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**ECONOMIC CONSEQUENCES OF ELECTRICITY
DEREGULATION: A CASE STUDY OF SAN DIEGO GAS &
ELECTRIC IN A DEREGULATED ELECTRICITY MARKET**

COLIN DRUKKER*

INTRODUCTION

Since the late 1970s, government regulation of the economy has been relaxed to foster competition. Certainly, not every sector of the public utility industry has undergone the same degree of reform. In the airline and trucking industries, for example, where few barriers to competition existed, price and entry regulations have been eliminated. Changes in industry and regulatory structures for electricity, however, are more complex, and hence the pace of change has been slower.¹ Electricity is the largest industry in the world, running everything from our houses to our businesses to our hospitals. Any changes to the electricity industry will therefore be felt by billions of customers and consumers.

In September 1996, AB 1890 deregulated the monopolized electricity generation market in San Diego by introducing competition into the market. This change has the potential to affect not only the San Diego residents who purchase their electricity from San Diego Gas & Electric (SDG&E) but also every economic transaction that occurs with a San Diego electricity consumer.² If one also considers the potential effects on the safety and reliability of electricity service, it becomes apparent that the effects of AB 1890 must

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1. See Lewis J. Perl, *Regulatory Restructuring in the United States*, 6 *UTIL. POL'Y* 21, 21-34 (1997).

2. For example, if AB 1890 produces higher electricity costs for the San Diego Shoe Company (a fictional company), the shoe company will pass that cost on to its customers, who will, in turn, have less capital to save or spend on other goods or services. Conversely, if AB 1890 produces lower electricity costs, customers and consumers will have more capital to save or spend on goods and services.

be heavily scrutinized to ensure that San Diego operates under the safest, cheapest, and most reliable electricity service possible.

Deregulation is affecting many industries worldwide, such as telecommunications, airlines, trucking, and electricity. The electricity industry is by far the largest of the markets, and deregulation of this industry has been heavily studied. Electricity deregulation, however, has been primarily studied at global, national, or state levels. This article focuses on the regional reaction to deregulation.

Although simple in theory, deregulation policies are often misunderstood. Researchers categorize deregulation as one of three methods by which the government structures and controls public utilities; the other two methods are antitrust legislation and public enterprising.³ When competition was deemed feasible but would not work due to aggressive firms or conspiratorial agreements, the government enforced antitrust legislation.⁴ If there existed a lack of incentives to induce the private sector to provide services, the government created public enterprises,⁵ such as the Tennessee Valley Authority.⁶ In the case of natural monopolies, the government has regulated prices to protect consumers and promote the efficient operation of utilities. Conversely, when these monopolistic enterprises grew inefficient or when changes occurred enabling competition, the government has deregulated these same markets.

While these categories may make the decision to deregulate an industry appear simple and uncontroversial, the reality is that the appropriateness of deregulation is hotly contested in political, academic, and economic arenas. The issue most often debated is whether deregulation leads to greater efficiency and lower prices. Those who support deregulation contend that it creates diversification and competition, which can only enhance efficiency.⁷ Critics warn, however, of collusive behavior and stress the need for cooperation and stability in utility markets.⁸

3. See JOEL DARMSTADTER, *ENERGY TODAY & TOMORROW* 150-51 (1983). Darmstadter considers deregulation to be a part of the regulatory method. *See id.*

4. *See id.* at 150. For example, in 1982, AT&T was forced to relinquish its 22 Bell System companies, as well as the Bell name, as a result of an antitrust suit. *See* Hal Hellman, *Telephone*, in 19 *ACADEMIC AMERICAN ENCYCLOPEDIA* 80 (1983). These companies were then reorganized into seven regional companies to provide local telephone service. *See id.* While AT&T was allowed to keep its long-distance telephone business, it is now faced with a large amount of competition from companies such as MCI and Sprint. *See id.*

5. See JAMES C. WILLIAMS, *ENERGY & THE MAKING OF MODERN CALIFORNIA* 260-62 (1997).

6. Created in 1933 by Franklin D. Roosevelt, the Tennessee Valley Authority (TVA) helped to promote flood control, navigation, and the sale of electric power. *See* Lee S. Grene, *Tennessee Valley Authority*, in 19 *ACADEMIC AMERICAN ENCYCLOPEDIA* 107-08 (1983). Although private power companies opposed the TVA, the production and sale of hydroelectric power was considered a legal by-product of flood-control and navigation dams. *See id.*

7. See MICHAEL A. CREW ED., *DEREGULATION & DIVERSIFICATION OF UTILITIES* 43-44 (1989).

8. *See id.* at 143.

Looking at California's past energy policies,⁹ there is a strong propensity toward restrictive or heavily regulated energy policies developed to protect the consumer.¹⁰ These policies, however, have ignored the preservation of energy resources and thereby contributed to the degradation of the natural environment. Moreover, these policies were subject to the same kind of collusive behavior feared in a deregulated market.¹¹ Although government involvement in energy management is recognized as a necessity, a deregulated market is drawing increasing support as the better method of managing energy's future use.

Some argue that we must achieve greater energy efficiency in the future or risk draining the environment of all its resources. Others argue for the same increased efficiency for economic reasons. Both agree, however, that present energy technologies are not being maximized, and new energy policies are necessary to raise energy standards.¹² As the world's consumption of energy rises sharply over the next thirty-to-fifty years, our supply of fossil fuels will not satisfy this demand without seriously compromising the world's resources.¹³ To avoid future environmental damage, current energy policies must be restructured to take into account the overall impact of energy use on society.¹⁴

In addition to environmental concerns, policy makers must also consider the role of a utility as an essential service¹⁵ when altering public utility policy. Utilities are essential services used by every stratum of the social and economic community. A change in utility policy, therefore, can directly affect every user and beneficiary of that utility. For example, deregulation policies can eliminate entire sectors of the government while also instigating an increase in new businesses and foreign investment.¹⁶ These changes may

9. For a more detailed history of California's regulatory past, see WILLIAMS, *supra* note 5, at 237-347.

10. Some examples include the Forest Management Act of 1897, the Water Power Act of 1920, and the Central Valley Project Act of 1930. *See id.* at 238, 244-45, 262-63. Very few regulations existed at the turn of the 20th century. *See generally id.* As electricity supply and demand grew, however, the United States and the state of California saw the need to regulate the use of land and the control of energy by private parties. *See generally id.* This trend continued into the 1960s when confidence in government regulatory agencies peaked due largely to a strong economy and plentiful energy supplies. *See generally id.*

11. Examples of private sector collusive agreements are price and supply fixing. When these agreements are performed by the public sector, they are called controls. Many, such as California Senator Peace or consumer advocate groups such as the Utility Reform Network (TURN), blame these controls for the above-average prices Californians have been paying for electricity. *See* The Utility Reform Network, *TURN=Consumer Power* (visited Feb. 14, 2000) <<http://www.turn.org/turn/turnarticles/home.htm>>.

12. *See* DANIEL T. SPRENG, *NET ENERGY ANALYSIS* 3 (1988).

13. For a discussion on the stocks, flows, and impacts of the Earth's energy resources, see ROBERT HILL ET AL., *THE FUTURE OF ENERGY USE* 84-94 (1995).

14. *See id.* at 47.

15. For purposes of this article, an essential service is one that is necessary to complete the fundamental tasks of everyday life, based on the present standard of living in California.

16. *See* PETER VAN BERGELUK & ROBERT HAFFNE, *PRIVATIZATION, DEREGULATION, &*

alter the job market, which may in turn alter the distribution of income within the area.

Examining the results of macro-level deregulation should allow one to see larger trends and patterns. Overall, however, the consensus is that the impacts of deregulation are as varied as the number of countries who have implemented these policies. The strategy for creating the best policy depends upon factors such as the strength of the private sector, the distribution of income, and the system of government.¹⁷ In addition, policy reforms in one market are interdependent upon the success of other markets.¹⁸ This complexity demonstrates that there is no "one size fits all" conclusion on the effects of deregulation on electric companies and consumers. Deregulation must be examined on a case-by-case basis.

This article adds to the body of literature on deregulation by examining the experience of regional deregulation and the effects of deregulation on an investor-owned company.¹⁹ Because the majority of electricity deregulation takes place in countries where the governments own the electricity companies, current deregulation literature focuses on large-scale issues and lacks regional case studies involving private companies.²⁰ This article focuses on the economic effects of deregulation on the San Diego region and the privately owned electricity provider, SDG&E.²¹

Part I of this article examines why California deregulated the electricity industry and how AB 1890 was designed to achieve deregulation. Part II focuses on the economic effects of a deregulated electricity generation market on SDG&E in three specific areas: the modification of SDG&E's role as an electric utility, the reconfiguration of SDG&E's financial strategy, and the reactions of SDG&E customers.

THE MACROECONOMY 35 (1996).

17. *See id.* at 34.

18. For more discussion on the interdependence of reform in markets, *see id.* at 38.

19. For purposes of this article, an investor-owned company is one owned by private citizens as opposed to governments.

20. *See* INTERNATIONAL ENERGY AGENCY, *ELECTRICITY SUPPLY INDUSTRY: STRUCTURE, OWNERSHIP AND REGULATION IN OECD COUNTRIES* 33 (1994).

21. This article has been compiled using relevant documents, news accounts, and formal interviews with SDG&E employees. A historical analysis of SDG&E's electricity rates and investment decisions was used to determine the effects of deregulation. Using electricity rates, investment decisions, and descriptions of the customer base, I compared the rates and investments on an annual basis to determine the degree of fluctuation since the first day of deregulation on March 31, 1998. A simple numerical study of the number of consumers leaving SDG&E was used to determine how electricity consumers are reacting to deregulation and SDG&E. Electricity rates and investment decisions of SDG&E were compared from 1993 to 1998 while consumer reaction was compared from October, 1997 to September, 1998. A conclusive causal relationship between changes in SDG&E and market deregulation will not, however, be evident for many years. This article is simply a first appraisal of an ongoing process, uncovering the beginning trends of structural change, energy investment, and consumer behavior in San Diego's deregulated electricity market.

I. WHY DID DEREGULATION HAPPEN AND WHAT IS AB 1890?

In 1974, the oil crisis caused by the Organization of Petroleum Exporting Countries began to wreak havoc on United States oil prices. Oil prices increased from \$2.53 per barrel in 1970 to \$15.76 in 1974. To counteract the increase in the cost of foreign oil, the federal government created the Public Utilities Regulatory Policy Act in 1978.²² This Act required utilities to buy power from unregulated generators to encourage the use of alternative fuel sources such as wind, solar, water, and waste, thereby reducing America's reliance on foreign fuel. In 1992, the National Energy Policy Act allowed additional types of unregulated companies to generate and sell electricity to public utilities.²³ California's electricity market, however, remained under the control of three government-sanctioned, investor-owned electrical companies.²⁴ The state, through the California Public Utilities Commission, regulated how much these utilities charged and what services they offered. In 1995, California legislators found that the three regulated companies charged citizens as much as fifty percent more than the national average charged by providers of utilities.²⁵ In an effort to drive prices down, legislators passed AB 1890 in September 1996 and deregulated California's electricity generation industry.²⁶ The Bill passed without opposition, carrying the support of Republicans, Democrats, utilities, labor, environmentalists, farmers, consumers, and small businesses.²⁷

Through AB 1890, California created a new electricity market structure, ending the utility monopoly on generation and opening the market to competition so that customers could choose among alternative electric energy suppliers.²⁸ The transmission and distribution of electric energy, however, con-

22. During the 1960s, the Organization of Petroleum Exporting Countries (OPEC) worked to prevent any decrease in the price of oil. See Lynn Turgeon, *Organization of Petroleum Exporting Countries*, in ACADEMIC AMERICAN ENCYCLOPEDIA 441 (1983). In the following decade, however, OPEC strove to increase oil prices, as shown by the 622% increase in Libyan oil. See *id.* In addition, the Arab members of OPEC imposed an oil embargo on countries supporting Israel during the Arab-Israeli War of 1973. See *id.*

23. See California Public Utilities Commission, *Plug in, California!* (visited Apr. 25, 2000) <<http://www.cpuc.ca.gov/divisions/CSD/ELECTRIC/PlainEnglish981030.htm>>.

24. Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and SDG&E served as geographic monopolies. PG&E services most of northern California and parts of central California; SCE services parts of central and southern California; and SDG&E serviced San Diego County.

25. See James P. Sweeney, *Electric Deregulation Sparks Some Doubts*, SAN DIEGO UNION TRIB., Aug. 10, 1997, at B1.

26. AB 1890 was signed into law on September 23, 1996 as chapter 854. See California Legislature, *Bill Number: AB 1890* (visited Feb. 13, 2000) <http://www.leginfo.ca.gov/pub/95-96/bill/asm/ab_1851-1900/ab_1890_bill_960924_chaptered.html>.

27. See John Herrington, *On the Right Path with Electricity Deregulation*, SAN DIEGO UNION TRIB., Feb. 12, 1998, at B9.

28. See California Legislature, *Bill Number: AB 1890* (visited Feb. 13, 2000) <http://www.leginfo.ca.gov/pub/95-96/bill/asm/ab1851-1900/ab_1890_bill_960924chaptered.html>.

tinued to be regulated as monopoly services.

One of the most important components of AB 1890 is the Competition Transition Charge (CTC)—a charge billed to all customers of California's investor-owned utilities "to recover the cost of past capital investments, including power plants and other generating assets," which were poor investments in light of the shift to a competitive market.²⁹

Another important component of AB 1890 is the deregulation of the electricity generation market and the introduction of competition by means of a four-year transition period that began on March 31, 1998.³⁰ This transition period will allow the utilities to charge a Competition Transition Charge. At the end of the four-year period, the market will be completely deregulated.

II. EFFECTS OF DEREGULATION

A. *The Modification of SDG&E's Role as an Electricity Utility*

Growth in market size and technological changes have ended scale economies and made competition more feasible in the electricity industry. As more competitors enter the electricity generation market, both the possibility and necessity of deregulation increases.³¹ In 1996, California senators felt that deregulation was not only possible but absolutely necessary. Senators Steve Peace and James Brulte authored California's deregulation legislation, AB 1890. AB 1890 forces SDG&E to compete with other electricity generators, and significantly alters the basic structure of electricity consumption in San Diego. In addition, the Federal Energy Regulatory Commission (FERC) created the Power Exchange (PX)³² and the Independent System Operator (ISO)³³ to work in conjunction with AB 1890, thereby further re-structuring San Diego's electricity market (see Figure 1).

29. Doug Kline & Ed Van Herik, *SDG&E Cuts Base Rates in Move Expected to Spur Competitive Electric Market*, SDG&E PRESS RELEASE, Feb. 18, 1999, <<http://www.sdge.com/aboutus/newsroom/sdgenews.html>>.

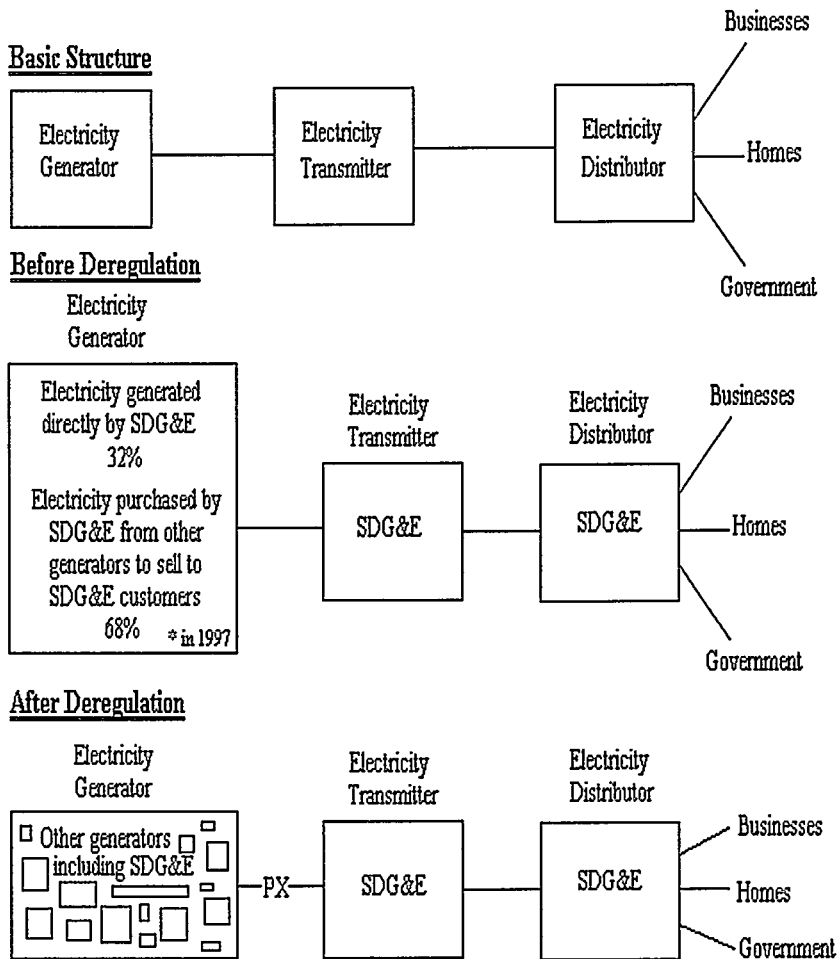
30. Although the initial date was set as January 1, 1998, computer glitches forced a three month delay.

31. See Perl, *supra* note 1, at 22-23.

32. The PX is a system run by the Federal Energy Regulatory Commission that institutes a competitive spot market for electric power through the auction of generation and demand bids. See California Public Utilities Commission, *Glossary*, (visited Feb. 14, 2000) <http://www.cpuc.ca.gov/electric_restructuring/esp_registration/glossary.htm>. All electricity generators must sell their electricity through the PX. See *id.*

33. A system run by the Federal Energy Regulatory Commission that is "responsible for the operation and control of the statewide transmission grid," formerly the responsibility of PG&E, SCE, and SDG&E. *Id.*

FIGURE 1 – ELECTRICITY NETWORK IN SAN DIEGO



Before deregulation, SDG&E was the only source of electricity for the majority of San Diegans.³⁴ SDG&E bought or generated electricity, transmitted it over long distances through large power lines, and finally distributed the electricity into homes and businesses through smaller distribution lines. Under deregulation, many electricity generation companies unassociated with SDG&E can produce electricity and send it over SDG&E’s transmission lines. These other companies, however, may not have been able to effectively communicate with SDG&E had it not been for the creation of the PX and ISO. The PX is controlled by the FERC. The PX buys electricity

34. SDG&E acted as an electricity provider—a company that obtains electricity by means of generation or procurement and then offers it for sale.

from the generators and sells it to distributors such as SDG&E. The PX obtains power from qualifying facilities, nuclear units, and the lowest-bidding suppliers. All electricity generators must sell their electricity through the PX.

The ISO is also controlled by the FERC and schedules the power transactions and access to the transmission system. To facilitate this, the electric utilities will transfer to the ISO their control over the operation of their transmission facilities.³⁵ SDG&E will still, however, maintain ownership of all the transmission and distribution facilities. These operations account for more than seventy percent of a consumer's electricity bill and will continue to be regulated under AB 1890.³⁶

Nevertheless, the PX and ISO have significantly diminished SDG&E's role as an electric utility. SDG&E is no longer free to set the prices for electricity or decide which generators will supply San Diego with electricity. Under the regime of regulation, SDG&E set the prices according to its costs of production and profit margin. While this price was regulated by the California Public Utilities Commission (CPUC), SDG&E always maintained a generous profit margin.³⁷ Thus, the foregoing pricing structure did not create an environment that promoted the lowest possible price for electricity. The new market structure compels SDG&E to become a more efficient organization if it wants to lower prices and remain in the electricity generation market.

SDG&E examined the possibility of competing with other generators and decided to modify its structure. SDG&E's utility-related businesses were combined to achieve vertical integration. Utility operations consisted of power generation, transmission, and distribution. Restructuring as a holding company enabled SDG&E to set aside the power generation business as a subsidiary and a separate, open market competitor.³⁸ Transforming power generation into a subsidiary business enabled SDG&E to separate the debts associated with electricity generation from those connected to transmission and distribution. Since transmission and distribution will continue to be regulated, SDG&E is guaranteed to reclaim any debts linked with these services. Separating the debts allows SDG&E to create a more efficient and profitable electricity generation company.

B. The Reconfiguration of SDG&E's Financial Strategy

SDG&E began transforming its role as an electricity generator early in 1993 after it learned that the deregulation of California's electric industry

35. See ENOVA CORPORATION, 1997 ANNUAL REPORT 33 (1998). Enova Corporation is an energy management company and is the parent company of SDG&E.

36. Telephone Interview with Tom Acuna, Land Planner for SDG&E (Jan. 6, 1998).

37. See generally ENOVA CORPORATION, 1998 ANNUAL REPORT (1999); ENOVA CORPORATION, 1997 ANNUAL REPORT (1998); ENOVA CORPORATION, 1996 ANNUAL REPORT (1997); SAN DIEGO GAS & ELECTRIC, 1994 ANNUAL REPORT (1995).

38. See generally ENOVA CORPORATION, 1996 ANNUAL REPORT (1997).

was inevitable. As a result, five years of preparation created significant alterations in SDG&E's financial strategy. SDG&E has chosen to divest all of its Californian electricity generation assets, invest in power plants outside of California, and reinvest its recent profits to lower base electricity rates.³⁹

SDG&E generated forty-six percent of the electricity it sold in 1993.⁴⁰ By 1997, the percentage of electricity generated by SDG&E dropped to thirty-two percent.⁴¹ SDG&E recognized that the guaranteed profits would remain in the regulated markets of transmission and distribution. SDG&E owned billions of dollars in electricity generation plants that could continue to generate electricity but not profits in a deregulated environment. Although it could have recovered a portion of these capital losses through the CTC charge, SDG&E concluded that its best option was to auction the power plants to the highest bidder. Its economic philosophy was founded on the most basic concept of marginal utility. By 1997, the cost of each additional kilowatt hour was simply too high to compete in a deregulated electricity market.⁴² As a result, the first year of deregulation saw SDG&E divest all of its electric generating assets in California—primarily power plants.

Once SDG&E placed its power plants on the auction block, several of the most important, although unintended, effects of deregulation became apparent. Fierce competition between potential buyers dramatically increased the plants' selling prices. For example, Dynergy, Inc. and NRG Energy, Inc. joined together and outbid the city of Carlsbad for the Encina Power Plant.⁴³ The two energy companies viewed the forty-five-year-old fossil fuel plant as an electricity generator while the city of Carlsbad sought to purchase the power plant to redevelop the land into residential and open-space property. The final purchase price, \$356 million, proved too high for the city of Carlsbad. Meanwhile, SDG&E earned over \$262 million in profit from the sale. This example is not meant to imply that all power plants will simply change owners. Rather, it demonstrates how deregulation's impact on SDG&E has resulted in an increase in competition amongst a wide spectrum of players in the electric market.

The greater variety of potential buyers translates into an increased number of disparate land uses and economic impacts. This point can be illus-

39. Although SDG&E divested its interest in the generation facilities in California, SDG&E will still maintain the transmission and distribution lines. This is an important point in the issue of reliability and safety, particularly in a time of crisis. For example, if an earthquake damages a power plant owned by Company "X," and SDG&E formerly owned Company "X," then SDG&E would be responsible for repairing any damaged transmission or distribution lines connected to the plant.

40. See SAN DIEGO GAS & ELECTRIC, 1994 ANNUAL REPORT 6 (1995).

41. See generally ENOVA CORPORATION, 1997 ANNUAL REPORT (1998).

42. See *id.* at 2-22.

43. Dynergy Inc. is based in Houston while NRG Energy Inc. is based in Minneapolis. See Craig D. Rose & Agnes Roletti, *Power Plant in Carlsbad is Sold*, SAN DIEGO UNION TRIB., Dec. 15, 1998, at C1. The partnership also recently purchased two plants in the Los Angeles area. See *id.*

trated by the South Bay Power Plant, another fossil fuel generation plant, which is six years younger than the Encina Plant yet sold for only \$110 million, which was still \$20 million more than its original market value. The San Diego Unified Port District, however, purchased this plant for purposes of future redevelopment.⁴⁴ In fact, the future of many power plants may be redevelopment. Once the Encina Plant stops operating, San Diego wants to turn the property into a nonindustrial use such as parkland or a resort hotel.

Despite planning to sell off all of its Californian electricity-generating assets, SDG&E has not abandoned the electricity generation market.⁴⁵ SDG&E knew that electricity generation outside of California would remain profitable. In 1998, SDG&E entered into a partnership with Houston Industries to build an electricity generation plant in Las Vegas, Nevada. The new plant, called El Dorado Energy Plant, will service California, Nevada, and Arizona.⁴⁶ Consequently, deregulation has actually increased SDG&E's potential customer base more than ten-fold. Prior to deregulation, SDG&E serviced three million individuals throughout the San Diego County. The Las Vegas plant will have potential access to more than thirty-eight million customers. Thus, while SDG&E abandons the local generation of electricity, San Diego residents could presumably purchase power from SDG&E through the generating facility in Nevada.

The third way SDG&E is altering its financial strategy is by adjusting its method of rate-setting.⁴⁷ Prior to deregulation, SDG&E, as a public utility, charged customers an electric rate that was determined and regulated by the California Public Utilities Commission. When deregulation was introduced, AB 1890 provided for a four-year transition period that froze SDG&E's rates at levels in effect on June 10, 1996 (see Table 1) and allowed SDG&E to charge a CTC.⁴⁸ By the end of the first year of deregulation, SDG&E had

44. *See id.*

45. *See* Michael Kinsman, *Countdown to Competition: California's Power Market Deregulates*, SAN DIEGO UNION TRIB., Nov. 26, 1997, at A1. It is interesting to note that the value of SDG&E's real estate investments soared from \$28 million in 1994 to \$126 million in 1997. *See generally* ENOVA CORPORATION, 1996 ANNUAL REPORT (1997); ENOVA CORPORATION, 1997 ANNUAL REPORT (1998). The net value of SDG&E's electric utility plants dropped from \$900 million in 1997 to \$700 million in 1998. SDG&E plans to sell its 20% interest in the San Onofre Nuclear Power Plant and the 19 combustion turbines, which would reduce the net value of its generating assets to \$0. *See* Doug Kline, *San Diego Gas & Electric to Auction Power Plants, Other Generating Assets* (visited Nov. 16, 1999) <http://www.sdge.com/About/cc_2142.html>. For a complete breakdown of SDG&E's financial information, *see* ENOVA CORPORATION, 1996 ANNUAL REPORT 33-50; ENOVA CORPORATION, 1997 ANNUAL REPORT 41-59; ENOVA CORPORATION, 1996 FORM 10-K 27-29 (1997).

46. *See* Paula Bryant, *A Powerful Opportunity: But Questions Surround Sale of Carlsbad Plant*, SAN DIEGO UNION TRIB., Jan. 7, 1998, at B1.

47. For the purposes of this article, the term "rate-setting" describes the variable with which SDG&E determines the price per kilowatt hour (rate) it will charge for electricity. The two types described in this article are regulation-based rate-setting and market-based rate-setting. The former is determined by the government while the latter is set by the market.

48. *See supra* Part I.

earned more than \$600 million in profit from the sale of its generation assets and estimated full recovery of all uneconomic generation costs⁴⁹ caused by AB 1890s provisions by July 1, 1999.⁵⁰ This allowed SDG&E to terminate the transition period's rate freeze and permanently switch from regulation-based rates to market-based rates.⁵¹ The initial impact on a large number of SDG&E electric customers was higher electricity rates. SDG&E paid an average of 4.1 cents/kilowatt hour for July 1999, compared to 3.6 cents/kilowatt hour for June 1999.⁵² This brought the average total cost of a typical electricity bill to \$44.37 for July, as opposed to \$40.38 for June.⁵³

So what does this mean to SDG&E electricity consumers? Did deregulation eliminate the barrier of regulated prices only to produce higher prices, or has not enough time elapsed for competition to fully integrate? Those skeptical of deregulation point to the fact that SDG&E has switched to market-based rates just in time for summer, the time of year when southern California electricity usage typically peaks due to increased usage of fans and air conditioners. Supporters of deregulation believe that the transition to market-based rates will encourage more competition that will inevitably result in lower prices.⁵⁴ This change in rate-setting illustrates how SDG&E is adapting its financial strategy to take full advantage of an early shift to a fully competitive electricity market. By moving to market-based rate-setting early, SDG&E enters a competitive market with few competitors and is thus able to charge higher electric rates.⁵⁵ In, theory, however, it is just a matter of time before more competitors arrive, compelling SDG&E to lower their prices or risk losing customers. In any case, the market's behavior is ultimately dependent upon customer reaction.

C. Reactions of SDG&E's Electricity Customers

Deregulation forces SDG&E to compete with other companies for customers it had legally owned for seventy-two years. These companies are eager to attract a percentage of San Diego's previously restricted electricity

49. Uneconomic generation costs are the costs of past capital investments, including power plants and other generating assets, which were rendered poor investments by the shift to a competitive market.

50. See California Public Utilities Commission, *Decision 99-05-051 May 27, 1999* (visited April 26, 2000) <[ftp://ftp.cpuc.ca.gov/gopher-data/elec_restruct/decisions/D99-05-051.doc](http://ftp.cpuc.ca.gov/gopher-data/elec_restruct/decisions/D99-05-051.doc)>, available in <http://www.cpuc.ca.gov/electric_restructuring/decisions.html>.

51. SDG&E's application with the CPUC was approved on May 27, 1999. See *id.*

52. See Craig D. Rose, *Higher Charge for Energy Use: Deregulated SDG&E Costs Expected to Rise 10% or More*, SAN DIEGO UNION TRIB., Aug. 12, 1999, at C1.

53. This assumes the same usage for both months. See *id.*

54. See *id.*

55. As of March 1999, only 33 suppliers were actively offering electricity. See Craig D. Rose, *Deregulation? Ho-hum: It's a Year Old Today, and So Far California Has Seen Few Changes in Electricity Market*, SAN DIEGO UNION TRIB., Mar. 31, 1999, at C1. Even Enron Corporation, the nation's largest independent power company, dropped out of California's electric markets. See *id.*

market. The actions of San Diego's 1.2 million consumers will therefore determine the short-term viability of SDG&E's electric generation operations.

AB 1890 was advertised as a move towards a more competitive electricity market. Legislators felt that Californians were paying too much for electricity, and AB 1890 was intended to bring lower electricity prices. The concept of deregulation is simple: government-regulated monopolies such as SDG&E had become bloated and inefficient. By deregulating the market, competition would produce lower prices.⁵⁶ Although AB 1890 initially achieved lower prices for the consumer, the decrease was not significant (see Table 1, 1.1-1.3).

Table 1
Electricity rates for residential electricity consumers in California

1.1 Highest rate paid by Californians for electricity:	12.50¢/kWh
1.2 National average electricity rate:	8.90¢/kWh
1.3 Rate limit during four-year transition period:	9.985¢/kWh
1.4 July 1, 1999 - Rate limit terminated by SDG&E on approval from CPUC:	Market Rate

During the period following January 1, 1998, San Diego customers saved about ten percent on the rate they paid for electricity.⁵⁷ San Diego residents did not, however, feel this was a reason to warrant switching electricity providers. Throughout the first months of deregulation, less than three percent of SDG&E's three million customers chose alternative providers (see Table 2). Because so few switched, some of the new electricity companies were forced to focus on the industrial sector and ignore the residential market. For example, the Houston-based Enron Corporation spent \$30 million campaigning for residential customers that resulted in a disappointing 30,000 residential customers California-wide.⁵⁸ As a result, Enron decided to concentrate on the industrial sector, and, when that proved unprofitable, Enron focused its efforts elsewhere in the country. Enron will continue to serve the 30,000 customers who switched. With SDG&E's early termination of the rate cap, however, it is possible that more customers may choose other providers if SDG&E does not maintain competitive energy prices.

Insignificant savings are just one of the reasons less than three percent of San Diego residents switched electricity providers. The main reason is the sheer complexity of the process, which prevents the appearance of any clear incentives for consumers to switch. For example, in order to finance the ten percent rate reduction, \$6 billion in bonds were issued. The consumers,

56. Telephone Interview with Peter Murphy, Professor of Economics at the University of New South Wales (Sept. 3, 1998).

57. See California Public Utilities Commission, *Plug In, California!* (visited April 26, 2000) <<http://www.cpuc.ca.gov/divisions/CSD/ELECTRIC/electric.html>>.

58. Telephone Interview with Tom Acuna, Land Planner for SDG&E (Jan. 6, 1998).

through their electric bills, ultimately pay for the bonds. Some people, such as consumer advocate Harvey Rosenfield, see this as a shell game. On his electric bill from Southern California Edison, Rosenfield saw that he had been given a \$12.02 discount due to the rate reduction, but he had paid \$16.16 in financing costs for the reduction.⁵⁹ Respondents to this quandary claim that, although the finance charges may initially be high, the charges will decline as the bonds' principal is reduced, resulting in a benefit for consumers.

Exactly how consumers will benefit was not explained clearly enough to consumers, and, by November of 1998, consumer groups had placed Proposition 9 on the state ballot. Proposition 9 prohibited the electric utilities from charging the CTC to recover costs related to nuclear power plants, prohibited the utilities from forcing electricity customers to finance the \$6 billion in bonds, and required a twenty percent reduction in electricity rates instead of the original ten percent reduction. Supporters of Proposition 9, such as the Consumers Union, Ralph Nader, the Utility Reform Network, and the League of Women Voters, argued that it would give customers a true rate cut and prevent the utilities from passing the transition charges on to the consumers.⁶⁰ The proposition's opponents, however, argued that changing the source of repayment for the bonds from the customers to taxpayers would decrease local and state bond ratings.⁶¹ In the end, voters chose not to pass Proposition 9, perhaps because voters did not fully understand the current deregulation situation or what Proposition 9 offered.⁶² In any case, it is obvious that there is no clear consensus on the money-saving ability of California's deregulation. Without any explicit incentives to save money through deregulation, it is understandable why so few consumers switched energy providers.

Customers did not experience significant savings during the first year of deregulation, and they were not given a clear consensus on the money-saving ability of California's deregulation. The result is that over ninety-seven percent of San Diego electricity customers decided to retain SDG&E as their electricity provider. This allows SDG&E to maintain an informal monopoly in the deregulated market.

59. See Michael White, *Power Rate Cut Costing Us More? Foe Misreads Bill, Deregulators Reply*, SAN DIEGO UNION TRIB., Mar. 19, 1998, at C1.

60. See Ed Mendel, *Sparks Fly Over Utilities Measure: Consumer Groups vs. Broad Coalition*, SAN DIEGO UNION TRIB., Oct. 11, 1998, at A1.

61. See *id.*

62. See Craig D. Rose, *Neither Side of Prop. 9 Likes Process*, SAN DIEGO UNION TRIB., Nov. 5, 1998, at A24.

Table 2
Customer activity during deregulation

Month	# switching (per month)	# Returning (per month)	Total # SDG&E Customers\ (running total)
October 1997	—	—	1,200,000
November 1997	224	0	1,199,776
December 1997	612	0	1,199,164
January 1998	268	0	1,198,896
February 1998	828	0	1,198,068
March 1998	1,892	12	1,196,188
April 1998*	6,878	81	1,189,391
May 1998	1,562	104	1,187,933
June 1998	1,840	143	1,186,236
July 1998	5,074	375	1,181,537
August 1998	5,897	242	1,175,882
September 1998	4,225	2,214 ⁶³	1,173,871
TOTAL	29,300	3,171	1,173,871 (97.8% remained)

*1st month of deregulation

Based on the first eighteen months of deregulation, the fact that SDG&E has maintained a firm hold over the electricity generation market illustrates that AB 1890 has yet to effectively introduce competition into San Diego's electricity market. If this trend continues, a competitive market may not be realized, and SDG&E would once again be free to formulate pricing structures without fear of major competitive or, more importantly, legislative restrictions.

CONCLUSION

Based on the economic effects of the first eighteen months of San

63. This large influx of customers returning to SDG&E could be attributed to the closure of an electricity corporation, Boston-Finney. See California Public Utilities Commission, Investigation into the Operations and Practices of Boston-Finney, Decision 98-03-035, Investigation 98-02-004 (Mar. 12, 1998), available in Lexis-Nexis, 1998 Cal. PUC LEXIS 83.

Diego's deregulated electricity generation market and on SDG&E, deregulation is beneficial for SDG&E in three ways. First, during its first year and a half, deregulation has significantly altered the basic structure of electricity consumption in San Diego. SDG&E reacted to these changes by restructuring its electric generation operations as a separate holding company. This modification allowed SDG&E to become more efficient and profitable in a deregulated market. Second, SDG&E further adapted to deregulation by reconfiguring its financial strategy. It divested all of its Californian electricity generation assets, invested in power plants outside of California, and adjusted its method of rate-setting. All of these decisions enlarge SDG&E's potential customer base to thirty-eight million and enable SDG&E to terminate the transition-period rate cap, thereby gaining entry into the young, relatively competition-free deregulated market. Finally, over ninety-seven percent of San Diego electricity customers have chosen to retain SDG&E as their electricity provider. This enables SDG&E to maintain an informal short-term monopoly over electricity in San Diego County without fear of competitive or legislative castigation.

This article, however, is only an examination of the first eighteen months of deregulation and its effects on SDG&E. Changes are inevitable, and more research must be done before the full impact of deregulation can be understood.⁶⁴ Of the \$230 billion per year electricity market in the United States, California represents ten percent of the national market and is viewed as a national model for deregulation. A broader study on the effects of deregulation throughout California is crucial to the success of future legislation as national deregulation gains in popularity.

Electric power is the largest industry in America ever to be deregulated. It is significantly larger than industries such as gas, airline, trucking, railroad, and long-distance telephone service, which have all undergone deregulation.⁶⁵ If electricity deregulation is not closely monitored, millions of citizens could find themselves paying more for electricity than ever before.

64. Future research should focus on the effects of deregulation in areas such as urban land use and development, environmental issues such as pollution and fossil fuels, and the experiences of new electricity companies in the deregulated market.

65. See Brian O'Reilly, *Transforming the Power Business*, FORTUNE, Sept. 29, 1997, at 142.

