7. Mergers and Other Corporate Combinations in the Natural Gas Industry

Corporate combinations in the natural gas industry are growing in number and size as companies adjust to restructuring and increased levels of competition in the regulated sectors of the energy industry. Although the number of proposed mergers has increased significantly in recent years, many of the more innovative corporate combinations have been in the form of joint ventures and strategic alliances. In part this reflects the fact that such ventures are subject to less stringent regulatory review than are mergers. But it also is a reflection of the as-yet experimental nature of many of the combinations, ventures, and even strategic plans. Some of the major findings of the chapter include the following:

- Totaling $39 billion in 1997, mergers and acquisitions among companies in the natural gas industry have increased nearly four-fold since 1990. The value of mergers throughout the energy sector has also increased more than four-fold since 1992. Nevertheless it should be noted that despite the increase in value, combinations in the energy sector remained a relatively small part of corporate combinations in general, representing only about 11 percent of the total value of all combinations in 1997.

- In 1995, just prior to FERC Order 888 which initiated restructuring in the electric power industry, utility combinations increased sharply, accounting for two-thirds of all corporate combinations in the energy sector compared with 42 percent in 1990. Since 1995, the value of utility combinations has increased by 143 percent.

- Convergence of the gas and electricity markets or of overall energy services is a much discussed topic. However, relatively few recent mergers have been undertaken primarily as the result of convergence in either sense.

- Joint ventures have become increasingly popular, particularly in areas of convergence. Joint ventures are less binding than mergers, and although subject to regulatory review, they avoid many of the complications that can encumber the merger process.

- Consumers will benefit from utility combinations if savings gained through economies of scale, elimination of redundancies, and increased efficiencies are passed on to them. To insure benefits to consumers, regulatory oversight of corporate combinations, particularly at the State level, often results in mandated savings, rate freezes, caps on the ability of the utilities to recover stranded costs, and other cost limitations and savings-sharing mechanisms.

Regulations in both the gas and electric power sectors are in the process of change. Although many States have begun to open retail gas and electric power markets to competition, the process is far from complete. Further, guidelines for combinations are still being worked out at the Federal level and no national policy exists; even the need for a policy is still being debated. Also, corporate combinations remain under close scrutiny by both Federal and State agencies, particularly as to whether the resulting entities would exert undue market power.

Companies throughout the natural gas and electric power sectors face an uncertain future as the energy industry undergoes restructuring and moves toward increased competition. The changes, in large part, stem from the efforts of the Federal Energy Regulatory Commission (FERC) to introduce a greater measure of competition into the natural gas (by Orders 436 and 636) and electric power (by Order 888) markets. Similar efforts underway or anticipated at the State level are already altering the fundamentals of the manner in which energy is bought and sold and moved to the customer.

Spurred by these rapidly changing conditions in traditional regulated markets, companies in the energy sector are under immense pressure to develop and implement successful strategies to survive and prosper. Mergers, acquisitions,

joint ventures, and other forms of corporate combinations play a prominent role in such plans and strategies (see box, p. 149). They are important tools, bolstering the efforts of companies to take advantage of the opportunities and withstand the challenges presented by a changing industry.

Corporate combinations are typically classified as either horizontal or vertical. Although the terms are most often associated with mergers, they apply equally to asset acquisition, as well as to some forms of joint ventures and alliances so popular at present. Horizontal combinations take place between firms engaged in similar activities in the supply chain, for example, between gas producers, between marketers, between local distribution companies (LDCs), or between pipeline companies. Vertical combinations provide the advantage of additional capabilities at different levels of the supply chain, such as between marketers and producers. Vertical combinations extend the scope and reach of the company into other areas for short- or long-term profit potential or to gain strategic advantage. Horizontal combinations tend to attract more intense antitrust scrutiny than vertical combinations or conglomerate-type mergers in which participating firms are involved in the production or marketing of different energy forms.

The review and approval process of proposed corporate combinations can be costly and time-consuming. Numerous Federal, State, and sometimes local levels of government have oversight of proposed combinations. At the Federal level, the Federal Energy Regulatory Commission, the Department of Justice, and the Federal Trade Commission examine whether the proposed combination could exert undue market power. The Internal Revenue Service rules on the tax status of the proposed combination. If nuclear power plants are involved, the Nuclear Regulatory Commission rules on the ability of the proposed combination to operate any nuclear facilities. Last in the chain is approval by the Securities and Exchange Commission. State public utility commissions typically hold responsibility for oversight in combinations involving utilities.

The level of activity in all forms of corporate combinations in the energy sector has increased dramatically since 1995. Both the number and size of the various combinations have increased since the issuance of the FERC orders on electric industry restructuring. The transformation of the electric generation industry is having a profound impact on all forms of combinations in the natural gas sector. On the one hand, electric generation companies are to some extent both customers and competitors for gas producers, marketers, and even LDCs. On the other hand, similarities in marketing natural gas and electric power offer potential synergies for large marketers to handle more than a single fuel.

This chapter investigates corporate combinations from the perspective of companies involved in some aspect of the natural gas industry. Although mergers are prominently featured, the focus is broader, encompassing the notion of corporate combinations in general rather than a single approach to meeting rapidly changing conditions in the industry. The chapter first presents a brief overview of corporate combinations thus far in the 1990s and contrasts that with patterns prominent during the 1980s. The discussion then examines the reasons why companies combine and how corporate combinations fit into corporate strategy. In addition, the chapter examines the issues involved in regulatory review and assesses the impact of corporate combinations on consumers, on the structure of the industry, and on the market. An appendix to the chapter (see p. 229) lists most of the corporate combinations in the natural gas industry from 1996 through mid-November 1998.

Overview

Thus far during the 1990s, the growth of corporate combinations throughout the U.S. economy has been spectacular. In 1991, the value of all forms of combinations in all sectors amounted to about $165 billion. Since 1991, led by the financial and services sectors, the value of all corporate combinations grew by more than a factor of 5 to reach more than $900 billion in 1997 (Figure 52, upper left).

For the energy sector, the 1990s has also been a period of intense activity and sweeping corporate combinations. Unlike the general economy-wide restructuring common to the 1980s, changes in the energy industry since the early 1990s have intensified largely as a result of regulatory reforms. Order 636, which modified the merchant function of the interstate natural gas pipeline companies,[1] and particularly Order 888, which initiated restructuring in the electric power industry, directly and indirectly provided the

[1]Order 636 required unbundling of services and attempted to establish a level playing field for any related services. Federal Energy Regulatory Commission, Order 636-A, FR 36128 (August 12, 1992).

Types of Business Combinations

Merger (Full)—complete legal joining together of two (or occasionally more) separate companies into a single unit; in legal terms only one entity survives.

Merger (Partial)—only certain units of one or both companies are involved in the merger. (For example, Chevron's gas unit merges with NGC, Chevron ends up owning about 25 percent of NGC while NGC operates all of Chevron's gas business.)

Merger (Vertical)—may be achieved by combining two companies in different areas of the gas industry or through the combination of two or more entities in the same industry.

Merger (Horizontal)—two similar entities merge to extend geographic coverage or increase market share: examples include combinations of pipelines or especially local distribution companies.

Acquisition—the purchase of one company by another, or the purchase only of certain assets of one company by another. Unlike a hostile takeover, an acquisition is agreeable to both parties. (At times, the term may be used synonymously with merger.)

Hostile Takeover—acquisition of one company by another despite the opposition of the target company.

Divestiture—involve the sale or trading of assets. Planned divestitures may be undertaken as a part of corporate reorganization, to reduce debt, to re-deploy capital, or to eliminate underperforming or noncore lines of business. Divestitures may also be required as the result of new or changing regulatory circumstances. Divestitures may also be required as a condition in a pending merger or other combination (for example, to mitigate market power).

Active Salvage—a company with serious financial problems forced to seek a merger, find a buyer, or declare bankruptcy. Selling of assets (perhaps even the entire company) with the aim of salvaging some value for the troubled company.

Joint Ventures and Alliances—combinations of two or more corporations to cooperate for specific purposes but falling short of a merger. Such arrangements may be rather informal and general or very specific even limited to a single project or purpose. Joint ventures may involve the formation of a separate company that in turn acquires others and develops new products and services on its own. Joint ventures may be open to others by selling shares (after the initial combination). Joint ventures have been used for decades, particularly in situations where high capital costs or risk are prevalent, such as pipeline construction and exploration and development of difficult fields such as offshore. Joint ventures have become common among nonregulated subsidiaries and affiliates with the formation of marketing companies, in telecommunications, software, and energy management.

Foreign Investment—may be in the form of acquisition, merger, or joint venture. Domestic companies may invest outside the United States to get into nonregulated business as markets privatize. Foreign companies also invest in the United States to gain entry into the large U. S. market and into a stable economic environment.

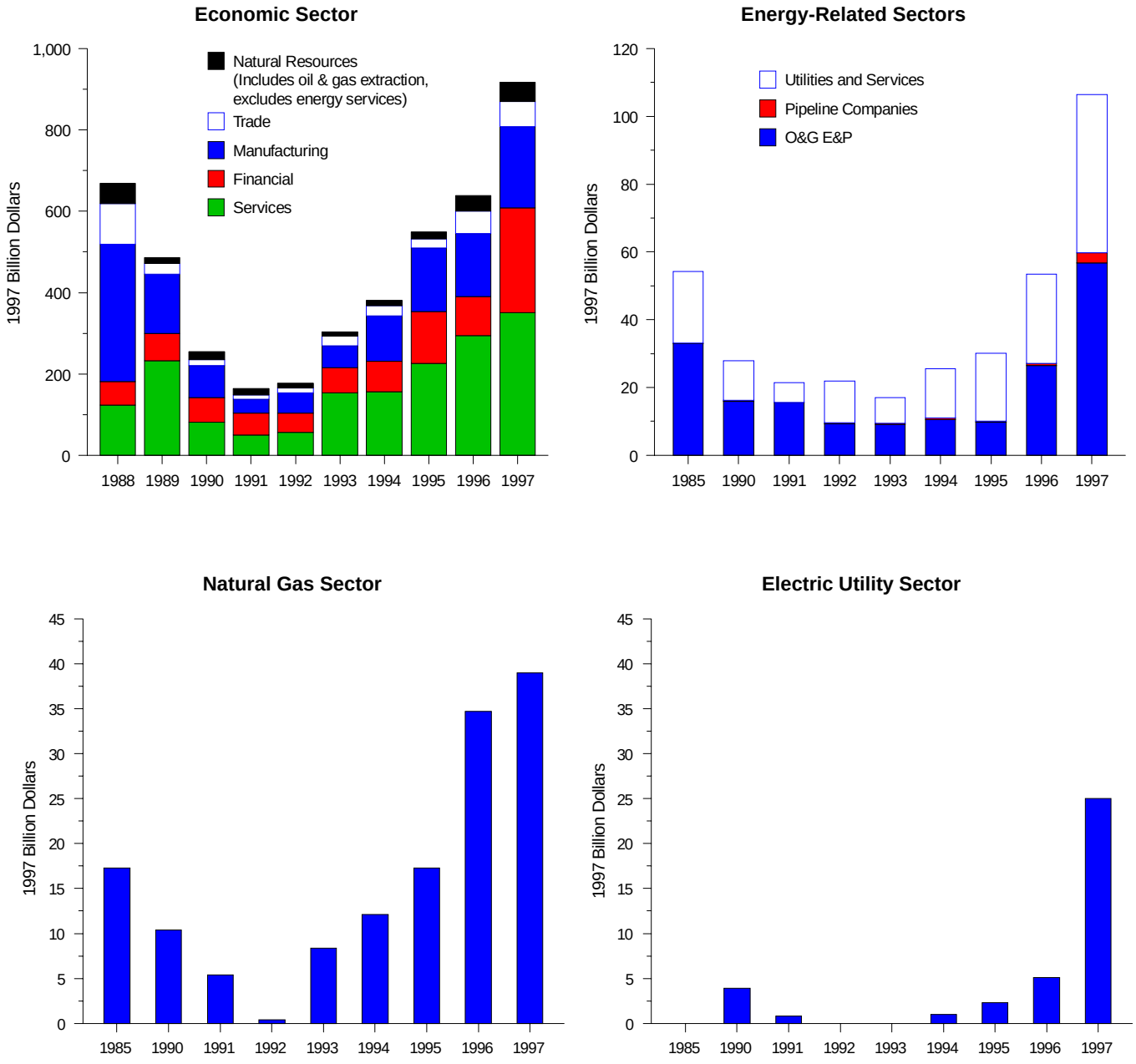
catalyst to stimulate the recent growth in both the number and value of corporate combinations.

In 1995, just prior to Order 888, utility combinations increased, accounting for two-thirds of all corporate combinations in the energy sector compared with 42 percent in 1990. Since 1995, the value of utility combinations has continued to rise, increasing by 143 percent. Following the implementation of Order 888, mergers in the electric utility sector more than doubled in value in 1996 and increased by a factor of 5 in 1997 (Figure 52, lower right).

Regulatory reform also provoked changes in other parts of the energy industry, not simply in the regulated and utility sectors. The increase in the number and value of corporate combinations has been general. For example, the growth in the value of mergers throughout the natural gas sector has been dramatic, surging from less than $1 billion in 1992 to more than $35 billion in 1997 (Figure 52, lower left). Similarly, the value of combinations in the energy sector as a whole has increased approximately fivefold since 1990 to more than $100 billion in 1997 (Figure 52, upper right).

As the importance of combinations involving gas and electric utilities grew, the value and number of those transactions in exploration, development, and production of the resource base and among equipment companies and suppliers of services to the oil and gas industry also grew, increasing by 270 percent during the period. Industry

Figure 52. Value of Corporate Combinations Has Increased



O&G E&P = Oil and gas exploration and production.

Notes: Value is measured in terms of stock purchase price and may also include debt and liability. Energy-related sectors exclude coal-related combinations. Graphs should not be directly compared because vertical scales differ.

Source: *The Merger Yearbook* (1985-1998).

restructuring not only sparked new flurries of activity in corporate combinations but also became a key factor behind fundamental changes throughout the energy industry.

However, despite a sharp increase in corporate combinations involving natural gas pipeline companies in 1997 (Figure 53), combinations involving the still-regulated pipeline companies represented only about 3 percent of all combinations in the energy sector (Figure 52, upper right). Also, it should be noted that corporate combinations in the energy sector continue to represent only a small fraction of the total for all sectors of the economy. In 1997, corporate combinations in the natural resource sector accounted for less than 5 percent of the value of all combinations.

The connection between the current surge of corporate combinations and regulatory change is not a new phenomenon. Major regulatory changes, such as the Public Utility Company Holding Act (PUCHA) in the 1930s, the Natural Gas Policy Act in 1978, and various FERC orders in the 1980s, also stimulated mergers, divestitures, joint ventures, and asset acquisition and influenced the structure of the gas industry (Figure 54).

During the 1980s, both the number and size of corporate combinations increased sharply as economic, regulatory, social, and technological conditions produced an environment promoting mergers and other forms of combinations. The value of all mergers, leveraged buyouts and other forms of combinations in 1981 nearly doubled from the level in 1980. At the same time, the number of large-scale "blockbuster" mergers also surged. In 1980 only one merger exceeded $1 billion in value; in 1981, the 10 largest mergers all exceeded $1 billion.[2] At the end of the 1980s, the collapse of the junk bond market, a general economic downturn, and changes in tax laws sharply reduced the number and value of corporate combinations.

Merger activity in the oil and gas sector followed a pattern of growth and decline through the 1980s similar to that in the overall economy. However, the level of activity reflected changes in the industry more intense than in many other sectors of the economy. In the early 1980s, oil prices were at historic highs and natural gas was seen to be in short supply. Both mergers and asset acquisitions became important strategies to build resources and to achieve the economies of scale seen as necessary to survive in the changed world of rising oil imports and diminishing domestic supplies. Record-setting mergers and acquisitions occurred with increasing frequency, growing not only in number but ballooning in value as well. When Shell Inc. acquired Belridge in 1980 for $3.7 billion, it set a record for the energy industry to that point. Yet just 4 years later, Chevron acquired Gulf Shell for a record $14.5 billion.

Although most mergers and acquisitions in the energy sector included oil and gas interests, the emphasis during most of the 1980s was clearly on the oil side. It was not until near the end of the decade, with the expansion of regulatory reform, that interest in natural gas combinations began to equal or even surpass the level of interest in oil-related combinations.

Why Energy Companies Combine

Corporate combinations, whether they entail the formality of a merger or a less structured joining-together, involve issues that are neither simple nor confined to the question of whether or not to merge. In addition to the opening up of the gas industry and more recently the electric power industry to competitive forces, there are a number of factors that influence and often determine corporate strategy. On the surface, the number of strategies in use appears to be as extensive as the number of combinations taking place. However, underlying most strategies are goals of cost management and growth to ensure corporate prosperity.

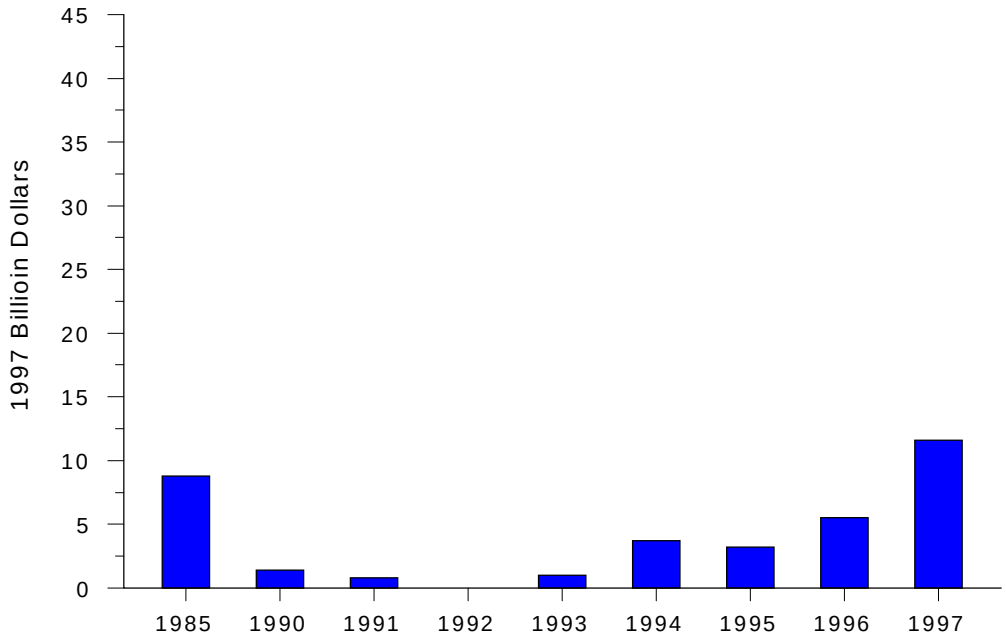
Corporate strategies involving natural gas companies also reflect certain characteristics of the gas industry. Although there are a few very large companies in each segment of the gas industry, a key feature of the industry is that most producing companies, marketers, and LDCs are relatively small. In the case of producers and marketers, this often means privately held companies. In the case of LDCs, many are small municipals or cooperatives. Natural gas production appears to be relatively unconcentrated, as demonstrated by findings that regional markets are unlikely to be dominated by one firm.[3]

The recent trend toward industry consolidation is changing this loose configuration of companies as producers,

[2]Securities Data Company, *Mergers Yearbook* (1982), p. 15.

[3]Energy Information Administration, *Oil and Gas Development in the United States in the Early 1990s: An Expanded Role for Independent Producers*, DOE/EIA-0600 (Washington, DC, October 1995).

Figure 53. Value of Mergers and Acquisitions Involving Natural Gas Pipeline Companies



Note: Value is measured in terms of stock purchase price and may also include debt and liability.
Source: *The Merger Yearbook* (1986 and 1991-1998).

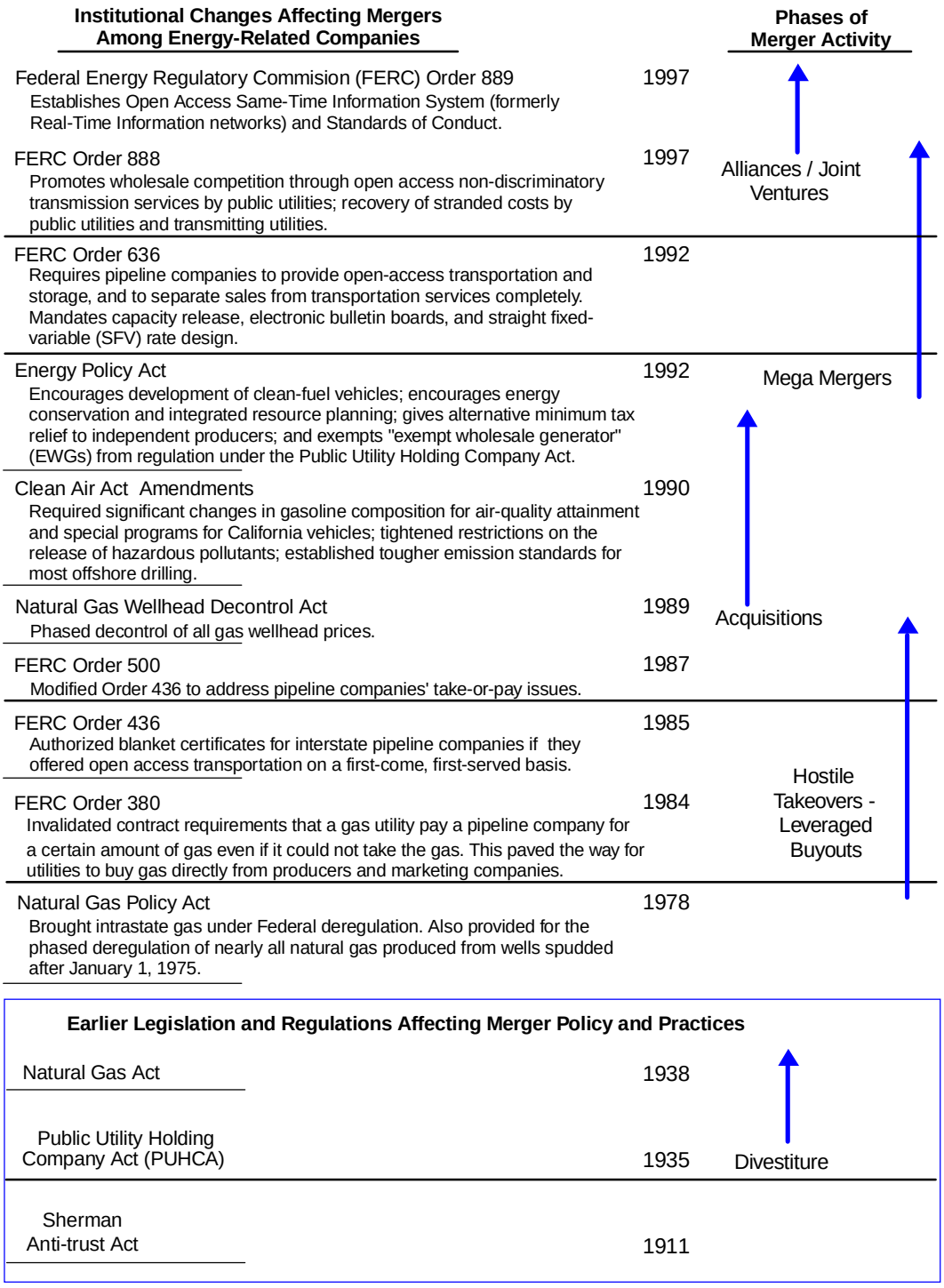
gathering companies, marketers, and LDCs all jockey for position, while many seek to take advantage of structural changes in the industry, and some struggle simply to survive. Producers look for opportunities to enhance their return either by extending operations into other aspects of gas supply, such as storage or marketing, or by forming strategic alliances that combine dissimilar activities in the vertically differentiated gas supply process. Their objective is to enhance their market position or capture economies of scale.

Order 636 directly changed the way in which pipeline companies operated by requiring the unbundling of services and open access. The order stimulated the growth of independent gas-marketing companies as pipeline companies withdrew from or greatly reduced their merchant function. In addition, as a result of FERC's subsequent ruling that gathering systems were nonjurisdictional, many gathering systems were spun off by pipeline companies. Thus, by the middle of the 1990s, the operating environment for pipeline companies was very different from that just a few years earlier.

Strategies employed by some pipeline companies to deal with changed circumstances emphasized geographic expansion, such as El Paso Energy's acquisition of Tenneco Energy in 1996. Houston-based Tenneco Energy transported natural gas to customers in 20 States, primarily in the Midwest and Northeast, while El Paso Energy, based in El Paso, Texas, operates one of the largest mainline transmissions in the country. Others developed interests in other segments of the industry or in ventures outside of natural gas, such as Enron with its acquisition of the largest electric utility in Oregon (Portland General) or efforts by Williams Companies (an integrated gas firm) in telecommunications.

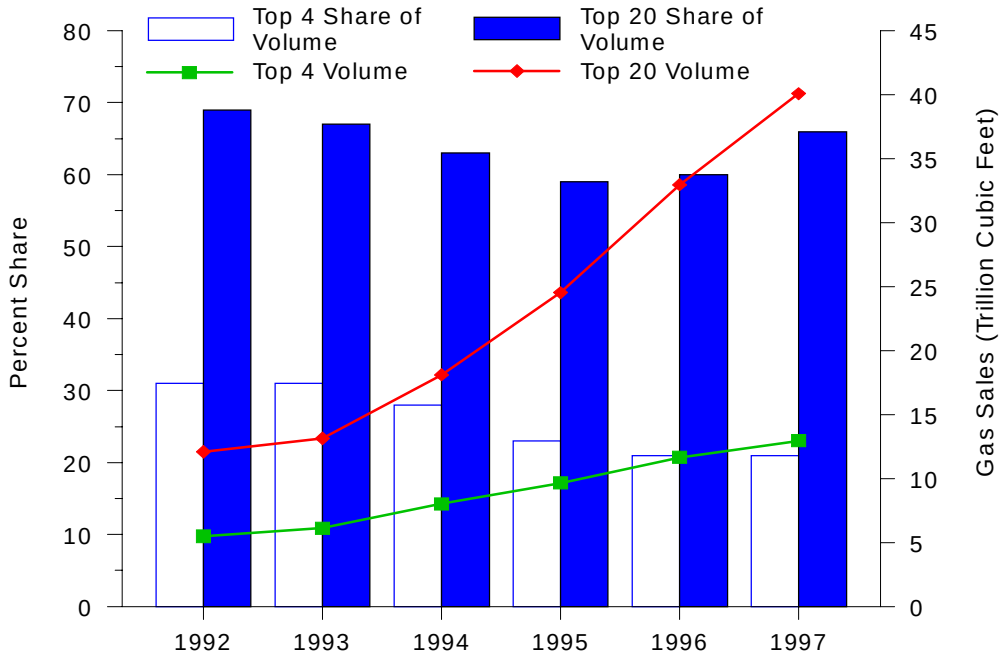
Significant changes have come about in the gas-marketing segment of the industry. The changes came about, in part, as the result of Order 636 as producers and others expanded their role into other market segments, and in part, as companies sought solutions to marketing problems. For example, under the terms of the partial merger between Chevron and NGC (now Dynegy), NGC became the marketer for Chevron's production in the United States. More recently, a number of similar mergers or joint ventures have been undertaken where marketing activities are taken over by an outside party. Despite such changes, gas marketing, like gas production, remains relatively unconcentrated. Between 1992 and 1997, the share of sales by the top four marketers declined by one-third to 21 percent, while sales volumes more than doubled. Sales by the top 20 slipped only from 69 to 66 percent but volume more than tripled to 40 trillion cubic feet (Figure 55).

Figure 54. Corporate Combinations: Timeline



Source: Energy Information Administration, Office of Oil and Gas.

Figure 55. Top 20 Natural Gas Marketers: Growth in Volume Outpaces Growth in Share



Note: Reported volumes include all sales, including sales for resale, so totals exceed actual consumption for the year.
Source: Ben Scheisinger & Associates, *Directory of Natural Gas Marketing Service Companies* (1997).

Major Goals of Combinations

The reasons for specific corporate combinations can be grouped into several broad categories, with the primary ones being cost management and growth. Often, issues that deal primarily with one approach are at least tinged with some aspect of another strategy. For example, the discussion of "economies of scale" has been grouped with cost management issues. However, it could also have been addressed in the discussion of growth.

Cost Management

Cost control issues are important in all corporate activities. As competition increases, cost avoidance and cost savings become even more critical and are drivers in virtually all corporate combinations. This is particularly true in combinations involving public utilities where cost factors play a special role. During the review process, projections of savings and the proposals for sharing the savings with ratepayers are scrutinized with care. Estimated savings are often substantial and typically projected over a period of 10 years or more. For example, in the case of the merger between Brooklyn Union Gas and Long Island Lighting Company, estimated savings over 10 years were $1 billion. Savings to consumers are most often presented (both by the parties involved and in the media) in terms of total savings to consumers or the savings to the individual residential consumer. For example, the pending acquisition of Orange and Rockland by Consolidated Edison projected that savings of $50 million per year would be passed on to ratepayers.

Stranded costs[4] are at the center of another cost issue. LDCs are often concerned about the potential loss of retail customers from the increased competition that may result from restructuring. The ability of the utilities to recover stranded costs may become a stumbling block in the merger process.[5]

[4]Stranded costs are costs arising from utility investments that are not supported by current market prices, especially long-term investments or contractual obligations the utility may not be able to recover from rate payers in a competitive environment.

[5]For example, in the attempted merger between Duquesne Light and Allegheny Energy, the State commission disallowed most of the stranded costs claimed by Allegheny. As a result, Duquesne withdrew from the merger citing as unacceptable the negative impact on its stakeholders. Subsequently, in October 1998, Allegheny sued Duquesne to block termination of the merger agreement. At present, the matter is pending.

Economies of Scale

A closely related argument to issues of size and cost-cutting centers on the need for increased size to produce the economies of scale also believed necessary to compete. A newly formed combination often trims costs by eliminating duplicate functions and underperforming units and by combining services. Economies of scale enable cost-cutting by reducing overall management costs.

It is also often argued that increased size will enable the new company or venture to compete more readily and, in the case of utilities, will enable the company to return savings to the rate payers or to freeze rates for some period of time. For example in the Chevron/ Dynegy merger, the increased scale spread fixed costs over a greater volume of gas. In the case of utilities, arguments may center on size or service. In the Brooklyn Union Gas and Long Island Lighting Company (LILCO) merger application, it was argued that the combined workforce would enable better response time to storm damage. In the failed merger attempt (December 1997) between Potomac Electric Power Company (PEPCO) and Baltimore Gas and Electric, the companies argued that if the merger were to fail, they would be too small to compete in the changing market, and that absent the projected savings from the proposed merger rate increases would result.

During the review process, government agencies and regulatory bodies closely examine these issues of size and cost savings. The review process differs from agency to agency; however, investigation of possible negative impacts of the proposed combination on competition is typically at the center of the review. Such factors as the ability to exert undue power in setting price, increased barriers to entry, or the ability to take unfair advantage of the size of the new entity are among the issues considered. (The regulatory review process is discussed in greater detail later in the chapter.)

Taxes

Another aspect of cost avoidance and cost reduction is the issue of taxes. Mergers are generally nontaxable. Judgments about tax liability are the responsibility of the Internal Revenue Service. For example, the acquisition of Enserch Corporation (an integrated natural gas company in Texas) by Texas Utilities was tax-free, as was the formation of Alliant (an unusual three-way merger between IES Utilities, Interstate Power Co., and Wisconsin Power & Light) and the KN Energy acquisition of American Oil and Gas. Corporate combinations are typically structured to avoid or at least minimize tax consequences. The result can be substantial growth through the addition of production, supply access, transportation or marketing assets, or other gains, without tax consequences.

Divestiture

Companies often downsize in order to be in a better position to compete. They may be motivated by a desire to shed various segments that either do not perform up to expectation or in order to concentrate effort and resources on "core" business. Companies may also be motivated by a desire to withdraw from high-risk businesses in order to move into or concentrate on areas with greater stability or those that offer a greater return for the amount of risk. Divestiture may be motivated by a current high market value of a particular class of assets.

Divestitures can be as much an integral part of an overall restructuring strategy as a merger or acquisition. Divestitures may be a significant part of the plan to build a cash pool in order to pursue other asset acquisitions or to fund entry into expanding or new markets. They may also be the result of regulatory decisions, as in the case of the merger between Texas Utilities Company and The Energy Group in June 1998—Texas Utilities spun off the Peabody Coal holdings in order to gain approval of the acquisition.

Growth

Corporate growth is an important factor, often the most important factor behind a merger or acquisition. Whether the aim is growth in size, geographic scope, or to prevent a takeover, nearly all corporate combinations have at least some aspect of growth as part of the reason for the combination. However, not all growth strategies imply an outward, aggressive focus and vision. Growth may also be inward-looking and defensive.

Some companies seek to secure their traditional market by expanding into a different line of endeavor in the same geographic area or by seeking an ally in an adjoining market, as in the case of Enova and Pacific Enterprises (PE). The marketing territory of Sempra Energy, the new company, encompasses the southern half of California, including the Los Angeles metropolitan region (home of PE) and San Diego (home of Enova). Such combinations reflect what is in essence a defensive strategy. Companies seek to create economies of scale either through internal growth or through combining with similar companies, often in adjacent territories, and attain a size that lessens the possibility of a takeover by outside interests.

Other companies, often among the largest, take advantage of their resource base to engage in a number of different strategies at the same time. For example, Enron Corporation has actively pursued acquisition of utilities, pipeline companies, and other assets in electric power and natural gas. At the same time, Enron has been a major participant in alternative energy projects involving both wind and solar power and in the development of energy marketing ventures as various States open their markets to competition. Enron has been heavily involved in projects outside the United States as well.

LDCs, backed by the reliable revenue stream from a large customer base, are often well positioned to pursue an aggressive course of diversification and expansion. Pacific Gas and Electric Company (PG&E), Houston Industries, Texas Utilities, and Duke Power have each undertaken a course of rapid diversification and expansion that embodies a philosophy that success depends on size, diversity, and rapid market entry. For example, Duke Power was a medium-sized electric LDC based in North Carolina until its rapid expansion propelled it into the top ranks of companies in natural gas production and gathering, transportation, electric power marketing, and international operations (see box, p. 157). Initially, Duke's plan was to grow from within and the company entered into a number of joint ventures, some of which are still in effect. However, the company subsequently decided that its approach was not keeping up with the rapid pace of events in the industry. As a result, Duke developed a strategy that sought to take advantage of the opportunities that regulatory reform presented. It initiated an aggressive campaign of acquisitions, including gas pipeline companies, gas production and gathering facilities, and electric power plants in States where restructuring is requiring a separation of generation from distribution. It also expanded overseas.

The two views of growth reflect an underlying dichotomy where on the one hand, growth is essential, economies of scale a must, bigger is better, and getting into the market first is important. On the other hand is the philosophy that emphasizes slow growth, and favors the smaller and more focused approach. In this approach, divestiture may play a role not so much to raise cash for other investments but to enable concentration on "core competencies," and where a local or regional strategy rather than a national or international strategy is employed.

Size Matters

The size of a company does matter. From a practical standpoint, size brings advantages of economies of scale, increased resources, more favorable financial terms, etc. Often both company press releases and the industry trade press note that, as the result of a recent combination, the new company or joint venture is now the largest of its kind. For example, the combination of Chevron and Natural Gas Clearinghouse in 1996 resulted in the largest marketer of natural gas in the United States and the second largest marketer of electric power. When El Paso Energy Corporation officially acquires DeepTech International (announced in March 1998), it will become the largest gatherer (in dollars) of natural gas in the offshore Gulf of Mexico.

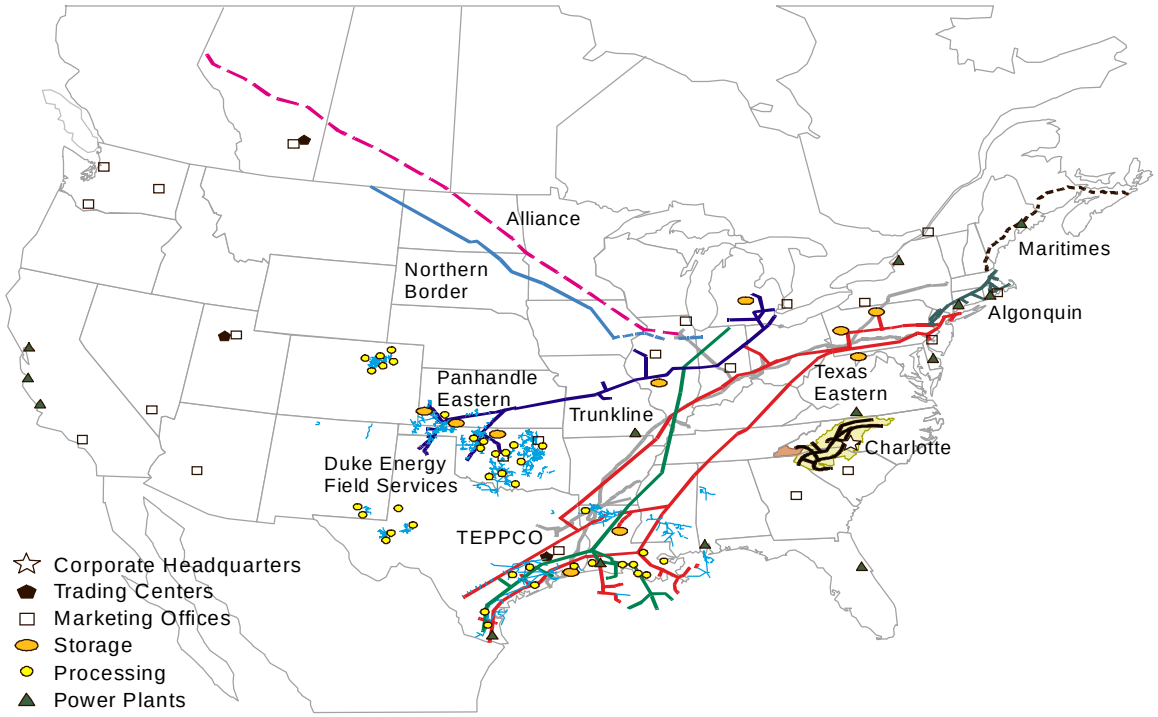
But size also matters, at least to some, in the less tangible sense of image. Being "number one" or being able to claim rank among the leading companies in a field holds interest for many combining companies. Rank provides a convenient measure or a shorthand code to place the new company in context. Size also is very much a part of corporate image; it reinforces name recognition and may even be a motivating factor in some combinations.

While being number one is not necessarily a goal, being among the largest companies by having x volume of production or y percentage of capacity, provides another measure of size and power. Following the acquisition of Tejas Gas Corporation (a natural gas pipeline and storage company) by Shell, the combination transports 8 billion cubic feet (Bcf) per day; the El Paso/Tenneco combination moves 9.3 Bcf per day; and the KN/MidCon combination transports 17 percent of all the gas in the United States (Appendix E, Table E1). Through such measures, companies attempt to demonstrate the utility of their acquisition, merger, or joint venture. In essence, they are saying bigger is better, and now that we are bigger, we are positioned to compete, and to serve our customers *better*.

An Outlet for Cash-Rich Companies

Cash-rich companies possess a strategic opportunity to acquire the choicest assets or seek out other investments and combinations. Companies with ready cash from restructuring efforts (usually the result of asset sales or other forms of divestitures) view mergers and acquisitions as a good way to spend that cash on investments with a potentially high return. For example, the sale by Dominion Energy of cogeneration assets in Texas provided capital to

Selected Milestones in Growth of Duke Energy Corporation



1900 Catawba Power Company (predecessor to Duke Power) formed to supply electricity to textile mills in South Carolina.

1904 Catawba Power began operation of its first plant. Considered the birthdate of Duke Power.

1988 Duke Energy Corporation formed to develop and finance projects outside traditional service territory.

1989 Duke/Fluor Daniel formed joint venture to provide services to coal-fired power plants.

1994 DukeNet Communications formed fiber optics communication services.

1995 Duke Energy Corporation and Louis Dreyfus Electric Power, Inc. formed joint venture.

1995 Duke Engineering & Services, Inc acquired ITERA multi-disciplinary environmental consulting firm.

1997 Duke Energy Corp. created by merger of Duke Power Co. in Charlotte, NC and PanEnergy Corp. of Houston, TX.

Duke Energy Trading and Marketing, LLC acquired Inland Pacific Energy Services Corp., a gas marketer in Spokane, WA.

Duke Energy Power Services (DEPS) & United American Energy Corp. (UAE) acquired 50 percent of American Ref-Fuel Co.

1998 Subsidiaries of Duke Energy Corp. acquired a 9.8 percent ownership in the Alliance Pipeline.

1998 Duke Energy Corp. and Williams announced Cross Bay Pipeline, a joint venture natural gas pipeline project into New York City.

Duke Energy Transport and Trading Co. purchased assets and related marketing business of Mesa Pipeline Co., a crude oil gathering & transportation company.

Duke Energy Transport and Trading letter of intent to acquire certain crude transportation and marketing operations from Dynegy Inc.

Duke Communication Services created (wireless communication in 33 States).

Duke Energy Field Services, Inc. & Koch Midstream Gathering and Processing Co., exchanged natural gas gathering and processing assets in several States.

DukeSolutions acquired Engineering Interface Limited of Toronto, Canada, to become the base for DukeSolutions Canada, Inc.

Duke Energy Corp. sold Duke Energy Transport and Trading Co. (DETTCO) to TEPPCO, L.P.; Duke Energy is the general partner of TEPPCO (increases Duke's interest in TEPPCO to approximately 20 percent).

Duke Energy announced it had signed a definitive agreement to sell Panhandle, Trunkline, and related assets to CMS Energy for $2.2 billion.

Duke Energy Field Services purchased gas gathering and processing facilities from ONEOK Inc. Also formed a joint venture with ONEOK.

*Excludes international ventures outside North America.

re-deploy into other ventures. Dominion Energy, Duke Power, PG&E,[6] and other sizable LDCs have expanded into energy projects across the United States and in other countries as well. Some companies are eager to make use of their present strong cash position to finance expansion before possible changes in regulatory structure eliminate or make such efforts more difficult.

Asset Acquisition

Growth strategy may also be focused on the acquisition of assets. Asset acquisition, a common practice employed to increase size in the late 1970s and 1980s,[7] has resurfaced recently and includes not only commodity resources and infrastructure, but less tangible assets such as access to transportation, management skills, technology, or information as well. The level of asset acquisition has surged in the past 2 years, reflecting increased activity throughout the industry to opportunities generated by utility restructuring. In 1995, asset acquisitions accounted for only 5 percent of all activity; in 1997, such purchases accounted for more than one-third of all combinations (Figure 56).

New Business Areas or Diversification

Activities to promote growth may be directed into new areas that are either outside of the traditional scope of activities of a company or the industry itself. For example, by the acquisition of Zond Wind Energy, a joint venture with Amoco in solar power, and a series of other ventures and acquisitions, Enron became a major participant in the renewable energy market. The Duke Power/PanEnergy merger brought gas transportation to the Duke portfolio. And by the acquisition of Zilkha Energy, Sonat entered into gas exploration.

Companies may also opt to respond to opportunities in other States or to changing circumstances overseas as restructuring opens markets around the world. For example, the Dominion acquisition of East Midland in the United Kingdom gave access to another market. Similarly, the TECO merger with Lykes gave TECO the opportunity to enter into natural gas distribution. Also, shrinking margins in gas marketing mean reduced profits, hence a shift by some companies (as with Enron) into capital ventures and international power projects.

A subset of the diversification strategy seeks to take advantage of new technology that enables companies to move into new areas, such as credit cards, banking systems, cable TV and other telecommunications, meter reading, and the like. Typical acquisitions in this area are small startup companies that have developed hardware, software, information systems, etc. The technology is acquired either through purchase (merger or acquisition) or in joint ventures or other marketing arrangements that then lease or market the technology. Some technologies such as electronic meter reading may also lead to bypass or allow competitors entry into the service territory of LDCs. As a result, they are suspect as startup companies or in the hands of competitors, yet sought after as important competitive tools.

Growth and Diversification in the Utility Sector

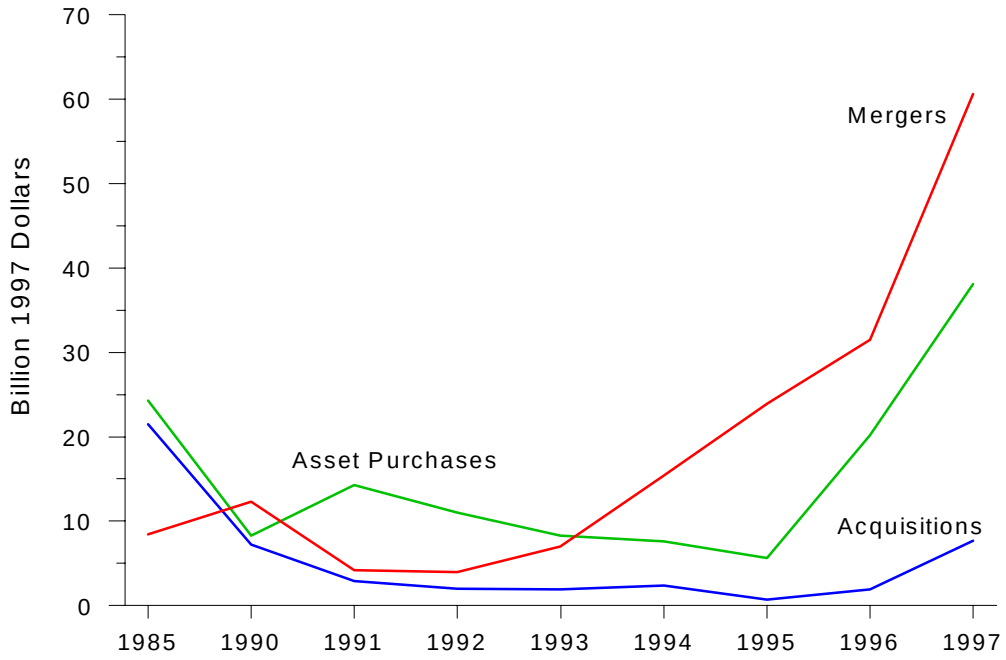
Much of the activity in the current wave of corporate combinations stems from the desire to expand into areas of services that were previously bundled and provided by regulated entities, or that appear likely to develop with the convergence of the gas and electric sectors. Corporate combinations in this area tend to be smaller; acquisitions over $100 million are more an exception than commonplace. Rather, many gas and electric utilities are joining in joint ventures to provide services ranging from telecommunications to banking. Initially, joint ventures such as NICOR Energy (formed by NGC and NICOR) and SouthStar Energy Services (formed by Dynegy, AGL Resources, and Piedmont Natural Gas Company) will target only the larger commercial and industrial customers but they plan to extend the service offering to the residen-tial market as States unbundle gas and electric services.

Among the new services offered are credit cards, billing services (for others), network services, Internet, telephones, banking, data processing, energy management, and entertainment. Many combinations occur as the result of the desire to market energy or provide a menu of energy services. For example, the PG&E acquisition of Valero Energy in Texas included marketing assets in another region as well as the gas assets. Similarly, a more comprehensive energy services company emerged from the acquisition of Enserch by Texas Utilities. And with the addition of Lufkin-Conroe Communications, Texas Utilities expanded its ability to offer telecommunication services.

[6]Dominion is the parent of Virginia Power, a regulated LDC in the Middle Atlantic Region. Duke, an LDC in the Carolinas, acquired PanEnergy as well as significant gas-gathering facilities. California-based PG&E, through its subsidiary US Generating, has acquired electric power plants around the United States, principally in New England.

[7]Energy Information Administration, *Financial Aspects of the Consolidation of the U.S. Oil and Gas Industry in the 1980s*, DOE/EIA-0524 (Washington, DC, May 1989).

Figure 56. Mergers Continue To Grow in Value, Accounting for the Largest Share of Energy Combinations



Notes: Value is measured in terms of stock purchase price and may also include debt and liability. Acquisitions involve purchase of entire company; Asset Purchases involve only selected assets.

Source: *The Merger Yearbook* (1985, 1991-1998).

The concept of integrated one-stop shopping remains beyond the current scope of the service combinations. The packages vary and may include telephone, Internet access, satellite television, electronic shopping, radon testing, banking and insurance, and real estate services. The offerings tend to be flexible with customers having the ability to choose from a varied menu. The services also tend to go well beyond the scope of those services provided by the regulated LDC. For example, Boston Edison and RCN established a joint venture to develop a network for one-stop energy services and telecommunications. The Allied Utility Network, a joint venture initially consisting of four LDCs but open to other companies, offers energy services to the residential market.

As some utilities have lost much of their customer base in terms of large industrial and commercial customers, many joint ventures are undertaken with the specific purpose of developing a package or menu of services to market. Utilities are motivated by concerns that large marketers such as Enron and Southern, operating in many States will enter their territory and erode their remaining customer base. As a result, there are joint venture programs designed to hold existing customers and capture new ones, avoid bypass, pool customers, and rebundle services.

Other Reasons for Combinations

Brand Recognition

Sometimes an acquiring company buys or strikes an arrangement to lease or market a well-known product or acquires a company for the name recognition. Advertising becomes important to strategy whether merger, acquisition, or joint venture: Natural gas companies, which have not sold to the general public before, are budgeting for advertising campaigns and brand name logos. For example, Suncor in Canada offers customers at their gasoline outlets to sign up for natural gas service. Similarly, Shell launched a national campaign to market Shell “branded” natural gas and electricity in both the United States and Canada. Examples of joint ventures with some form of brand identification include: Simple Choice and En*able of KN Energy, Energy Marketplace of SoCal Gas, and Home Vantage of the Allied Utility Network. A few large

companies such as Enron and Southern Company are conducting national advertising campaigns.[8]

Strategic Fit

Many companies have well-developed plans to develop the business in line with a vision of the future. Acquisitions may fit with core abilities. In the case of PG&E, the acquisition of Valero opened the Texas market and was compatible with other key acquisitions. The acquisition tied into several key issues: it assured PG&E of gas production, it augmented PG&E's pipeline network, and enabled PG&E to be in a better position to supply power plants as it expanded into New England (via its nonregulated subsidiary, U.S. Generating Company), and opened new markets. Similarly, Dominion's acquisition of Phoenix Energy Sales strengthened its position in the Appalachian Basin. Dominion's acquisition of Archer Resources in Canada and various acquisitions in Michigan furthered plans to concentrate assets in the Midwest and Northeast. Similarly, as a result of the Tenneco merger with El Paso, El Paso's pipeline network doubled in size. In the case of the Meridian Resource Corporation/Carin Energy merger, capitalization increased by a factor of 3 and the resource base doubled.

For some companies, strategic fit encompasses far more than natural gas or energy enterprises. For example, Western Resources developed a three-pronged response to changing market conditions. First, Western through a strategic alliance with ONEOK added 1 million gas customers. The second aspect of Western's approach was the acquisition of Westinghouse Security Systems that doubled its home security customer base to 2 million. Finally, Western added more than 1 million electric power customers by its merger with Kansas City Power and Light. Western Resources is not unique in developing a strategic plan that includes non-energy elements. Strategic fit for some includes real estate companies, thus providing residential customers with not only energy services through other affiliates but participation in the buying and selling of homes for customers and potential customers of the energy businesses. For others, generally the larger players, foreign ventures in the form of utilities, construction, or financing fit well with their plans, such as the Texas Utility acquisition of The Energy Group, an electric utility in the United Kingdom, in the spring of 1998.

Neither vision statements nor strategic plans are necessarily permanent and although most do not change radically from one year to the next, they do evolve. It is important to note that the key to strategic fit is the vision of the particular company, at a particular time. External factors, such as changing regulatory or economic factors, as well as internal changes in the composition or views of corporate management can result in changes to strategic plans and rethinking of acquisitions already undertaken (see box, p 161).

Regulatory conditions in the United Kingdom played a role in the acquisition of East Midlands electric power utility by Dominion in 1996.[9] In the same way, changing regulatory conditions in the United Kingdom played a role in Dominion's decision to sell East Midlands in May 1998. In the case of Dominion, although the sale was profitable, corporate strategy changed to place greater emphasis on domestic projects.

Regulatory Concerns

To help insure fairness and to preserve open markets, agencies at the Federal, State, and sometimes local levels of government examine proposed combinations (Table 18). Among those most actively involved in the process of corporate combinations at the Federal level are the Federal Energy Regulatory Commission (FERC), the Department of Justice (DOJ), the Federal Trade Commission (FTC), the Internal Revenue Service (IRS), and the Nuclear Regulatory Commission (NRC). State public utility commissions, or their equivalent, typically hold responsibility for oversight in combinations involving utilities. The various agencies have the power to impose that conditions be met as a condition of approval or to withhold approval and prevent the combination from taking place.

Regulation at the State and Federal levels involves all aspects of the gas industry from production through supply to distribution and is divided into direct and indirect regulation. With the power to set rates and establish the rate of return, State commissions and the FERC exercise classical direct regulation. The FTC and the DOJ in the enforcement of antitrust laws constitute indirect regulation.

[8]The power of brand recognition is clearly perceived by both utilities and regulators. As States begin opening the retail market to competition, State utility commissions in some cases have prohibited nonregulated affiliates of utilities from using the name of the regulated parent. In other instances, State commissions have required a disclaimer from the affiliate which clearly states that it is not the same entity as the parent.

[9]Electric power restructuring opening markets to competition was further advanced in the United Kingdom and played a major role in Dominion's decision to purchase East Midlands. Later changes in tax policies played a major role in Dominion's decision to sell East Midlands some 18 months later.

Why Some Deals Fail

The process of joining together two or more businesses is always complex, frequently time-consuming, and often costly. Most often, the process proceeds through to a successful conclusion. However, there are times when some situation or set of circumstances intervenes and the process is aborted.

A corporate combination may fail because it is directly prohibited during the review process. However, it is more likely that time delays resulting from the process or conditions imposed on the parties as the result of the review process will diminish the benefits or so add to the cost of the combination that the parties involved elect to abandon the combination. For example, the proposed merger between Potomac Electric Power Company (PEPCO) and Baltimore Gas and Electric fell through in large part because conditions imposed during the review process were unacceptable to the companies, but also because market conditions had changed rapidly and in unanticipated ways making the deal less desirable to the parties. Also affected by the passage of time and changing conditions, Western Resources in November 1997 sought to renegotiate or pull out of its arrangement to acquire Kansas City Power and Light (KCPL). Western had decided that the deal had become uneconomic. In addition, Western was less interested in the acquisition since it had begun to diversify away from utilities. In another example of the breakdown of a proposed combination, Maryland-based Duquesne Energy (DQE) formally notified Allegheny Energy (based in Pennsylvania) in October 1998 that it was terminating their proposed merger agreement. The decision of the Pennsylvania Public Utility Commission in its review of the proposed merger to disallow more than $1 billion of stranded costs claimed by Allegheny played a key role in DQE's attempt to terminate the merger despite subsequent approval by the Federal Energy Regulatory Commission. (Allegheny has filed suit in Federal District Court to block DQE from withdrawing from the merger.)

Corporate combinations may also fail because of the structure of the combination. Although joint ventures and alliances can be highly successful and profitable forms of corporate combinations, they are also somewhat fragile. In particular, joint ventures typically do not require the level of financial commitment necessary in mergers and acquisitions. As a result, failure may result from a lack of understanding the economic potential, failure to integrate or account for the skills and technological strengths of the participants, lack of clearly defined goals, or understanding of the market implications of the venture. Failure can also result because the participants are unfamiliar with the organizational process or the specifics of the joint venture approach to corporate combinations.

Timing can also be a crucial factor in the failure of corporate combinations. In their desire to be "first-to-market," companies may enter into combinations prematurely. For example, the joint venture between UtiliCorp and PECO collapsed in large measure because the market had not developed for the approach taken by the companies.

The oversight function for each agency is limited but often overlapping. When examining prospective corporate combinations, the regulators, the various agencies, and at times, the courts typically focus on those aspects of the combination where the possibility exists that the outcome might result in unfair advantage in pricing, barriers to entry and the like. The key issues include the ability of the combination to exercise undue market power or to bar entry into the field by others. In the case of utility combinations, agencies, particularly at the State level, also scrutinize the estimated savings and set the level for recovery of stranded costs.

In reviewing corporate combinations, State and Federal regulators and agencies have both different jurisdictions and are charged with different missions. The review process proceeds at both the State and Federal level simultaneously with the various agencies examining the proposed combination looking for certain trigger items. (Several lines of inquiry may proceed at the same time at the Federal level.) Although there is no single path that parties seeking to combine must follow, and while each proposed combination is unique at least to some extent, nonetheless the path followed by most proposed combinations embodies essentially the same elements.

Table 18. Agency Review of Corporate Combinations

Agency	Authority	Type of Review
Department of Justice	Hart-Scott-Rodino Antitrust Improvements Act	Antitrust, competition, market power
Federal Energy Regulatory Commission	Federal Power Act of 1935, Natural Gas Act, Department of Energy Reorganization Act of 1977, Energy Policy Act of 1992	Examines combinations to assure competitive markets, assures access to reliable service at reasonable prices
Federal Trade Commission	Interstate Commerce Act, Hart-Scott-Rodino Antitrust Improvements Act	Antitrust, competition, market power
Internal Revenue Service	16th Amendment to U.S. Constitution (1913)	Determines amount of tax liability for combination (if any)
Nuclear Regulatory Commission	Atomic Energy Act, Energy Reorganization Act of 1974, Energy Policy Act of 1992	Approval of transfer of control of nuclear facilities
Securities and Exchange Commission	Public Utility Holding Company Act (PUHCA)	Compliance with PUHCA provisions and protection of shareholders interests
State Public Utilities Commission (or equivalent)	Various State Laws	Full review may include: antitrust, market power, stranded costs, rates, DSM, has the authority to mandate how projected savings from merger will be split between rate payers and stakeholders

Source: Energy Information Administration, Office of Oil and Gas.

Typically, since review by the State regulatory commission is likely to be the most extensive and time-consuming, the public utility commission or its equivalent is notified first. (In cases where vertical market power is thought to be a potential problem of major concern, companies may notify FERC first.)

Central to the enforcement of antitrust law is the promotion of consumer welfare. Analysis of proposed corporate combinations for their potential to harm the consumer is principally under the shared jurisdiction of the FTC and the DOJ, where the concept of market power plays a central role in the antitrust review process. Specifically, provisions of the Hart-Scott-Rodino Act of 1976 trigger an "automatic report" to the FTC and the DOJ of proposed mergers or acquisitions of significant size.[10] The report includes revenues by type of business[11] as well as other financial data such as annual reports and 10k reports.

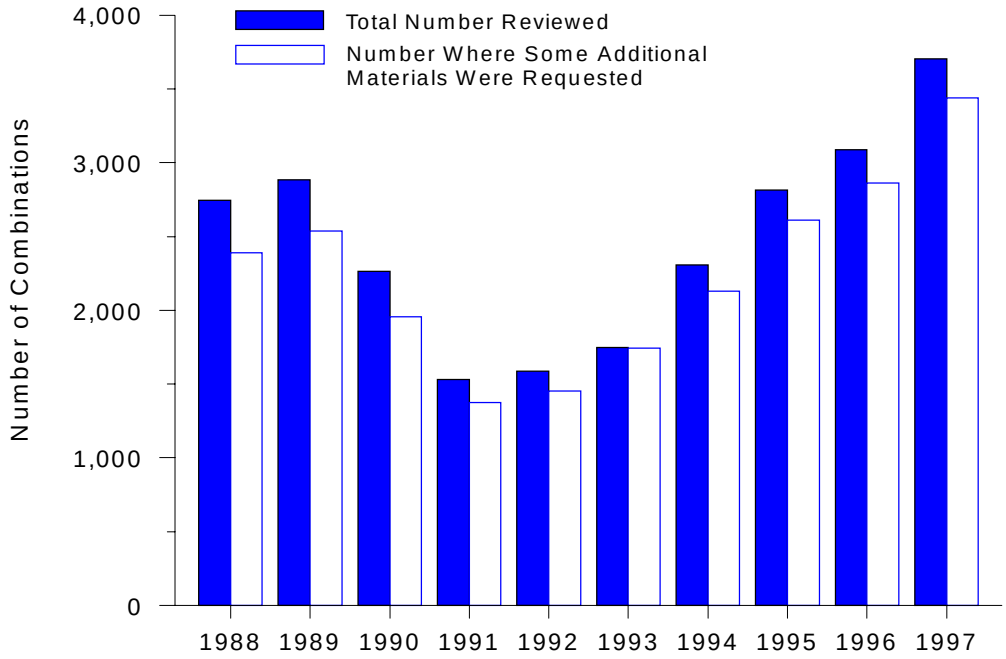
Since 1991, the number of cases reviewed by the FTC and the DOJ has increased by 140 percent. In the majority of cases some additional information is requested during the review process. In 1997, more than 3,700 cases were reviewed and additional information was requested in 93 percent (3,438) of the cases (Figure 57). Following the review, one or both of the agencies may then determine that further investigation is necessary. They would then issue a formal second request tailored to the specifics of the proposed combination and to the specific nature of the industry in which the combination will take place. While the number of second requests has also increased since 1991, the total remains small, representing only about 3 to 4 percent of the cases reviewed. Although the agencies can act to bar a combination, in most cases an agreement is reached that addresses any potential problem(s). For example when Phillips sought to acquire natural gas gathering assets from Enron, the FTC obtained a consent order wherein Phillips agreed to divest some of the properties.[12]

[10]Where the combined entity will have a value of $15 million and one of the parties has a value of $100 million and the other of at least $10 million. The limitations are less significant in the case of oil and gas interests that have been exempted unless their value exceeds $500 million.

[11]By Standard Industry Classification Code (SIC Codes) of the U.S. Department of Commerce.

[12] Such orders tend to be very specific, closely defining the market, specifying conditions as to contracts in force, properties to be divested, and the like.

Figure 57. Corporate Combinations Reviewed by the FTC and DOJ



FTC = Federal Trade Commission. DOJ = Department of Justice.

Source: Federal Trade Commission and Bureau of Competition, Department of Justice, Antitrust Division, *Annual Report to Congress, Fiscal Year 1997*.

It is not unusual for a consent order to be issued and for conditional approval to be granted. Conditional approval may require partial divestiture, continuation of contracts, rate freezes or other mitigating measures. FERC and the State commissions can and do also impose similar conditions. Conditional approval may be granted by one or more Federal agencies dependent on approval and mitigation measures imposed by the State regulators. It should also be noted that both DOJ and FTC may choose to revisit a completed merger or other combination at a later time. They may then determine that the combination is not in the public interest and negotiate a settlement (divestiture etc.) or institute proceedings seeking to break up the combination.[13]

Determination of Market Power

Fundamental to the investigation of proposed corporate combinations is a determination of market power. The analytical approach employed by DOJ, FTC, and FERC centers on a determination of market power in the proposed combination. Market power is defined by the Supreme Court as the ability to raise prices "above the levels that would be charged in the competitive market."[14] While virtually all firms have some degree of market power, the examination process looks for *excess market power* in the ability to raise prices and increase profits (the "classical" definition of market power) by reducing output. The exercise of market power also occurs if a company is able to raise costs or reduce output of their competition (exclusionary market power). The Merger Guidelines adopted jointly by DOJ and FTC in 1992, and later adopted by FERC in 1996, use a modified definition that included "the ability to maintain prices above competitive levels for a significant period of time."[15]

Several specific questions arise during a market power investigation. First, could a company increase prices by reducing output? Second, does a company with the ability to raise prices have the incentive to raise them above

[13]The DOJ and the FTC cooperate, each taking on only certain cases and passing on others based on available resources and expertise. A review committee determines which agency will pursue an investigation in those cases where both have an especially strong interest. DOJ reviews most electric utility cases, whereas FTC does more of the natural gas and gas utility cases.

[14]*Jefferson Parish Hospital, District No. 2 v. Hyde*, 466 U.S. 2, at 27 n.46. See also *National Collegiate Athletic Association v. Board of Regents of University of Oklahoma*, 468 U.S. at 109 n.38.

[15]*Merger Guidelines*, Section 0.1. See also: Federal Energy Regulatory Commission, *Order No. 592, Policy Statement* (Washington, DC, December 18, 1996).

competitive levels? Next, how long must market power be exercised before a violation occurs? Finally, will savings from efficiencies gained be shared with consumers? The questions are not easily resolved. Agencies and courts must assess possible consequences that might or might not develop at some unknown time in the future.

Analytical tools such as the Lerner Index and the Herfindahl-Hirschman Index (HHI) are employed.[16] Both approaches attempt mathematically to define the extent of market power. The Lerner Index is derived by the direct subtraction of marginal costs of the firm from the price of the goods it sells. The index is based on the assumption that the higher the ratio between marginal cost and price, the more likely it is that the firm possesses market power. For a number of reasons, the Lerner Index is not the preferred measure of market power. It generally looks only at the potential for market power in the classical sense of the term and is further limited in that it does not take into account external factors, such as shifts in customer behavior.

The centerpiece of the market power analysis is the HHI. To utilize the HHI, analysts first determine the relevant market, then determine the shares of the market held by the major players. The values are squared and them summed to determine a statistical measure of market concentration. Analysts then factor in the shares of the market including the results of the proposed combination and compare the results. The contention is that a higher share reflects greater ability to set market price above marginal cost.

The Merger Guidelines address three ranges of post-merger market concentration:

- **Unconcentrated.** If the post-merger Herfindahl-Hirschman Index is below 1000, regardless of the change in HHI the merger is unlikely to have adverse competitive effects.

- **Moderately concentrated**. If the post-merger HHI ranges from 1000 to 1800 and the change in HHI is greater than 100, the merger potentially raises significant competitive concerns.

- **Highly concentrated**. If the post-merger HHI exceeds 1800 and the change in the HHI exceeds 50, the merger potentially raises significant competitive concerns. If the change in HHI exceeds 100, it is presumed that the merger is likely to create or enhance market power.[17]

The key to HHI analysis lies in the difference between the pre-combination and post-combination market index. If the calculations indicate that a combination is unlikely to create or enhance market power, then the Merger Guidelines set out certain safe harbors. If instead, the difference exceeds a certain range, there may be the presumption that a merger under the circumstances is "likely to create or enhance market power or facilitate its exercise." Nonetheless, neither a high HHI nor a high change in the relationship between the pre-merger HHI and the post-merger HHI automatically results in a denial of a proposed combination. By demonstrating that conditions giving rise to excessive market power are unlikely to arise, companies may be able to overcome the presumption of excessive market power arising from the HHI analysis. The HHI and similar tools provide indications, not absolute certainties.

Other Review

In addition to the approval of the FTC or DOJ on the antitrust issues and the FERC on regulatory matters, the IRS will issue a ruling regarding the tax status of the proposed combination. If nuclear power plants are involved, the Nuclear Regulatory Commission will pass on the ability of the proposed combination to operate any nuclear facilities. Following the review and approval of the other Federal agencies, the Securities and Exchange Commission (SEC) will review the proposed combination. The SEC operates under the concept of "watchful deference." That is, the Commission defers to the approval or conditional approval of the other agencies then examines the proposed combination with respect to the rights of the stakeholders. Notification of the SEC triggers final filings and the approval by the respective corporate boards and the like. The SEC review is always the last in the chain, and is usually completed within one to two months of notification.

Regulation of Joint Ventures

Concerns regarding joint ventures are in essence the same as those raised in the case of mergers and acquisitions. To some extent, because of the more flexible and often more temporary nature of joint ventures, and in particular because of the ease of entry into the market, joint ventures in natural gas and energy services typically do not raise concerns on the part of either DOJ or FTC. Nonetheless, there are some questions raised by the current wave of joint ventures that have not been definitively answered. For example:

[16]The Federal Energy Regulatory Commission is also working to develop new approaches to measuring market power based on gaming theory.

[17]Federal Energy Regulatory Commission, *Policy Statement*, p. 27.

- Will certain types of joint ventures be more like mergers in their market impact?

- Between the same participants, is a collaboration less likely than a merger to restrict competition?

- To what extent are merger analysis techniques and approaches applicable to joint ventures?

- If the venture can exert sufficient market power to affect price, what is the relevant time frame to consider before taking action?

The additional questions that arise in the case of joint ventures make it unlikely that agencies or the courts will be able to rely to the same degree on quantitative analysis of market power as they do in reviewing a proposed merger. One approach to the analysis of a joint venture is to assume that if a merger between the entities is viewed to be lawful, that the joint venture should be presumed to meet the criteria for antitrust compliance.

At present, the criteria for answering the questions raised either by a particular merger or joint venture remain somewhat uncertain. Discussion and debate continue in and among the various agencies, the Congress, the Executive branch, and at the State level. Some of the policies will not be set until legislative action occurs. Even then, involvement by the courts is likely to result in changes and policy modification.

Implications for the Market and for Consumers

Corporate combinations in the natural gas industry are altering traditional ownership patterns and leading to greater diversification of the industry, particularly in terms of retail gas marketing and the proliferation of nontraditional service offerings. Consolidation in the gas and electric power industries is continuing at a rapid pace. Energy supplied to consumers will come increasingly from a single "one-stop" source. However, while consolidation is shrinking the number of players in the traditional regulated utility markets, both the natural gas and electric power sectors are becoming more open to competition. This trend opens the way for the expansion of the market to new players and to new approaches to energy delivery and energy services. The market will be fundamentally different, with fewer traditional utilities that are far larger than they have been in the past. On the other hand, there will be far more players in the market in terms of service providers. Often, the service providers will be nonregulated subsidiaries or joint ventures of utilities, producers, or pipeline companies located in other regions of the country that have expanded into areas where deregulation is advancing.

Events in the electric power deregulation are moving rapidly and in some respects have outstripped the pace of events in the natural gas sector. As a result, developments in the recently deregulated electric power markets in California and Massachusetts may be instructive as to what consumers may expect in the gas industry as States take up retail unbundling in earnest. Events suggest that consumers may not elect to switch suppliers. Of the 6 million customers eligible to choose a different electricity supplier in California, fewer than 100,000 did so. Surveys indicate that customers wanted savings on the order of double the 10 percent mandated by the legislature.

In addition, through referenda in California and Massachusetts, consumer groups have sought to overturn the existing structure and to mandate larger savings and cut the ability of the utilities to recover stranded costs.[18] These developments may be a precursor of similar conflicts to come in the natural gas sector. Additional support for the contention that consumers are unlikely to switch suppliers comes from the opening of gas markets to competition in Great Britain. Only about 20 percent of eligible consumers sought a new supplier when the gas industry opened to retail competition.[19]

The experiences in California and the United Kingdom also suggest that marketers may find it very difficult to win customers away from the local utilities despite efforts to introduce competition. Although it remains to be seen how consumers in other areas will react, it appears likely that the advantages enjoyed by LDCs and lack of distinct advantages offered by potential competitors will result in their ability to retain a sizeable share of the residential market.

Corporate combinations developed to take advantage of the opportunities offered by the opening up of the gas and electricity markets have become commonplace. In some cases, particularly those involving the acquisition of electric generation facilities, the assets have been sold at premium prices, at times for several times their book value. State

[18]Although the proposed legislation was defeated in both California and Massachusetts, opponents in California have indicated that they will continue their opposition by confronting utilities on questions of stranded costs as restructuring moves to other States.

[19]Randy Hobson, "Britain Starts Offering Choice of Electrical Supplier," *Daily Mail* (London, September 15, 1998).

agencies often preclude the new owner from simply passing on the cost to consumers. Rather, they require that rates be set in competitive markets, which means that acquiring companies are not assured of recovering costs. Nonetheless, the trend appears to be continuing, at least for the present.

Although consolidations among gas marketers have resulted in fewer participants, the share of sales accounted for by the top 20 marketers has declined. The joining together of NGC and Chevron, of Mobil and Duke, and others either through merger or joint ventures has resulted in a few companies capable of moving huge volumes of gas. Despite their apparent capacity, in reality many of their transactions involve transportation and resale and not sales to end users. Nonetheless, sales to end users by these large marketers have increased sharply in recent years. Yet sales by other marketers have increased even faster and the share of the largest companies has fallen as a result (Figure 55). It appears unlikely that this trend will reverse in the near future.

Many utility combinations develop in order to provide both gas and electric service. Utilities concerned about the loss of customer base are increasingly branching out through merger acquisition and especially through joint ventures into services. Energy service packages not only provide traditional service but also in many cases embrace such convergence items as one-stop energy shopping, billing, and telecommunications. Many of the service packages are in the development stage, and many as yet are available only to the larger industrial and commercial customers. Some will be extended in the future to residential customers and also expanded to encompass a larger regional or even national territory.

All of these changes have major implications for consumers. Some of the possible effects include:

- Lower prices, depending on the distribution and sharing of cost savings from the combination.
- New products and services and greater choice of service options.
- Increased need for information about the choices and options and the ability of the service provider to deliver the product.
- Shifting of risks: to stockholders in terms of financial returns, and potentially to customers in terms of reliability of the service provider.

Outlook

Corporate combinations ranging from mergers and acquisitions to joint ventures form an important part of the strategies employed by companies striving to respond to the rapidly changing conditions in the natural gas industry. The types of combinations employed in earlier periods of consolidation remain in common use in the current wave of corporate combinations. However, to a considerable extent, the emphasis has shifted away from mergers and asset acquisition to joint ventures and strategic alliances.

Despite substantial growth in the value of energy-related mergers and acquisitions, their combined value remains small in comparison with the total value of all combinations in the general economy. Although many large-scale mergers and asset purchases have taken place recently, a significant number of corporate combinations have been relatively small in value. These smaller transactions involve utilities, oil and gas companies, and others that seek entry into nontraditional areas, such as alternative energy, energy marketing, energy services, telecommunications, and niche markets of various types.

Some of the most innovative corporate combinations involve joint ventures or strategic alliances that have become popular in large measure because they are easier to set up, involve less commitment, and allow for greater flexibility. Joint ventures also often avoid lengthy regulatory reviews and costly tax consequences that lessen the attractiveness of the merger process. Joint ventures are particularly prevalent in the marketing of services.

At present, convergence, either in the sense of the coming together of gas and electric utilities or in the broad sense that includes one-stop energy shopping, Internet, media, and banking services, as yet plays a relatively minor role in mergers and asset acquisition. To some extent, convergence-driven corporate combinations have been impeded by the uncertainty regarding pending legislation that will do much to shape the nature of energy markets as they become more open to competition.[20] The long-term outlook for corporate combinations suggests that convergence will come to play a more significant role in mergers but that joint ventures will be the favored approach to incorporate convergence issues.

The primary objectives of corporate combinations often center on increased efficiency, economies of scale, and

[20]For a discussion of retail unbundling, see Chapter 1, "Retail Unbundling."

increased ability to compete in the changing environment. The stated objective of realized cost savings is to pass along savings to customers and to stakeholders. However, cost savings to consumers will vary by consuming sector and by region.

Despite such fundamental changes to the way of doing business, corporate combinations appear unlikely to result in significant changes in performance in terms of supply security of the natural gas sector. Infrastructure changes have added both capacity and flexibility to the system. However, indications from recent periods of peak demand in both the gas and electric power sectors are that increased price volatility during periods of strong demand is likely.

In the short term, the impact of such volatility likely will be exacerbated by such factors as: the ease of entry into marketing without qualifying standards, the lack of comprehensive operating procedures, and the underlying uncertainties associated with the changing energy market. Further, the collapse of some joint ventures, the failure of some mergers, coupled with the fallout from the electricity price spike in June,[21] suggest that the failure rate of companies could be high. As a result, the pace of corporate combinations may temporarily slow as companies take stock of the changes that are taking place.

Corporate combinations are resulting in new alignments of traditional elements in the energy sector. Two developments in corporate combinations, at first glance, appear to represent opposing trends. First, mergers, acquisitions, joint ventures, and strategic alliances are leading to greater diversification of the industry, particularly into retail gas marketing and other nontraditional activities. At the same time, other combinations result in reinforcing traditional segments in some markets as companies seek out partners in the same industry segment for acquisition or merger. However, rather than opposites, the two strategies may be complementary.

Recent experience shows a rich diversity of approaches characteristic of a new or developing market. Much of the recent activities in corporate combinations essentially have been the product of experimentation. This phase has developed largely in response to uncertainty regarding new retail energy markets. As a result, the ability to draw conclusions about the future course of the process and the implications for the market are limited. Nonetheless, it appears likely that in the short term, despite the changes sweeping through the industry, the residential consumer will not find that much difference between the old and new marketplace.

[21]A combination of unseasonably hot weather, coupled with power plant outages, resulted in extreme price volatility. Prices surged by more than a factor of 200, reportedly reaching as much as $7,500 per megawatt hour.