

INTERIM REPORT NO. 32

CALIFORNIA'S RENEWABLE ENERGY

MANDATE IN PERIL:

SAN DIEGO GAS & ELECTRIC MUST DO

MORE TO REACH 20 PERCENT

RENEWABLE ENERGY BY 2010

REPORT OF THE

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8 July 2008

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I. EXECUTIVE SUMMARY

San Diego Gas & Electric's effort to comply with state laws requiring the utility to derive 20 percent of its electricity from renewable sources has been incomplete at best and intentionally compromised at worst.

An investigation by the City Attorney's Office concludes that SDG&E has failed to fully avail itself of options to obtain or develop renewable energy projects, despite repeated orders from the California Public Utilities Commission to do so.

The utility company is currently deriving just 6 percent of its electricity from renewables, compared with 12 percent for Pacific Gas & Electric and 16 percent for Southern California Edison.

SDG&E's inadequate effort to increase its renewable electricity contrasts with the initiative displayed by its parent company, Sempra Energy, in developing natural gas projects. The parent company's strategy promoting the supply of natural gas, however, is in contradiction with SDG&E's legal requirement to reduce the use of natural gas by transitioning to renewable sources of electricity.

This contradiction must be addressed by the state's upcoming regulation of carbon emissions.

The City Attorney initiated this investigation after SDG&E said in February that it is unlikely to comply with the California mandate requiring the state's largest utilities to derive 20 percent of their electricity by the close of 2010.

SDG&E currently projects that it will derive just 16 percent of its energy from renewable sources by 2010, well below the California mandate. The City is concerned that the 16 percent projection may be optimistic, given that nearly half of the renewably generated electricity that SDG&E hopes to obtain in 2010 would be from a project whose technology is untested on a large commercial scale.

The City Attorney has informed SDG&E that a failure to comply with state law could represent a violation of the utility's franchise agreement with the City, which requires compliance with all state laws. In addition, the urgency of improving San Diego's air quality requires that SDG&E place the highest priority on developing clean energy sources and reduce the burning of natural gas in the region, which remains a major source of air pollution.

Finally, the urgency needed to address global warming requires that all efforts be taken to ensure the success of California's 20 percent by 2010 mandate. A major utility's failure to reach the mandate would be a setback in the fight against global climate change.

The City Attorney appreciates SDG&E's willingness to discuss its renewable energy mandate. Those talks have led to the City Attorney's recommendation that SDG&E undertake an initiative to install hundreds of megawatts of rooftop PV systems, a project that would be similar to one proposed earlier this year by Southern California Edison.

State regulators have repeatedly emphasized that SDG&E and other major utilities pursue all reasonable options to satisfy the 20 percent by 2010 mandate. Citizens of San Diego should expect no less.

II. INTRODUCTION

In 2002, California launched the world's most aggressive program to transition from burning fossil fuels to producing electricity from clean, renewable sources.

Through acts of the Legislature, the state established a mandate requiring that investor-owned California utility companies derive 20 percent of their electricity from renewables by the year 2010. That is the law.¹

Going further, the California Public Utilities Commission [PUC], which regulates the state's investor-owned utilities, instructed them to begin planning to derive 33 percent of their electricity from renewables by the year 2020.

This November, moreover, state voters will consider a ballot initiative that would raise the requirement to 50 percent of electricity derived from renewables by 2025.

California's intent is clear: Move away from burning coal and natural gas and move toward clean, renewable sources of electricity.

The state established its renewable mandate out of concern over the impact of burning fossil fuels on public health and the environment, as well as a desire to reduce reliance on imported fuels, to stimulate a new clean energy industry and to promote stable electricity prices.

With prices now soaring for fossil fuels and more alarming evidence of global warming, the course set by the Legislature is even more compelling than it was six years ago.

Electric generation is responsible for some 40 percent of greenhouse gas emissions in the United States. This makes the electricity industry a critical target for efforts to reduce warming emissions. And given the air quality problems that afflict San Diego, where burning natural gas is the primary means of generating electricity, reducing the use of natural gas to produce electricity translates to improvements in air quality.

¹ SB 1078 (12 Sept. 2002) (Exhibit 1) and SB 107 (26 Sept. 2006) (Exhibit 2).

San Diego's exquisite climate is also particularly vulnerable to changes that will arise from global warming, yet another reason for moving as quickly as possible to renewables in support of the fight against global warming.

Though many states have established so-called renewable portfolio standards [RPS] since California took its action, this state's 20 percent by 2010 requirement remains the most aggressive clean energy mandate in the nation. In fact, California's ability to fulfill this mandate is widely viewed as a harbinger of efforts to combat global warming.

In February, SDG&E, which serves 3.4 million customers in this region, announced that it was "unlikely" to satisfy the 20 percent by 2010 requirement.² Because the utility's franchise agreement with the City requires it to be in compliance with all state laws, and because of the importance of transitioning to renewable energy, the City Attorney has notified SDG&E that a failure to comply with California's renewable requirements could constitute a breach of the franchise agreement.

The City Attorney's Office also offered to cooperate with SDG&E in identifying City-owned property that might be available for renewable energy development, in an effort to assist the utility in meeting the state mandate.

The City Attorney's Office appreciates SDG&E's responsiveness to queries raised in connection with this report. The City Attorney is also appreciative of meetings held between this office and the utility to discuss its compliance with the renewable energy mandate and looks forward to further cooperation in meeting the 20 percent mandate.

But the City Attorney remains concerned that SDG&E - more than five years after the renewable mandate was established - is deriving just 6 percent of its energy from renewables. This is less than half the percentage of renewable energy that Pacific Gas & Electric [PG&E] or Southern California Edison - the state's other major utility companies - have achieved.

SDG&E has bet much of its renewable energy strategy on a controversial 150-mile long transmission line it proposes to build from Poway to Imperial County, a \$1.5 billion project the company calls the Sunrise Powerlink. SDG&E says the bulk of the renewable energy projects it needs to comply with the 20 percent by 2010 mandate will require building that project, which is being reviewed by the PUC.

A decision last year to extend the time to review that proposal made it impossible for the line to be in operation by 2010, an event that SDG&E contended in its filing earlier this year left it unlikely to satisfy the 2010 mandate.

² 2007, Sempra Energy Form 10-k for 2007, filed with Securities and Exchange Commission, p. 107. (Exhibit 3)

This contention is not shared by the PUC Commissioner overseeing the review of the Sunrise project. In an opinion last August that called for the further review of Sunrise, Commissioner Dian Grueneich wrote: “Thus, according to SDG&E’s own testimony, extending the schedule in this proceeding will *not* cause SDG&E to run afoul of the RPS requirements.”³

Opponents of the proposal to build Sunrise say SDG&E is using the RPS mandate as a cover for winning approval of Sunrise, but will use the new power line to serve the needs of its parent company, Sempra Energy, which has large and growing interests in natural gas projects across northern Baja California and western Arizona.

These critics of Sunrise and many experts say the development of widely distributed renewable resources “in-basin” — within the urban core of San Diego or close to it — makes more sense than the distant development of projects. Projects built in or near the urban core, like rooftop PV systems, would not require expensive transmission upgrades such as Sunrise and would be more secure than relying on a single power line to import clean energy.

But critics argue that SDG&E has been slow to develop these in-basin resources because such development would weaken the case the utility is making to regulators for the approval of the Sunrise project.

Supporters of the transmission line argue the development of renewable energy projects in Imperial County totaling thousands of megawatts – the clean energy equivalent of more than a dozen natural gas-fired power plants – is dependent on the construction of a line like Sunrise to get the power to customers in urban markets.

SDG&E has also consistently maintained that San Diego needs the Sunrise Powerlink to guarantee electric reliability.

This report leaves the Sunrise debate to the PUC and seeks instead to examine the additional efforts SDG&E was obligated to make to satisfy California’s renewable requirement. The PUC has repeatedly ordered utilities to employ a wide variety of approaches for satisfying their RPS requirement and not to rely on any single project.

The City Attorney’s Office is well aware that PUC rules regarding so-called “flexible compliance” for the 20 percent by 2010 mandate may in some cases allow slippage past the targeted year. This may mean that in some cases utilities are given additional time past the 2010 deadline to reach the 20 percent mandate. But the City Attorney proceeds in this matter mindful that time is of the essence in dealing with global warming and in the further belief that, while SDG&E says it is “unlikely” to reach the 20 percent target by the close of 2010, it remains possible. And it is certainly worth trying.

³ Assigned Commissioner’s Ruling Addressing Newly Disclosed Environmental Information, 24 July 2007, Ca. Public Utilities Commission (PUC) A.06-06-010, p. 14. (Exhibit 4)

As Richard Somerville, a climate scientist and professor at The Scripps Institution of Oceanography, has said: “Procrastinating is simply asking nature to teach us what ‘dangerous’ means, and that will certainly be an extremely unpleasant lesson.”⁴

III. THE PUC’S MARCHING ORDERS

As the chief regulator of the state’s investor-owned utilities, the PUC has been largely responsible for implementing the state’s renewable energy or RPS law, with the California Energy Commission also playing a lesser role.

Through proceedings and decisions since the RPS was established late in 2002, the PUC has provided guidance to the utilities and monitored their progress to the renewable mandate. The PUC reviews annual plans for compliance required from each utility and frequently orders revisions in the yearly programs.

From its first rulings in RPS proceedings, the PUC encouraged SDG&E and other state utilities to engage in “creative and aggressive procurement”⁵ of renewable energy. Those efforts were largely undertaken through requests for offers [RFOs] extended by the utilities.

But out of concern that utilities might take a less-than-active approach to renewables, the PUC has repeatedly urged SDG&E and other utilities to consider all options. These include securing renewable energy in areas outside their traditional service territory, seeking contracts through direct negotiation with renewable developers and encouraging utilities to build renewable projects of their own. As a PUC decision three years ago explained:

The law is clear. The utility may procure the renewable generation from itself. There is no preference for compliance through purchases from a third party, including affiliates or others... We intend to enforce the 20% by 2010 requirement. In doing so, we will take into account whether or not each electrical corporation undertook all reasonable actions to comply. One of those actions is building, then owning and operating, the resource itself.⁶

And again last year, the PUC wrote:

We do not here require utilities to build resources. Nonetheless, we encourage IOUs to actively assess the feasibility of utility ownership, and pursue such ownership when and where it makes sense. We are unlikely to look

⁴ Union Tribune Article by Richard Sommerville, “Doing Something About Climate Change,” 14 February 2007. (Exhibit 5)

⁵ PUC D.05-07-039, p.9. (Exhibit 6)

⁶ PUC D.06-05-39, p.33. (Exhibit 7)

favorably on a showing prepared in 2010, for example, regarding whether the IOU should have built plants earlier in the decade. Rather, we think the most convincing showing, if any, would likely include information created contemporaneously with each annual RPS Plan.⁷

The PUC explained that utility construction of renewable projects could play an important role in the overall marketplace, or in cases where the market fails to provide adequate resources.

First, there may be a unique and important role for utility-owned RPS generation. Utility-owned generation from renewable energy resources, for example, can put downward pressure on what are otherwise increasing renewable energy prices. This satisfies an important policy objective that justifies strong consideration of utility ownership.⁸

The PUC noted that utilities should tap competitive bidding processes where feasible, but “there is no reason to limit our options and [we] intend to continue to deploy all resources available to us, including utility development and ownership, to meet California’s vital environmental policy objectives.”⁹

Making the build-your-own option more attractive for utilities, the commission underscored that the law allowed an enhanced rate of profit in certain cases for electric generation projects built by the companies.¹⁰

Providing further flexibility to meet the RPS mandate, the PUC also lifted the ban that had been in place on affiliate transactions. The end of that ban allowed SDG&E to do business with other units of Sempra Energy, its widely diversified parent company.¹¹ Sempra has an array of energy subsidiaries including Sempra Generation, a unit specifically charged with building and operating electric generating facilities. (SDG&E’s current chief operating officer, in fact, was formerly the president of Sempra Generation.)

The PUC also cautioned against what it perceived to be SDG&E’s reliance on building a single major transmission line to satisfy the renewable mandate. Relying on “transmission facilities that do not yet exist is not likely to accomplish the goals of the RPS program, as SDG&E’s frank assessment of its situation highlights,”¹² the Commission wrote in a 2005 decision.

⁷ PUC D.07-02-011, p.25. (Exhibit 8)

⁸ PUC D.07-12-052, p.78. (Exhibit 9)

⁹ Ibid, p.211. (Exhibit 9)

¹⁰ PUC D.06-05-39, p.34. (Exhibit 7)

¹¹ PUC D.04-12-048, p.2-3. (Exhibit 10)

¹² PUC D.05-07-039, p.9. (Exhibit 6)

The PUC reiterated that warning one year later:

We will not be sympathetic to granting waivers or reducing penalties due to lack of transmission, for example, without the electrical corporation demonstrating that it took all reasonable action to bring the problem to our attention timely, presented realistic solutions, filed applications timely for necessary projects, and took any and all other actions that could reasonably have been expected to address, if not solve, the problem.¹³

IV. SDG&E'S RENEWABLE STRATEGY

In late 2002, when California's renewable mandate law took effect, SDG&E was what it had long been, namely, a profitable utility company. Among the state's largest utilities, however, SDG&E had the lowest percentage of renewable energy in its portfolio.

In fact, as recently as 2000, SDG&E was generating less than 1 percent of its electricity energy from renewables.

This does not mean the region had no renewable potential. A study in 2005 co-authored by SDG&E concluded that, in San Diego, the "(t)echnical potential exists to serve a substantial amount of the Region's capacity and energy needs with renewable power."¹⁴

Within San Diego, the report found the potential for more than 7,500 megawatts of solar electric technology alone by 2020, or the clean energy equivalent of some 15 natural gas-fired generating facilities. Near term, the study found San Diego County had the potential by 2010 for more than 4,000 megawatts of PV, or the solar equivalent of roughly eight gas-fired plants.

This potential notwithstanding, as of last January, SDG&E had signed contracts for only approximately 80 megawatts of renewables of all types within the County.¹⁵

SDG&E's approach to meeting the renewable mandate has been largely limited to a single approach: It issues requests for offers [RFOs] and evaluates the proposals that it receives.

The utility has also invested \$125 million in planning for the Sunrise Powerlink, a project that SDG&E says will also open the Imperial Valley and eastern part of San Diego County to renewable energy development.

¹³ PUC D.06-05-039, p.20. (Exhibit 7)

¹⁴ Potential for Renewable Energy in the San Diego Region, August 2005, www.renewablesg.org, p.1.

¹⁵ PUC document, www.cpuc.ca.gov/PUC/energy/electric/RenewableEnergy/rpsprojects.htm.

The local utility currently projects it will derive 21 percent of its power from renewables by 2011. But that assumes the Sunrise Powerlink is both approved and operational by that time. And, again, SDG&E says that it is unlikely to meet California's RPS mandate for 2010 because of delays in considering that line.

In addition to warnings from the PUC about relying on this transmission project to meet the RPS mandate, an expert hired by the City also raised concerns about SDG&E's reliance on new transmission lines for its renewable compliance.

In testimony before the PUC regarding an earlier transmission line proposal, this one to the north, William Monsen, the City's expert, characterized SDG&E's strategy as "risky."¹⁶ In the same testimony, Mr. Monsen cited what he characterized as "insufficient reliance on and financial support for the development of low-risk, in-area renewable power projects" and other options.¹⁷

The City's expert further noted that SDG&E was ignoring forecasts from the Regional Energy Infrastructure Study, another study that SDG&E helped prepare, which found that San Diego had the potential to develop significantly more in-area renewable generation.¹⁸

In testimony during 2004 proceedings at the PUC, Monsen expressed similar concerns about excessive reliance on building new transmission lines.¹⁹

SDG&E has held 10 requests for offers for renewable proposals since the RPS became state law. From those bids, SDG&E has signed about 30 renewable energy contracts. While some of those already provide energy to utility customers, many are dependent on the approval and construction of Sunrise, according to SDG&E.

An independent evaluation of SDGE's handling of renewable bids last year concluded that the bidding process appeared to be fair. But the evaluator noted that SDG&E appeared to favor projects dependent on building the Sunrise Powerlink, or projects generally to the east of the county.

In June, SDG&E announced that it contracted for electricity from a 210-megawatt wind farm in Montana. (A single megawatt is sufficient to power about 650 typical homes, although wind turbines produce power only intermittently.) This agreement calls for SDG&E to secure a large volume of renewable energy through a bilateral contract, or outside a competitive bidding process. The agreement must be approved by the PUC before it can become operational.

¹⁶ PUC R.01-10-024, Direct Testimony of William A. Monsen, 23 June 2003, p.3. (Exhibit 11)

¹⁷ Ibid. (Exhibit 11)

¹⁸ Regional Energy Infrastructure Study, www.sandiego.gov/environmental-services/energy/news/30yrstudy.shtml, p. 7-2. (Exhibit 12)

¹⁹ PUC R.04-04-003, Monsen testimony submitted 6 August 2004, p.2. (Exhibit 13)

In several PUC proceedings, SDG&E took positions at odds with the development of renewable energy in this region. When the PUC proposed expanding a program allowing developers of small renewable energy projects to sell their excess electricity to local utilities – and allow the utilities to credit this electricity toward their RPS requirement – SDG&E objected.

For example, SDG&E says the administrative cost of negotiating up to 20-30 contracts each for 750 kW or less (for its allocated share of about 20 MW) at MPR prices would divert attention and resources from contracts with greater procurement amounts at or below MPR.

To the contrary, simplicity and cost-savings are important reasons why the § 399.20 program is by tariff and standard contract. The administrative cost to “negotiate” these purchases is small when done by tariff/standard contract. PG&E notes that this is one advantage of the program, thereby providing “access to sources of supply that cannot or would not otherwise market power.”

Nonetheless, we accept the proposition for now that SDG&E and others should focus their attention on larger projects.²⁰

SDG&E was also a severe critic of a proposal written late last year for a large deployment of PV systems across the region. The proposal, *San Diego Smart Energy 2020, The 21st Century Alternative*, contended that whatever reduction in greenhouse gases would be achieved by reaching California’s 20 percent renewable mandate threatened to be offset by imports of heavily polluting liquefied natural gas [LNG] by Sempra Energy, SDG&E’s parent company.

The *Smart Energy* proposal made a case for a much more extensive solar electricity program and said the development of at least 920 megawatts in the region was possible and economically feasible. The report projected that the cost per watt for the PV systems it recommended would fall to about \$5.50 per watt.

A Sempra publication quickly attacked the report as based upon “unreasonably optimistic forecasts.” It said the *Smart Energy 2020* study incorporated “gross underestimations of the cost of deploying rooftop solar power, by a factor of 10, on a broad scale.”²¹

Not all utilities shared that pessimism about solar electric costs, however.

²⁰ PUC D.07-07-027, p.49. (Exhibit 14)

²¹ Sempra Energy Daily News, 18 October 2007. (Exhibit 15)

A few months after the report was published, Southern California Edison proposed to build and own 250 megawatts of rooftop PV on big box warehouse roofs across its service territory. In making that proposal, Edison projected a per-watt cost of roughly \$3.85 per watt.

The Edison proposal attracted widespread attention and led the City Attorney's Office to call upon SDG&E to embark on a more ambitious in-basin solar effort, in keeping with its greater renewable needs. (It is a scaled-down version of the Edison utility-owned solar program that SDG&E is now purportedly readying for submission to the PUC.)

Until May of this year, SDG&E's rate structure was also regarded as the worst in the state for solar electric projects. By imposing large and unavoidable charges on renewable energy systems, SDG&E discouraged the development of these projects. SunEdison, for example, a third-party solar installer active nationwide, said SDG&E's rates in this region made it economically impossible to build solar projects here that were feasible in other utility service areas.

SunEdison and other solar developers have cited what they characterized as unreasonable "demand" charges that SDG&E tacked onto PV projects that would produce a significant fraction of their own electricity, but still remain connected to the utility's system.²² These demand charges were the state's highest.

If SDG&E was active in opposing the expansion of arrangements under which more renewables could be developed, one PUC administrative law judge characterized the utility's approach as less than active in seeking renewable energy projects of its own.

What follows is an exchange between PUC Administrative Law Judge Steve Weissman and Michael Niggli, chief operative officer of SDG&E. Weissman, who is presiding over the Sunrise Powerlink review, questioned Mr. Niggli under oath about the utility's efforts to find renewable projects north of its traditional service territory, in keeping with the PUC's order to utilities to seek projects wherever possible:

Niggli: I think there's two parts to your question I would answer. One is that you can go out and look at what the costs to produce the power are, but what we get are bids. So we get bids that come in, and we have to take the lowest priced bids. And we're just not seeing any bids from those areas. So I can't tell you that we have an assessment given that others are not bidding.

²² Interviews with City Attorney's Office staff.

ALJ Weissman: Well, again, the image I get is of a passive process. You put the RFP or RFQ out there and wait to see who shows up.²³

Later, ALJ Weissman sought to determine if SDG&E's top operating executive had taken a personal initiative in seeking renewable energy developers:

ALJ Weissman: Have you personally gotten on an airplane and gone to Northern California and talked to potential developers?

Niggli: No, I personally have not.

ALJ Weissman: Has anybody from SDG&E done that?

Niggli: That may be a question for Mr. McClenahan (SDG&E's director of procurement).

ALJ Weissman: You don't know?

Niggli: I don't know, no.

ALJ Weissman: You never asked anybody that, so -- is that right, you've never asked anybody whether they've taken any steps to try to go out and solicit bids?

Niggli: Personally, I have not. That's -- I have not done that, no.²⁴

A little more than one month after that conversation, SDG&E signed a contract with a wind energy developer in Montana. That contract is being reviewed by the PUC.

The City Attorney's Office has also received reports from developers indicating that SDG&E's RFOs for renewable procurement were in some cases discouraging the development of these projects. These developers, who had not succeeded in doing deals with SDG&E, said the local utility's offering and negotiating process seemed designed to delay or kill projects and compared unfavorably to experiences they had with Edison and PG&E.

Another developer said the opposite, asserting that SDG&E had been easier to deal with than the other large utilities. This developer had reached an agreement with SDG&E.

²³ Transcript of PUC hearing into Sunrise Powerlink proposal, 7 April 2008, p. 3253. (Exhibit 16)

²⁴ Ibid., p. 3255. (Exhibit 16)

SDG&E last year derived 5.2 percent of its energy from renewables, according to a PUC filing in March. More recently, the utility has said its renewable energy proportion has risen to about 6 percent.

By comparison, Southern California Edison last year derived 16 percent of its electricity from renewables, while PG&E reported 12 percent renewable electricity. It should be noted that both Edison and PG&E had credit problems at the start of the renewable procurement process, as a result of the state electricity crisis of 2000-2001. Those credit issues may have been an impediment in reaching deals with renewable developers.

On the other hand, Edison and PG&E both had significant levels of renewable energy at the start of California's renewable program, in effect giving them a running start toward reaching the state mandate. SDG&E had little in the way of renewables at the outset of the RPS program but had solid credit.

At the end of June, Stirling Energy Systems, a solar developer with whom SDG&E has contracted, asked state regulators for approval to construct a 750-megawatt project in Imperial County. Stirling said the first 300-megawatt component of this solar project would not require the Sunrise Powerlink and could be operational by 2010.²⁵

Unlike PV, however, Stirling's technology has never been deployed on a large commercial scale. The company is developing engines that concentrate the heat of the sun to heat liquids and drive a piston to produce electricity. Stirling has only tested a handful of these solar engines, however, and the 300-megawatt component will require 12,000 of the units.²⁶

Most outside experts characterize the Stirling technology as promising but note it has never been deployed on a utility scale.²⁷ So the volume of electricity that Stirling will be able to deliver must be considered uncertain.²⁸ SDG&E is counting on the technology to deliver 44 percent of its renewable energy requirement for 2010.²⁹

SDG&E, meanwhile, has not proposed to build any renewable projects of its own, despite the repeated urging from the PUC to consider such initiative.

The local utility told the PUC that self-development of projects is handicapped by the lack of a construction and development group within SDG&E.³⁰ This is despite SDG&E's status as a subsidiary of Sempra Energy, which is a prolific energy

²⁵ Stirling Energy Systems Solar Two, Application for Certification filed with the California Energy Commission, 30 June 2008, p. 1-1. (Exhibit 17)

²⁶ Ibid, p.1-3. (Exhibit 17)

²⁷ Potential for Renewable Energy in the San Diego Region, August, 2005, www.renewablesg.org, Appendix E, p.2. (Exhibit 18)

²⁸ Direct Testimony of Dr. Barry Butler submitted to PUC, 1 June 2007, A.06-08-010, p.5. (Exhibit 19)

²⁹ Stirling Energy Systems Solar Two, Application for Certification, 30 June 2008, filed with California Energy Commission, p.1. (Exhibit 17)

³⁰ SDG&E Amended 2008 Renewable Procurement Plan, R.06-05-027, p.25. (Exhibit 20)

development and deal-making corporation. The local utility has successfully acquired projects developed by Sempra – but those have all been natural gas – not renewable – projects.

In 2004, SDG&E requested and won permission to acquire a natural gas-fired plant built by Sempra in Escondido.

Three years later, SDG&E won PUC approval to acquire a natural gas-fired plant built by its parent company near Las Vegas, Nevada. In both cases, SDG&E said the natural gas plants emerged from a request for offers as the best projects of their kind.

Beyond those transactions, SDG&E is a steady source of profits for its parent company. The local utility provides roughly more than \$250 million annually in profits to Sempra, or a total of \$1.5 billion since the passage of California's first renewable portfolio laws.

But while profits have flowed up to the parent company, assistance in meeting the state's renewable mandate has not flowed down. In fact, the steady flow of profits bolstered the corporate balance sheet of a company that acted with indifference to global warming or the explicit priority of the State of California to move toward clean renewable energy.

V. SEMPRA'S ROLE

Sempra was created in 1998 through the merger of Enova Corp. and Pacific Energy, parent companies of SDG&E and Southern California Gas Company, respectively. As a condition of the merger, Sempra was required to sell SDG&E's two power plants in the county, the Encina Power Station in Carlsbad and the South Bay Power Plant in Chula Vista.

The PUC's approval of the Sempra merger sought to ensure that regional utility customers would be protected from potential abuses that might result from creation of the larger company. On the other hand, the PUC's approval also sought to ensure that regional utility customers would benefit from the efficiencies and other advantages that the larger corporation purported to bring to its utility operations.³¹

This resulted in hundreds of millions of dollars in savings for customers from corporate efficiencies. But newly created Sempra soon embarked upon a strategy that until recently was contradictory to the California renewable energy mandate for utilities.

With both SDG&E and SoCal Gas within its corporate family, Sempra now provides natural gas to more than 20 million consumers. This makes it the largest natural gas distribution utility company in the nation.

³¹ PUC D.98-03-073, Opinion and Orders, 2nd Series, 13 March 1998 to 23 April 1998, p.354. (Exhibit 21)

Seeking to capitalize on this large base, Sempra in the late 1990's opted to focus on the development of natural gas infrastructure projects. The strategy presumes that the regional dependence on natural gas will grow. And a key market for natural gas is its use as a fuel for electric generating plants. Roughly half the natural gas delivered by SDG&E is burned to produce electricity.

Statewide, more than 40 percent of the electricity used is generated by burning natural gas. It is a percentage that some expect to grow as the state reduces its use of coal to generate electricity. But while natural gas burns more cleanly than coal, it is a fossil fuel and its combustion contributes to global warming. A key objective of California's renewable energy initiative is to reduce dependence on fossil fuels for electric generation, in order to reduce the emissions that cause air pollution and global warming.

Sempra has spent most of the past decade positioning itself as a major supplier of natural gas, a trader of the commodity, and a builder of natural gas infrastructure projects, such as pipelines and storage facilities.

In assessing the prospects for natural gas, Sempra has acknowledged that renewable energy is a competitor.³² That is, to the extent California succeeds in shifting to renewables, natural gas demand will decline.

Nonetheless, Sempra is betting on a "slight" increase in natural gas regional demand in coming years because of the construction of new power plants, particularly smaller natural gas-fired peaking plants.

These so-called "peakers" are typically used during periods of peak electricity demand, which coincide with heat waves. But providing electricity during periods of peak demand is also a good application for PV systems, those rooftop systems that convert sunlight to electricity.

Photovoltaic systems and other solar electric technologies generate most of their electricity during periods that overlap – though not perfectly - with peak demands for power. Some believe that with the development of advanced electrical storage technologies, PV and other solar technologies will provide a near-perfect match of peak electricity needs. This would allow renewables to displace peakers in many cases.

If that becomes the case, the increased deployment of PV would significantly reduce the demand for natural gas to fuel conventional electric generators. Even at current states of development, PV systems reduce the need to burn natural gas for electricity.

Similarly, wind turbines, another key renewable electric technology, reduce the need to burn natural gas to generate electricity.

³² Sempra 2007 10-K, pp. 18 and 25. (Exhibit 22)

Thus, the further development of renewable energy projects will reduce demand for a commodity whose use is needed to justify Sempra's investments. And although Sempra takes pride in risk management abilities, the company has done little to hedge its large investment in natural gas with investments in renewable energy.

Despite California's commitment to renewable energy development and its role as owner of two regulated utilities in the state, Sempra did not invest at all in renewables until one year ago when it purchased a wind farm under development in northern Baja California.

The volume of Sempra's investment in renewables contrasts sharply with its investment in natural gas projects.

Not content with an incremental role, Sempra has creatively developed a new form of natural gas supply for the region, succeeding where others have failed in building the first facility on North America's West Coast for the importation of natural gas in liquefied form (LNG). Sempra's Energía Costa Azul, an LNG receiving terminal near Ensenada, Mexico, was completed earlier this year and remains in a testing phase.

Around 2000, Sempra launched a series of natural gas initiatives that also included the construction of new natural gas-burning electric generating plants, new natural gas pipelines and new storage facilities, as well as the LNG terminal.

The company also acquired an energy commodity trading company and positioned itself as a major trader of natural gas, as well as other fossil fuels.

While these projects were flung widely across the nation, Sempra's two California utilities gave it a deep rooting in this region, which it seeks to deepen by selling LNG to the utilities from the terminal in Baja California.

Sempra is also constructing and planning two additional LNG terminals on the Gulf Coast.

The company's LNG initiative is an outgrowth of the belief that the U.S. will eventually have a shortage of natural gas. The natural gas now consumed across the nation is largely produced domestically, with a fraction coming from Canada. But if Sempra's projection of looming shortages is correct, the U.S. will someday need to import gas from outside North America, and that can only be done through LNG.

The LNG process involves extracting natural gas from foreign fields, supercooling the gas in liquefaction facilities, then transporting the liquefied fuel aboard specialized tanker ships to LNG terminals, where it is regassified and injected into natural gas systems.

The processing and shipping adds to the cost of LNG, making it inherently more expensive than domestically produced natural gas. But Sempra is betting that looming

natural gas shortages in the United States will make customers anxious to buy *any* gas, including more expensive LNG. This is a bet that remains a gamble.

Through the first half of 2008, for example, LNG imports to the nation through existing terminals have fallen by 50 percent.³³

With a \$1 billion investment in Energía Costa Azul alone, as well as investments of similar magnitude planned for the Gulf Coast, Sempra has much at stake in seeing natural gas demand in the U.S. outstrip North American supply.

Here is a listing of the larger natural gas projects undertaken by Sempra this decade:

- With a partner, invested \$410 million in a natural gas burning power plant in Elk Hills, California.³⁴
- Invested \$700 million in the Mesquite Power Plant in western Arizona.³⁵
- Built a \$350 million, natural-burning power plant in Mexicali.³⁶
- Began operation of a new \$124 million natural gas pipeline in Baja California.³⁷
- Won approval to build Palomar Energy, a natural gas burning power plant in Escondido.³⁸
- Trading unit spent \$27 million to develop a natural gas storage unit in Michigan.³⁹
- Reached agreement to import natural gas from Indonesia for its LNG terminal in Baja California.⁴⁰
- Purchased an LNG terminal under development in Hackberry, Louisiana.⁴¹
- Announced plans to build an LNG terminal in Port Arthur, Texas.⁴²
- Paid \$172 million to acquire rights to develop Liberty Gas Storage in Louisiana.⁴³

³³ Natural Gas Weekly Update, 26 June 2008, published by the Energy Information Administration, a unit of the U.S. Department of Energy. (Exhibit 23)

³⁴ Sempra Form 10-K, 2002, p.95. (Exhibit 24)

³⁵ Sempra Form 10-K, 2002, p.95. (Exhibit 24)

³⁶ Sempra Generation, <http://www.semprageneration.com/termoMex.htm>. (Exhibit 25)

³⁷ Sempra 10-K, 2002, p.96. (Exhibit 24)

³⁸ Sempra 10-K, 2003, p.25. (Exhibit 26)

³⁹ Sempra press release, 8 May 2003. (Exhibit 27)

⁴⁰ Sempra 10-K, 2003, p.67. (Exhibit 26)

⁴¹ Sempra 10-K, 2002, p.20. (Exhibit 24)

⁴² Sempra Energy press release, 21 April 2004. (Exhibit 28)

- Announced plans to expand a natural gas pipeline in Baja California at a cost of \$200 million.⁴⁴
- Completed an agreement to develop a natural gas pipeline in Alaska.⁴⁵
- Signed a \$1.4 billion agreement to supply natural gas to Mexico.⁴⁶
- Bought out its 50 percent partner in El Dorado, a natural gas burning power plant near Las Vegas.⁴⁷
- Agreed to co-develop a 1,350-mile-long natural gas pipeline from the Rocky Mountains to the east.⁴⁸
- Applied for approval to expand the Louisiana LNG facility, a proposed \$250 million project.⁴⁹
- Agreed to buy 25 percent of a 585-mile, \$2.3 billion natural gas pipeline from Wyoming to Oregon (2008).⁵⁰

Sempra's natural gas operations have also sparked legal problems. In 2006, Sempra agreed to pay \$350 million to plaintiffs to settle a class action lawsuit that accused the company of seeking to restrict the flow of natural gas to California. During the same year, Sempra paid \$5.7 million to settle allegations raised by the California Attorney General that the company illegally diverted natural gas to Mexico during the power crisis. Sempra denied wrongdoing in those cases.

Through the first four years of the California renewable initiative, Sempra itself made no significant mention of renewables in its required public filings or in the regular conference call updates it holds with Wall Street analysts.

In 2006, Sempra Chief Executive Officer Donald Felsing told a newspaper that evidence of global warming was inconclusive.⁵¹

Last year, however, Sempra entered the renewable business by buying the wind farm in Baja California. Within days of the purchase, Sempra announced it would sell electricity from that renewable project to Edison. It is unknown whether the output of this

⁴³ Transcript, Sempra conference call with analysts, 5 August 2004. (Exhibit 29)

⁴⁴ Ibid. (Exhibit 29)

⁴⁵ Sempra 10-K, 2005, p.21. (Exhibit 30)

⁴⁶ Sempra press release, 11 January 2005. (Exhibit 31)

⁴⁷ Sempra press release, 26 July 2005. (Exhibit 32)

⁴⁸ Sempra press release, 9 November 2005. (Exhibit 33)

⁴⁹ Sempra 10-K, 2005, p.20. (Exhibit 30)

⁵⁰ Sempra press release, 16 June 2008. (Exhibit 34)

⁵¹ "With big lawsuit resolved, CEO Felsing is eager to improve company's reputation," The San Diego Union-Tribune, 18 June 2006. (Exhibit 35)

wind farm was offered to SDG&E, which is far behind Edison in meeting its renewable mandate.

In a quarterly conference with analysts earlier this year, Mr. Felsing said Sempra is seeking more renewable energy projects.

VI. CONCLUSION

SDG&E's effort to fulfill California's mandate that it derive 20 percent of its electricity from renewable sources by the close of 2010 appears incomplete at best, intentionally compromised at worst. More than five years after the state-imposed renewable energy mandates, SDG&E has yet to display the initiative that state regulators have repeatedly urged in the development of clean energy projects.

There is an inherent contradiction, moreover, between SDG&E's obligation to reach the renewable mandate, which would reduce its use of natural gas, and the efforts of its parent company, Sempra Energy, to promote the use of this fossil fuel.

Where SDG&E has taken what one utilities commission judge described as a "passive" approach to meeting the renewable mandate, Sempra's initiatives in natural gas infrastructure are best described as energetic and innovative.

Rather than assisting the utility in reaching its renewable mandate, Sempra appears to have used the reliable stream of profits provided by SDG&E and its other utility as a foundation for expanding its fossil fuel business – all while California's landmark renewable initiative seeks to reduce the use of these fuels.

Recent public announcements by SDG&E that it has signed contracts that should deliver 16 percent of its electricity from renewable sources by 2010 must be considered in proper context: That total would still leave the utility substantially short of the state's 20 percent renewable energy mandate.

In addition, SDG&E's projection for 2010 is heavily dependent on the successful deployment of an experimental solar technology, which outside experts believe is unlikely to be successful for many years.

Given the urgency of the global warming crisis and the need to reduce the use of fossil fuel, California must address the contradiction of its regulated utilities funneling profits to parent companies that promote the use of environmentally damaging fossil fuels. This is equivalent to banning advertising by cigarette companies, only to allow their parent companies to scoop up the profits and continue ad campaigns of their own.

It is incumbent upon the Legislature to address this contradiction. It is likely to do so under cap and trade programs now being considered to limit carbon emissions statewide. While the City Attorney's Office retains a preference for simply imposing

carbon taxes rather than creating a complex cap and trade system, any action is preferable to inaction.

Where California's renewable initiative once seemed aggressive, the increasingly alarming evidence of global climate change now casts the initiative simply as urgent.

Late last month, the U.S. scientist who issued the first well-publicized warning of global warming testified again before Congress. James Hansen, who directs the NASA Goddard Institute for Space Studies, noted that he spoke as a private citizen on the 20th anniversary of that warning.

Mr. Hansen had harsh words for chief executives of fossil energy companies, but perhaps most importantly sounded an alarm to the nation:

We have used up all slack in the schedule for actions needed to defuse the global warming time bomb. The next President and Congress must define a course next year in which the United States exerts leadership commensurate with our responsibility for the present dangerous situation. Otherwise it will become impractical to constrain atmospheric climate dioxide to a level that prevents the climate system from passing tipping points that lead to disastrous climate changes that spiral dynamically out of humanity's control.⁵²

To its credit, California has taken the first steps. Citizens must now insist that regulators, the Legislature and energy companies do their part. Immediately.

As residents of San Diego and customers of the local utility, the City must hold SDG&E to the same standard. And as holders of the franchise agreement that allows SDG&E to operate in our community, the City must require SDG&E and its parent company to move with all due haste to meet the state's renewable mandate – 20 percent by the close of 2010. That will require SDG&E to build or contract for significantly more renewable electric generating capacity.



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⁵² James Hansen testimony, 23 June 2008, www.columbia.edu/~jeh1/2008/TwentyYearsLater_20080623.pdf. (Exhibit 36)