

Section 8: Global Climate Change

OVER THE PAST THREE DECADES scientists around the world have registered growing concern about the increasing concentrations of greenhouse gases (GHG) which form a layer above the earth that fundamentally affects the conditions of life on earth.

Background

The Intergovernmental Panel on Climate Change, a group of recognized natural scientists established by the World Meteorological Organization and United Nations Environment Programme to advise on climate change, has found that “there is new and stronger evidence that most of the warming observed over the past 50 years is attributable to human activities.”

In California, greenhouse gas production from human activities continues to grow as a result of growth of both the population and the economy. The primary sources are fossil fuels burned in motor vehicles, power plants, refineries and industrial facilities. By 2020, if current trends continue, total emissions are expected to be 32 percent greater than they were in 1990. The state energy agencies have committed to a global leadership role to reverse the buildup of GHG.

In 1997 international leaders negotiated the Kyoto Protocol, which became effective this year (2005) after ratification by Russia. At present there are 140 signatories to the agreement, which calls for the major industrial nations to reduce emission levels to 5 percent below 1990 levels by 2012. The United States (along with Australia and Monaco) has not signed this agreement, despite the fact that last December, in a formal report to Congress, the bipartisan National Commission on Energy Policy recommended that the U.S. establish a mandatory, economy-wide trading system to curb the growth of GHG.

During 2004 a team of California scientists published “Climate Change in California—Choosing our Future.” (See Climate Choices, a project of the Union of Concerned Scientists, at www.climatechoices.org.)

Based on detailed climate models, this group has predicted:

- Rising sea levels, of particular significance in the San Francisco Bay Area and the San Joaquin Delta
- Increasingly frequent extreme-heat conditions
- Increased morbidity and mortality resulting from respiratory problems caused by deteriorating air quality
- Reduced snow pack and stream flow in the Sierra Nevada mountains
- Increased variability in agricultural productivity
- Changes in the distribution of vegetation and increases in high fire danger

State policy—challenges and realities

The first state legislation directed toward addressing the impacts of climate change on energy supplies and demands, as well as on the state economy, was AB 4420 (Sher), enacted in 1988. This required the Energy Commission to inventory and analyze the impacts of GHG emissions from all sources in the state.

In 2000 SB 1771 (Sher) led to the establishment of a voluntary emission registry, the Climate Action Registry, by the Resources Agency, and set up an approval process for third-party certifiers, in anticipation of a market for carbon credits. Furthermore, the state committed to ensure that participants receive consideration for early efforts to reduce emissions if future emission-reduction requirements are imposed. At present 40 organizations report and independently verify their GHG emissions. Participants include the major state IOUs and a number of municipal utilities.

Passage of AB 1493 (Pavley) in 2002 required that the California Air Resources Board (CARB) adopt regulations to “achieve the maximum feasible and cost-effective reduction in GHG emitted by passenger vehicles and light-duty trucks” by January 1, 2005. These regulations are to take effect in 2009.

In July 2004 a Climate Change Advisory Committee was established to further the objectives of SB 1771. The membership of the committee represents key sectors of the economy that will be affected by climate change. Its charge is to develop strategies that go beyond existing state policies, including ways to encourage California companies to become corporate leaders in terms of climate change.

Toward the end of 2004, the CPUC directed that, in evaluating bids for new generation resources, the IOUs include a “greenhouse gas adder” of between \$8 and \$25 per ton of carbon that would be emitted. (This is expected to notably decrease the attractiveness of out-of-state coal-fired generation.)

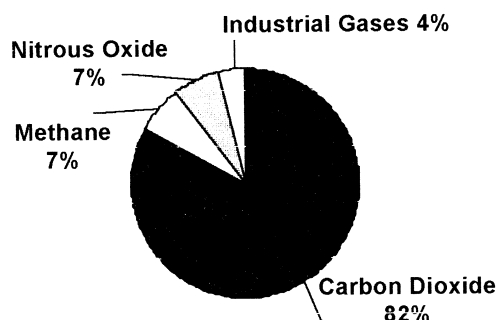
In December 2004 the governor announced a Green Building Initiative which requires all state buildings to use sustainable energy and environmental designs, and requires that any contract for investment in construction that involves state-managed funds, such as CalPERS pension monies, specify that the design meet Green Building standards.

On June 1, 2005, Governor Schwarzenegger issued an executive order stating that by 2010 greenhouses gases would be reduced to 2000 levels; by 2020, they would be reduced to 1990 levels; by 2050, the state would reduce emissions to 80 percent below 1990 levels. No specific actions have been proposed as yet.

Emissions by sector

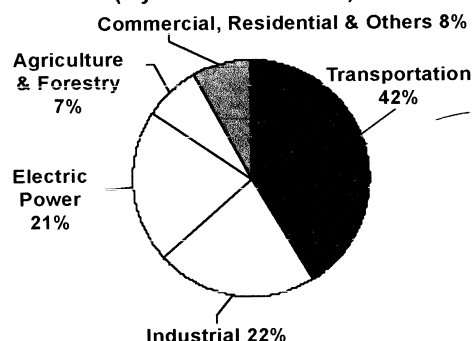
The graphs below illustrate the composition of greenhouse gas emissions and the sources of those emissions in the state.

Figure 1
Composition of California's 2001 Greenhouse Gas Emissions (By Type of Gas)



Source: California Energy Commission, March 2005.

Figure 2
Sources of California's 2001 Greenhouse Gas Emissions (By End-Use Sector)



Source: California Energy Commission, March 2005.

Historically, electricity generated out of state has used a much higher percentage of coal and other carbon-based fuels than electricity generated within California, where fossil-fuel use is lower largely because of the availability of hydropower. In-state-produced electricity has generated between 85 and 280 metric tons of carbon dioxide per gigawatt-hour, while out-of-state generation has produced between 660 and 1,360 metric tons. (A gigawatt is 1,000 megawatts, or one million kilowatts.)

Over the past 15 years, while GHG emissions from the transportation sector increased 10 percent, emissions from electricity generation increased 24 percent, with much of this increase coming from new in-state natural-gas-fired generation.

Sector strategies

Transportation sources are by far the largest contributor of GHG emissions. Both the Energy Commission and the California Air Resources Board are looking toward additional options for reductions including:

- Reducing freight-sector emissions in ports
- Increasing availability and use of alternative fuels, such as bio-fuels
- Reducing vehicle miles traveled
- Improving vehicle efficiency
- Expanding use of rail and public transportation
- Electrifying truck stops
- Capping air emissions at airports

Reduction of GHG by the electric power industry is addressed in the state Energy Action Plan. The loading order of new additions to the state's electric resources gives top priority to energy efficiency, demand-side management and renewable resources.

In the industrial sector, the Energy Commission is encouraging the use of combined heat and power (cogeneration) facilities, and will work toward identifying ways to reduce CO₂ emissions in petroleum refining and the cement industry.

There are notable opportunities for the reduction of GHG in agriculture and forestry. Methane emissions from livestock manure are the fastest growing source, but digesters are now available that can make biogas recovery a cost-effective option. Improvements in forest management also are an important concern, inasmuch as there is recent evidence that the quantity of carbon actually sequestered in vegetation is decreasing.

Regional strategies

It is clear that climate change should be addressed on a regional—if not a global—level. In September 2003, the governors of California, Washington and Oregon endorsed the West Coast Governors' Global Warming Initiative, recognizing the importance of strategies that will provide long-term sustainability for the environment.

Oregon requires that GHG emissions from power plants be mitigated by the developers, either by purchasing emission offsets from a third party or by buying emissions reductions from non-power projects. (This is directly comparable to how power plant developers in California mitigate NO_x emissions.) Washington has not established such a stringent standard; however, developers of fossil-fueled plants greater than 25 MW must offset 20 percent of CO₂ emissions.

Section 9: The Role of the Legislature

THE LEGISLATURE'S MAIN RESPONSIBILITY with regard to energy is to enact legislation and to exercise jurisdiction over governmental bodies that regulate entities that produce, transmit or provide energy.

Is there a system?

Ideas for legislation can come from any person or organization. Historically, energy legislation has often originated in the office of the governor, of a state or local agency, or of a member of the legislature; with lawyers representing energy corporations or other corporate entities; or as a result of proposals developed by nongovernmental organizations such as the Sierra Club or the Solar Energy Industries Association. Since 2003, the Integrated Energy Policy Report (IEPR) prepared by the Energy Commission has become an important factor in the development of energy legislation. As the major tool for state energy planning and assessment, IEPR has a clear role in the definition of needed policy changes. Regardless of where an idea for legislation originates, the bill must be authored by a member of the Senate or the Assembly. After formal drafting by the Legislative Counsel, the bill goes to the Rules Committee of its house for assignment to the appropriate policy committee(s).

In the Senate, primary responsibility for energy legislation lies with the policy committees on Energy, Utilities and Communications, and Natural Resources and Water; in the Assembly, with the Utilities and Commerce, and Natural Resources committees.

The Senate Committee on Energy, Utilities and Communications has jurisdiction over utilities, energy companies, alternative energy development and conservation. The Senate Committee on Natural Resources and Water has jurisdiction over public resources, regulation of oil, geothermal development, global atmospheric effects, ocean and bay pollution, etc.

The Assembly Committee on Utilities and Commerce has jurisdiction over the public utilities; the California Public Utilities Commission, California Energy Commission, California Independent System Operator, and the California Energy Oversight Board; energy companies; alternative energy development and conservation; and natural gas. The Assembly Committee on Natural Resources has jurisdiction over energy research and development, renewable energy and energy conservation; and recycling (recycling materials may include biomass wastes to be used as an energy source).

A number of other Senate and Assembly policy committees have jurisdiction over particular issues relating to energy. Among them are:

- Senate and Assembly committees on Local Government (local government administration of municipal utilities)
- Senate Governmental Organization committee (issues relating to state government organization)
- Senate Banking, Finance and Insurance committee (energy corporations)
- Assembly Business and Professions committee (creation or elimination of regulatory agencies, boards, and commissions and the Administrative Procedure Act and Office of Administrative Law)
- Assembly Budget committee and Senate Budget and Fiscal Review committee (budgets for programs and entities funded by the state)

Bills (others than the budget bill) which require the expenditure of funds must also be passed by the Appropriations Committee. (These bills require a two-thirds vote when voted on by their full house.)

A bill passed by its policy and, if required, fiscal committee(s) is then placed in the Daily File of its house of origin for a "Third Reading," when the members of the house debate the bill and then vote on it. If it passes the house, it is submitted to the other house for a repeat of the process of hearings and floor vote. After approval by both houses the bill is sent to the governor for approval. Generally the author or sponsor of the bill will send a letter with it asking the governor to sign it into law.

Each committee has a staff of consultants, from both parties, who form a core of legislative memory on a particular subject. Staff analyzes legislation for the committee members prior to any hearing on the legislation. The analyses of the majority party's consultants are published while those of the minority are not.

As leadership of a committee changes, so can the organization of the committee. A chair may decide that a new subcommittee needs to be formed on a subject under the purview the committee. If the members of the committee agree, then a request for a ruling on the formation of the subcommittee is submitted to the Rules Committee of that house.

Committees have subpoena power; however, the Rules Committee must approve the issuance of any subpoenas. As an example, during the energy crisis of 2000-2001, the Senate Energy, Utilities and Communications Committee formed a subcommittee to investigate the unprecedented fluctuation of the price of power. This subcommittee became the Senate Select Committee on Investigating Price Manipulation of the Wholesale Energy Market, which then was granted subpoena power by the Rules Committee to obtain records and testimony on the manipulation of power pricing.

Impact of term limits on energy issues

The first legislators affected by term limits were termed out in 1996, the same year the legislature voted unanimously to deregulate the electricity industry. When the energy crisis hit the state in 2000-2001, the majority of legislators that had supported the legislation were still in office. By now, none of them are.

It is widely accepted that term limits has reduced the power of legislative leaders, weakening the power of the legislature to serve as a balance to that of the governor. In addition, inexperienced legislators are more vulnerable to the experience and expertise of well-financed lobbyists and may rely on staff more heavily than more experienced ones.

In the debate over whether or not term limits have weakened the legislative process, there are varying opinions about the role of legislative staff. One side says it fosters the creation of a group of professional staffers expert in various aspects of legislation. However, the existence of a pool of talent does not necessarily mean that an incoming, inexperienced legislator will hire the best-qualified staffers. Partisanship may play against such a decision, or the legislators may feel more comfortable working with people who helped them achieve office. There is a split of opinion among committee staff. Some think they spend too much time educating newly elected members, while others are pleased that inexperienced legislators give them greater responsibility as the holders of institutional memory. Another position is that lack of institutional memory encourages lobbying groups to play a greater role in authoring legisla-

tion. But it is important to remember that even before term limits, most legislation was being written by lobbyists. In fact, to a considerable extent this was true of the legislation that deregulated the electric industry in California, although staff at the CPUC also had a major role.

A less-than-simple example

In the textbook description of the legislative process, it is noted that bills can be amended during the committee hearing process (and on the floor of the house). To get an idea of how that process actually works, let's follow the course of AB 2006, which was introduced by Assembly Speaker Fabian Nunez in 2004. Called the Reliable Electric Service Act, this was the first major piece of energy legislation related to the structure of the electric industry after the energy crisis.

The original bill called for reinstatement of direct access, allowing large energy users (with capacity requirements of 200 kW or more) to shop around for power from the merchant generators and forego service from the IOUs. It would have created a deregulated group of industrial and large commercial customers with a total demand of an estimated 40 percent of the state's total electric capacity. The remaining customers, residential and small commercial entities, would become the "core" customers of the IOUs. Once a customer elected to become *non-core*, that customer would not be allowed to return to the utility for five years, even if its new supplier was unable to meet commitments. The merchant generators and large industrial customers were enthusiastic about this proposed legislation, but groups such as TURN (The Utility Reform Network), which focuses on protecting the average "core" customers of the IOUs from unnecessary rate increases, were strongly opposed.

The bill passed the Assembly as initially conceived, but as the legislative session continued, the then chair of the Senate Energy, Utilities and Communications Committee, Senator Debra Bowen, moved to shift the intent and the content of the bill.

In contrast to extensive reinstatement of direct access, AB 2006, as amended by the Senate, returned regulatory oversight of the electricity market to the CPUC. By providing assurance that reasonable investments in infrastructure by the IOUs would be recovered and requiring a seven percent reserve margin in generating capacity, the bill placed emphasis on investments in new power plants. The amended bill directed the IOUs to seek a mix of utility- and non-utility-owned generation in order to retain the benefits associated with the new hybrid mix of generation. Acknowledging the Speaker's intent and the governor's support, the amended bill also called on the CPUC to establish a model for a core/non-core market, with the non-core customers being limited to those with a maximum peak demand exceeding 500 kW.

Thus by the end of the legislative session, this highly controversial piece of legislation had "morphed" dramatically. It passed on the last day of the session and then was vetoed by the governor, because, in the opinion of many observers, it failed to adequately provide large industrial non-core customers with assurance of special treatment.

The issues in AB 2006 related to investment in facility procurement have been or are being considered through CPUC rule-making. And while the issue of a core/non-core market structure was not addressed during the 2005 legislative session, it continues to be championed by the governor and the Silicon Valley Leadership Group and will certainly be proposed again in the next year or so.

Current issues of concern

Acceleration of the Renewables Portfolio Standard

SB 107 (Simitian) would require all retail sellers, other than locally owned municipal utilities, to increase their total procurement of eligible renewable energy by at least an additional one percent of retail sales each year, so that by December 31, 2010, 20 percent of retail sales are from renewables. Requires the Energy Commission to develop a system that could be used to verify and track Renewable Energy Credits.

AB 1365 (Blakeslee and Levine) would require the Energy Commission to review the feasibility of increasing the target for the amount of electricity to be procured from renewable energy resources to 33 percent by the year 2020.

Public Participation

SB 15 (Escutia) would extend from 10 days to 30 days the period for comment on alternate decisions (decisions significantly different from the original proposals) published by a member of the CPUC. The CPUC has been using the alternate decision process, thereby short-circuiting interest-group participation in the decision-making process.

Proposed Liquefied Natural Gas (LNG) Terminals

SB 426 (Simitian) calls for the Energy Commission to evaluate and rank proposed LNG terminals that have submitted formal applications by January 1, 2006.

Solar Roofs and Other Renewables

SB 1 (Murray) calls for the placement of one million solar energy systems on existing residential and commercial buildings by 2018. Incentive subsidies are limited to \$2.80 per watt and will decline by 7 percent per year, though they can be increased by 50 percent for zero-energy homes or by 25 percent for homes that exceed Title 24 building standards. Total funding for this program is capped at \$1.8 billion. Installation of systems must be done by workers earning "prevailing or union-scale wages"

AB 728 (Negrete McLeod) would authorize eligible biogas digesters up to 10 MW in capacity to receive a net-metering tariff for the life of the facility. The statewide limitation on the program would be 50 MW.

Electric Transmission Line Siting

SB 1059 (Escutia) would require the establishment of land corridors that would be protected from encroachment by development in order to meet anticipated needs for additional transmission lines. The Energy Commission would establish a process to designate "transmission corridor zones," using a process comparable to the California Environmental Quality Act.

Energy Agency Reorganization

AB 1165 (Bogh) would establish a Department of Energy, headed by a Secretary of Energy, and would create the Energy Commission and the Office of Energy Market Oversight within the department. The Secretary of Energy would be chairman of the Energy Commission. The presidents of the CAISO and the CPUC would serve as ex officio, nonvoting members of the commission. Jurisdiction over determination of need for certain electric facilities (notably transmission lines) would be transferred from the CPUC to the Energy Commission.

Section 10: Where Does FERC Fit In? Regulation and Markets

THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) is responsible for regulation of certain activities relating to electricity, natural gas, market oversight, hydropower and oil pipelines. These responsibilities (except for oil pipelines, which are beyond the scope of this report) are briefly described below.

Electricity: A brief history of its regulation at the federal level

The commission acts under the legal authority of three different federal acts passed by Congress:

- Federal Power Act (FPA) of 1935
- Public Utility Regulatory Policies Act (PURPA) of 1978
- Energy Policy Act (EPA) of 1992

In April 1996 FERC began restructuring the electric utility industry with issuance of Order 888, the “open access” rule, which required transmission owners to offer non-discriminatory transmission service to others seeking such service. This moved the industry from the traditional franchised utility service territory to a more open market where customers are not held to one service provider for power. To do this it issued a series of orders directing the industry to create greater accessibility of the electric generation resources throughout the country. This action opened up the electric markets for consumers to have greater access to various power options. The new regional transmission organizations that are being created allow customers to choose power from sellers outside their traditional electric utility service territory.

FERC responsibilities

- Rates for wholesale sales and transmission
 - FERC’s primary responsibility with respect to electricity is to approve *wholesale* rates for power sales and transmission in interstate commerce. The commission approves *interstate* rates for investor-owned electric utilities (like Pacific Gas & Electric Company and Southern California Edison), independent system operators (like the California Independent System Operator) and power marketers, power pools, and regional transmission organizations.
 - FERC also reviews rates set by the federal power marketing administrations, such as the Bonneville Power Administration, which operates in the Pacific Northwest.
- Corporate Affairs. For public utilities subject to its regulation, FERC:
 - Oversees the issuance of certain stock and debt securities, assumption of obligation and liabilities and mergers
 - Reviews the holding of officer and director positions between top officials in utilities and certain other firms they do business with
- Generators. FERC:
 - Confers “exempt wholesale generator” status, which permits generators to charge market-based rates
 - Certifies combination heat and power “qualifying facilities” which use energy for both the production of electricity and an industrial or commercial process

FERC does *not* regulate

- Physical siting of electrical generation, transmission, or distribution facilities
- Retail electric rates
- Activities of municipal power systems and most rural electric cooperatives

Natural Gas: A brief history of its regulation

Gas was first regulated by the federal government when the Natural Gas Act was passed in 1938. This bill gave FERC's predecessor, the Federal Power Commission (FPC), rate-setting authority over the transmission of natural gas in interstate commerce. The bill was based on a report prepared by the Department of Justice and the Federal Trade Commission which found that the pipeline industry was quickly becoming a "natural monopoly."

A natural transmission monopoly occurs when only one company owns the means of delivering a product, here natural gas. Because a natural gas pipeline that is in interstate commerce (i.e., crosses state borders) is extremely expensive and time-consuming to build, once it is built it is unlikely that a competing pipeline will be built, and it is easy for an owner to control the prices of natural gas in the market, or markets, it supplies.

Recognizing this, Congress gave the FPC the authority to set just and reasonable rates for the transmission of natural gas in interstate commerce. As a result of a Supreme Court decision in 1954 (*Phillips Petroleum v. FPC*), the FPC was granted jurisdiction over "all wholesales of natural gas in interstate commerce, whether by a pipeline company or not." This meant that sales for resale would be encompassed. Previously the commission regulated the prices at which interstate pipeline companies sold gas but not the wellhead price at which they purchased it from producers.

In 1993, prices at the wellhead were deregulated by an act of Congress, the Wellhead Decontrol Act of 1989. Thus the price of natural gas, as a commodity, is deregulated; the price is now set by supply and demand.

The Natural Gas Act of 1938 also gave the commission the authority to grant certificates to companies that want to build or enlarge natural gas pipelines in interstate commerce. This makes up a large portion of FERC's workload. Any company that wants to build and operate interstate natural gas facilities, such as pipelines and natural gas storage facilities or liquefied natural gas terminals needs a certificate from the commission. This authority is called a Certificate of Public Convenience and Necessity.

When the National Environmental Policy Act (NEPA) was enacted in 1969, the commission became responsible for reporting the environmental impacts associated with the construction of interstate natural gas facilities. The environmental staff conducts an independent review of the construction proposal and if necessary makes recommendations to the commission to impose requirements on the applicant to reduce impacts in sensitive areas and habitats. This document is called an Environmental Impact Statement, or EIS.

Safety during construction is always a concern, although the agency directly responsible for safety and operation of pipelines, both before and after construction, is the Department of Transportation, Office of Pipeline Safety.

Regulation of natural gas projects

FERC's responsibilities include:

- Regulation of interstate pipeline, storage and liquefied natural gas facility construction
- Regulation of natural gas transportation in interstate commerce
- Issuance of certificates of public convenience and necessity to companies proposing to provide energy services or construct and operate interstate pipelines and storage facilities
- Regulation of facility abandonment
- Establishment of rates for services (but not wellhead prices)
- Regulation of the transportation of natural gas as authorized by the NGPA (Natural Gas Policy Act) and the OCSLA (Outer Continental Shelf Lands Act)
- Oversight of the construction and operation of pipeline facilities at U.S. points of entry for the import or export of natural gas

FERC does *not* regulate

- Companies that operate pipelines that only carry natural gas within a state—"intrastate"—or natural gas that comes from out-of-state, but will be wholly consumed within the state. FERC also does not regulate local distribution pipeline companies that serve individual residences and commercial buildings with pipelines that are usually smaller diameter in size and operate at lower pressure. Overall, in California FERC does little regulation of natural gas pipeline operations.
- Compensation to landowners for land affected by installation of interstate natural gas facilities.
- Development and operation of natural-gas-fueled vehicles, such as cars, buses, etc.

FERC-CPUC jurisdictional dispute

Although FERC has claimed exclusive jurisdiction over all liquefied natural gas (LNG) facilities, the CPUC is challenging this in the Ninth Circuit Court of Appeals. (*See Section 11, Natural Gas and LNG.*) In late June 2005 Congress passed the federal energy bill that had been under negotiation for the past two years, a provision of which gives FERC this authority. But in late summer 2005 the CPUC suit was still pending, and at the same time legislation was pending in the state legislature that called for the California Energy Commission to assess the need for LNG and rank proposed facilities. It is unclear whether FERC or the state will prevail in this very important energy arena.

Market oversight and investigation: A brief history

In January 2002 FERC created the Office of Market Oversight and Investigations (OMOI) to oversee the operations of electric and natural gas markets. This office seeks to identify important issues and correct them before they become major problems. The idea is that the commission will police energy markets to make sure that companies participating in the markets play by the rules or face serious consequences. To do this the commission must:

- Promote the understanding of energy market operations
- Ensure that the market is made up of structures and operations that support competition
- Ensure a just and reasonable marketplace by enforcing the rules

What is an energy market?

An energy market is less a place than it is an ability for buyers and sellers of electricity and natural gas to transact business. Generators seek to sell large amounts of electricity (bulk power) to those who need the electricity. Buyers are typically Load Serving Entities (LSEs), including traditional utilities, who resell power to end-use customers. The commission oversees these wholesale markets. In addition, some generators sell directly to large end-use customers. Public utility commissions in individual states regulate the retail sales.

In natural gas markets, producers sell large volumes of gas to buyers such as industries, large institutions, local distribution companies, or electricity generators—users who require large supplies. Electricity generators are especially significant because so much electricity is generated using natural gas as fuel; as natural gas prices rise, the price of electricity is forced up also.

Energy markets have other participants known as marketers, who act as middlemen by purchasing electricity and natural gas from those who have it and selling it to those who need it. They make money by buying the energy as cheaply as they can and reselling it for as much as they can.

How did energy markets come about?

The natural gas and electric utilities were once called “natural monopolies.” That is, most people thought that producing and delivering natural gas and electricity to retail customers would be most efficient if there was only one supplier, usually, or at most a few suppliers. As a result, gas and electric utilities received exclusive franchises over assigned areas, much as many cable companies have today. Parts of their activities were regulated by the federal government and other parts, particularly retail prices, were regulated at the state level.

In the late 1970s an idea surfaced that, under the right conditions, regulated industries could be regulated by the pressure of market competition rather than by government action. One of the first federally regulated industries to be deregulated was the airline industry more than two decades ago. Telephones and telecommunications followed. The fundamental belief was that competition would lead to lower prices and better service.

For energy, the fundamental belief was the same, with the proviso that the monopoly parts of the business—the largely one-owner transmission and distribution lines, with their potential for “pay-what-I-ask-or-else” holdups—remain regulated in the public interest. It became clear that many companies could compete to produce and sell natural gas. It has become increasingly clear that many companies can compete to generate and sell electric power, as well. But as has been seen in California, it is less clear that competition alone can drive down prices.

The commission began to lighten regulation of the energy industry in the 1990s through a series of orders. Some of the most important of these are:

- Order 636, which created open access for shipping on natural gas pipelines
- Order 888, which created open access to electric transmission lines
- Order 2000, which established rules for and encouraged the development of Regional Transmission Organizations (RTOs). The commission views the formation of RTOs as a crucial step in restructuring the electric industry because, under the commission’s rules, a utility must give up operational control of its transmission lines to join an RTO. In California, CAISO is an RTO, although its authority does not include the transmission lines of the publicly owned utilities or the two out-of-state-based IOUs that serve small numbers of customers.

These orders sought to obtain the benefits of competition in energy supply, while maintaining appropriate regulation of transmission and distribution. The events of recent years have shown that energy markets are more dynamic, unpredictable, and sometimes counterproductive than anyone had imagined. As a result, using market oversight for early detection and correction of market problems is a new and vital part of the commission's overall regulatory strategy.

How is the Office of Market Oversight and Investigations structured?

Two major units within OMOI have direct energy market responsibilities:

- Market Oversight and Assessment oversees the nation's natural gas, electric power and oil pipeline markets and related financial markets, identifying problems and opportunities for those markets, and proposing policy options and regulatory strategies for addressing the issues identified.
- Investigations and Enforcement investigates possible violations of the statutes administered by the commission and of the rules, orders, and regulations it issues. It also recommends ways to address violations and pursues remedies through negotiation or litigation.

A third unit, the Division of Management and Communication, directs the strategic planning, internal and public outreach, information dissemination and administrative operations of the office.

Claims resulting from the Western energy crisis

FERC's market oversight efforts began only after the western energy crisis began. Since then FERC has been trying to resolve many claims brought as a result of alleged market manipulation during the crisis. A number of these claims have now been resolved through settlement, but some are still being litigated at FERC or in the courts.

Hydropower: A brief history of its regulation

Hydroelectric power regulation was the first work undertaken by the Federal Power Commission, FERC's predecessor, after Congress passed the Federal Water Power Act of 1920.

This work includes issuing preliminary permits, project licenses and exemptions from licensing; ensuring dam safety; performing project compliance activities; investigating and assessing payments for headwater benefits; and coordinating with other agencies.

Licenses are issued for a term of 30 to 50 years, and exemptions from licensing are granted in perpetuity. Commission costs are offset by annual charges collected from license and exemption holders. The commission also determines charges for a licensee's use of federal lands, federal dams and Native American reservations.

Licensed projects receive comprehensive safety inspections from commission engineers stationed in Washington and at five regional offices. The commission is responsible for dam safety at over 2,600 licensed and exempted dams and related water retention structures.

In California, since many licenses were initially granted between 30 and 50 years ago, many projects are currently undergoing relicensing. During the relicensing process current environmental conditions are reviewed and permit conditions may be adjusted accordingly.

FERC responsibilities:

- Issue licenses for the construction of a new project
- Issue licenses for the continuance of an existing project (relicensing)
- Oversee all ongoing project operations, including dam safety inspections and environmental monitoring

FERC does *not* regulate water-quality certificates that are issued by state authorities and generally contain important environmental conditions. (The State Water Resources Control Board has indicated that only nine out of 119 FERC-licensed projects in California meet current water quality standards.)