But reality is much more complicated. The concept of creating a competitive electric power system (or of deregulating the electric system to the extent legally possible) was in motion. In the United States, the Federal Energy Regulatory Commission has argued that Congress required it to follow that path. It is seldom that a simple and patent statement of FERC statutory authority can comfortably be accepted unless the words are so explicit as to admit no doubt.

A claim of mandatory congressional instruction may often be taken as a claim for protection in doing what the agency would itself like to do. In the regulated electric utility industry, the Commission may have acted wisely, or not. It may well have acted within its authority. But, subject to the controversy this may bring, *FERC did not have to do what it did; it chose to do what it did.*

The Commission, having developed a procedure for application to natural gas, could find no basis for not applying the same concepts to electricity. FERC decided a

long time ago that it would favor open access when and if it could. After all, the Commission had learned transmission policy in the natural gas area, and it is plausible to think it would try to apply the same principles (or "principles") to electricity. Moreover, the parties ("interests") who had all along wanted wheeling could be expected to bring wheeling cases. They did.

The heavy-duty transmission lines that carry power in bulk have historically been owned by the individual utility companies. Those lines can only be built by going, often for many miles, through other people's real estate. The companies, though privately owned are granted certain rights of eminent domain, which is "the inherent right of a governmental entity to take privately owned property, especially land, and convert it to public use, subject to reasonable compensation for the taking" (Garner 1999, 541).

The battles can be tedious. In the United States at any rate, there are no well-known and systematized data as to the extent of a problem securing transmission routes. The present author stands himself as authority on the point. In 2003, he was a member of the Electricity Advisory Board of the United States Department of Energy. He thought it would aid the board's deliberations if data could obtained, but was unable to find such data. There are some well-known individual cases.

Several years ago, the present author made an error in anticipating the course of action. He thought that FERC action in claiming certain jurisdiction, against the claims of states, would be the next storm on the electric power front. The Commission's actions precipitate a situation that can be restated in the following proposition: every solution produces some new problem.

In this case, the Commission's solution contributed to threats of bulk power system reliability. Bulk power system reliability was undervalued in the FERC's new policy. When the vertically integrated utilities controlled their geographic domains, they also controlled access to their transmission lines. They then began to plan jointly for areas described as "pools." The volume and direction of the traffic increased beyond the planned capacity of the system. Herein lies the threat to bulk power system reliability. There are not many bulk power transmission failures, but they are serious. The evidence is now available in the form of the Lake Erie blackout of 2003.

Life does not remain stagnant. Under its new policies, the Federal Energy Regulatory Commission has sponsored the creation of "regional transmission organizations," which join the transmission facilities of all the companies within a defined area. Under American federalism, one state (Virginia) forbade the utilities under state regulation to do so.

Under this new policy, the Commission has maintained that by virtue of a provision in the Energy Policy Act of 1992, it has that authority to override the state. But behind this is a national concern that becomes global as to how to structure an electric industry. The principle that has already been accepted is that the government should cease utility regulation. The practice has become that of opening the business to others.

4.3 What Is the Quality of the Scientific Advice?

Energy policy also forces attention to the quality of scientific advice. It is apparent that over the past three decades, things have not gone very well. The need for "better" is not hard to find. If top-level leaders are not all that good, social scientists (political scientists included) have not much justification in hard criticism. The belief, which is implicit in our criticisms (Davis 1992; Keohane 1982; deLeon 1988; Tugwell 1988), can easily be little more than a conceit, unless we at least face up to the hard problems that policy makers do face.

This allows some reconsideration of Harold D. Lasswell. Most comment on "the policy sciences" appears to wash out the Lasswellian essence. There are certain things that Lasswell knew or believed. Policy, as soon as people get to the hard things over which there is struggle, is enveloped in clouds of pretense. This comes from writing a book on what the young Lasswell then thought of as "the world war." Before there was Rational Choice, easy to learn and apply if you have the mathematics and believe neoclassical economics, there is also Irrational Choice, easy to see and hard to systematize. This comes from the man who sought to bring psychoanalysis into politics.

Then there is politics as struggle, and the expectation of hierarchy (not the same as preference for hierarchy), even if it is not prescribed and proclaimed as formal doctrine. This is the politics: who gets what, when, how (Lasswell 1950); a shorthand phrase that refers to symbols, violence, goods, and practices as means of attaining and maintaining control.

All this must be assumed, for one is aware of no sign that Lasswell renounced any of it. Rather, in an almost Hobbesian understanding that the world needs something better than the mess its top leaders produce, the knowledge for the making and maintaining of commonwealths is framed in the language of "the policy sciences" (Lerner and Lasswell 1951).

The Lasswellian problem, meaning the need for better substantive policy making, is quite real for energy. But it is doubtful if it can ever be applied very well, for it requires too much good knowledge in a time of urgent action, and it also requires people at the highest levels of authority to give up too much authority themselves.

What is more at least as far as energy goes, is the same problem of over-certain belief in the natural science–engineering world and in the world of journalism which has the function of continually re-educating us all.

Policy analysts of the political-science type do not have to decide all the pertinent issues. But as a profession not primarily for hire, and specializing in the governmental process and the evaluation of data, there is at least one crucial role for political science. That is accentuating the needed resolution in the conflicts between the public positions of the experts who are most influential or who make the boldest claims that their opinions should be decisive.

There is a politics of conflict over what is and is not expert that becomes very intense when natural science/engineering policy analysis is involved. The politics of

expertise can become a bitter battle in which the holders of approach X give little, if any presumption of competence to the holders of approach Y (Goodstein 2004). We can illustrate this with a number of examples.

4.4 Reasoning about Oil Exhaustion

The political science-type policy analyst should recognize that there is considerable debate about the concept both of the exhaustion of oil, and of its consequences for policy. There is intense controversy about this issue. The concept of oil exhaustion has run throughout the history of the industry. Wildavsky, Tenenbaum et al. (1981) demonstrated this quite neatly. Individual reputations and careers are now implicated, at least by the way they handle their materials (Hughes 2005, 12). The lesson that we can project, if there is an audience that is interested at all in what we say, is that much of what is said amounts to scare tactics.

Oil exhaustion has also been a matter of discourse for educated people who conceive themselves as having a "public interest," not an investment interest in energy (Dewhurst et al. 1947, 574–5). This issue also has an interest for people in the oil business. It stands to reason that if you wish to put your effort or your money into place X, you have some desire to know how much you will find and how it will last.

It is important to make clear that the arguments need clarity and resolution.

M. King Hubbert, a Shell geologist, stands out as a forecaster who anticipated in 1956 that United States production would reach its maximum in 1970. Apparently, he is regarded by many observers as having been right. There is nonetheless a conflict between Hubbert Curve advocates and economics, on exhaustion of resources (whether there is an "end of oil," when) and of the policy options attendant to the answer. The National Research Council–National Academy of Engineering (2004) observed that, "For decades, various analysts have predicted petroleum resource constraints. US production peaked in the 1970s, but international production has so far shown no signs of faltering."

The statement that production shows no signs of faltering is clearly opposed by others. That is a central intellectual issue posed by the Hubbert thesis and at the same time, by the emergence of debate about what policies are consequent to a belief in global warming.

Kenneth S. Deffeyes (2001, 186) includes the following sentence in his final chapter: "We could go happily on, pretending either (1) a permanent decline in world oil production won't happen or (2) it doesn't matter.... In 2008 the oil won't be there." As an example, Deffeyes argues that Hubbert's methodology, applied to the whole world, tells us that the peak production year after which the decline of oil would be seen, is at hand. The "peaking" concept is also the intellectual center of a book by Paul Roberts (2005, 47–72). Deffeyes (2001, 149) is emphatic: "No Caspian

Sea exploration, no drilling in the South China Sea, no SUV replacements, no renewable energy project can be brought in at a sufficient rate to avoid a bidding war for the remaining oil.'

Deffeyes pays no attention in his argument, except by a footnote reference, to the economic theory under which the Hubbert estimate has to be rejected.[7] Deffeyes says nothing about why his approach should be regarded as better than Adelman and Lynch's (1997) approach. What is involved, however, is the economists' challenge to the reasoning of Hubbert and others, a challenge grounded in economic theory (Adelman 1997).

At one level, Adelman and Lynch challenge empirically. After the fact they say, Hubbert's numbers were wrong, as were the numbers of others who are respected and influential.

Adelman and Lynch (1997, 56) describe Hubbert's bell-shaped curve of ultimately recoverable reserves (URRs): "Hubbert correctly predicted that US crude oil output would peak in 1970." But they raise the expected economist's question, "was it the result of resource exhaustion *or* of cheaper oil imports now freely available?"

They say that discoveries continue, and the reserve number continues to get bigger. Moreover, they say that the natural gas numbers continued to show production above Adelman and Lynch's estimated peak and continue rising. They, as would be expected for economists, explain it as the result of the Natural Gas Policy Act and the end of end-use regulation.

Hubbert gets emphasis here because his method is so famous, and because it is the vehicle for Deffeyes's analysis. However, they have a trenchant comment on a consulting firm in the industry known as Petroconsultants. Petroconsultants had in 1986, estimated that decline before 1990 was "imminent" and "unstoppable." They say: "This was not only wrong, it was the contrary of truth. Ten years later non-OPEC proved 15% more (where decline had been thought unstoppable); outside the US, 35% more."

Lovins does not expressly take up the question of the end of oil, for he stands as perhaps the most noted exponent of efficiency, for the thesis that the issue does not have to be faced at all. The executive summary of his most recent book claims: "*Winning the Oil Endgame* offers a coherent strategy for ending oil dependence, starting with the United States but applicable worldwide." Lovins (2004) continues:

> There are many analyses of the oil problem. This synthesis is the first oil *solution* one led by business for profit, not dictated by government or for reasons of ideology. This road map is independent, peer reviewed, written for business and military leaders, and co funded by the Pentagon. It combines innovative technologies and new business models with uncommon public policies: market oriented without taxes, innovation driven without mandates, not dependent on major (if any) national legislation, and designed to support, not distort, business logic.

[7] "One of the best critical rejections of Hubbert's approach," he says, "is M. A. Adelman and M. C. Lynch (1997)" (Deffeyes 2001, 191 n. 9).