

FINANCIAL ANALYSIS OF ALTAMONT PASS WIND TURBINE OPERATIONS

I. Introduction

The wind companies operating at Altamont Pass take the position that notwithstanding their violations of state and federal criminal laws protecting wildlife, they should be excused from complying with these laws because of financial hardship. They contend that they cannot afford to take the steps that would reduce raptor mortality by even 50%, much less take steps that would bring them into substantial compliance with the law. A 50% reduction in raptor mortality would still leave 440 to 650 eagle, hawk, falcon, and owl deaths each year.

The wind companies have further taken the position that no one should be able to review their financial information to determine whether the facts substantiate their claims of financial hardship. They have refused to produce their financial information to either the appellants, Alameda County, the California Attorney General, or the United States Department of Justice.

Notwithstanding the wind companies' refusal to produce their actual financial data, we can understand much about their financial condition from publicly available data. The revenues of the wind companies are a matter of public record because PG&E is required to report its electricity purchases from the wind companies to the Federal Energy Regulatory Commission.

Moreover, because of the California energy crisis and its aftermath, electricity prices and revenues since the fall of 2000 have been substantially higher than the wind companies expected in 1998 when many of them invested in Altamont and made their financial projections of their expected future revenues and income.

We can use the fact of higher-than-expected energy prices to estimate how much *unexpected, additional* revenue the wind companies have earned, and continue to earn, since 2000. This unexpected revenue, and resulting unexpected profit, is over and above what they expected in 1998 to earn as a reasonable return on their investment.

II. Revenue Expectations Pre-Energy Crisis

In 1998, revenue expectations for the Altamont Pass wind turbines were these:

The wind companies provide power to PG&E under contracts originally signed in the 1980s. Under these power purchase agreements, the total payments the companies receive is a combination of a “capacity payment” that averages around 1.8 cents per kilowatt-hour (kwh) plus an “energy payment” based on PG&E’s “Qualifying Facilities (QF)” electricity price.

The monthly QF electricity price steadily declined during the first half of the 1990s from 3.1 to 3.7 cents/kwh in 1990 to 1.6 to 3.3 cents/kwh in 1996, recovering somewhat to 2.2 to 3.1 cents/kwh in 1998. (Source: PG&E, “Energy Purchase Prices For Qualifying Facilities.”)

Before the energy crisis, expectations were that electricity prices would remain low through at least 2009. In February 2000, about six months before the energy crisis began, the California Energy Commission (CEC) issued a study projecting future California electricity prices. It estimated that the “market-clearing price” of electricity (the highest price at which PG&E purchases electricity, similar to the QF price) would average below 3.5 cents/kwh until at least 2008:

Figure 1

CEC Pre-Energy Crisis Projection Of Electricity Prices

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CEC Projected Annual Avg. Market-Clearing Price, cents/kwh	2.85	3.10	2.59	2.53	2.69	2.91	3.07	3.10	3.32	3.60	4.19

Source: California Energy Commission, “Market Clearing Price Scenarios Under Alternative Resource Scenarios, 2000—2010” (February 2000).

In response to these low expected future electricity prices, the Legislature in its 1996 legislation deregulating the electricity market provided for the CEC to make subsidy payments for wind-generated electricity from 1998 through 2001 to raise the price received by the wind companies up to a target cap of 3.5 cents/kwh.

Under this CEC subsidy program, the revenue formula for 1998 through 2001 became:

$$\text{capacity payment} + \text{energy payment} + \text{CEC subsidy}$$

Thus, when they invested in 1998, the reasonable expectation of the wind companies was that they would receive no more than 3.5 to 4 cents/kwh in energy payment (combining PG&E payments and CEC subsidies) and about 1.8 cents/kwh in capacity payments, for a total payment of about **5.3 to 5.8 cents/kwh**.

And in fact in 1999 the wind companies' total payment rate (including capacity payments and CEC subsidies) averaged **5.67 cents/kwh**, in the middle of that range.

Wind production at Altamont averages about 925,000,000 kilowatt-hours annually, and at 5.3 to 5.8 cents/kwh that equates to **\$49 million to \$54 million** in annual revenue.

1999 was a year with a higher-than-average production of 951,000,000 kwh. The wind companies' total revenue (including CEC subsidies) was **\$54 million** at an average total rate of 5.67 cents/kwh.

Revenue after 2001 would drop both because the CEC subsidies would expire at the end of 2001 and because electricity prices were expected to decline between 2002 to 2006 from their 2001 levels, as the CEC table above shows. Even assuming a 3.2 cents/kwh energy price (higher than the prices projected above by the CEC) in that period, plus a 1.8 cents/kwh capacity payment, yields an annual revenue of about **\$46 million**. (In fact, 1999 revenues without the CEC subsidies were \$46 million).

Thus, the annual revenue necessary to make the minimum profit originally projected by the wind companies in 1998 is probably no more than **\$49 million** (\$49 million is the low-end estimate of the CEC-subsidized revenue total calculated above), and possibly as little as **\$46 million**. Again, this is not a break-even estimate but an estimate that includes a profit that is at least at the low end of the profit range that the wind companies originally anticipated in 1998.

III. The Energy Crisis And Its Aftermath

Starting in the second half of 2000, electricity prices unexpectedly increased during the California energy crisis, and have continued to stay high since then. Figure 2 compares the projected energy prices from Figure 1 with the actual energy payment electricity rates received by the wind companies from 2000 through 2004.

Figure 2

CEC Pre-Energy Crisis Projection Of Electricity Prices Compared To Actual Prices Received By Wind Turbine Companies

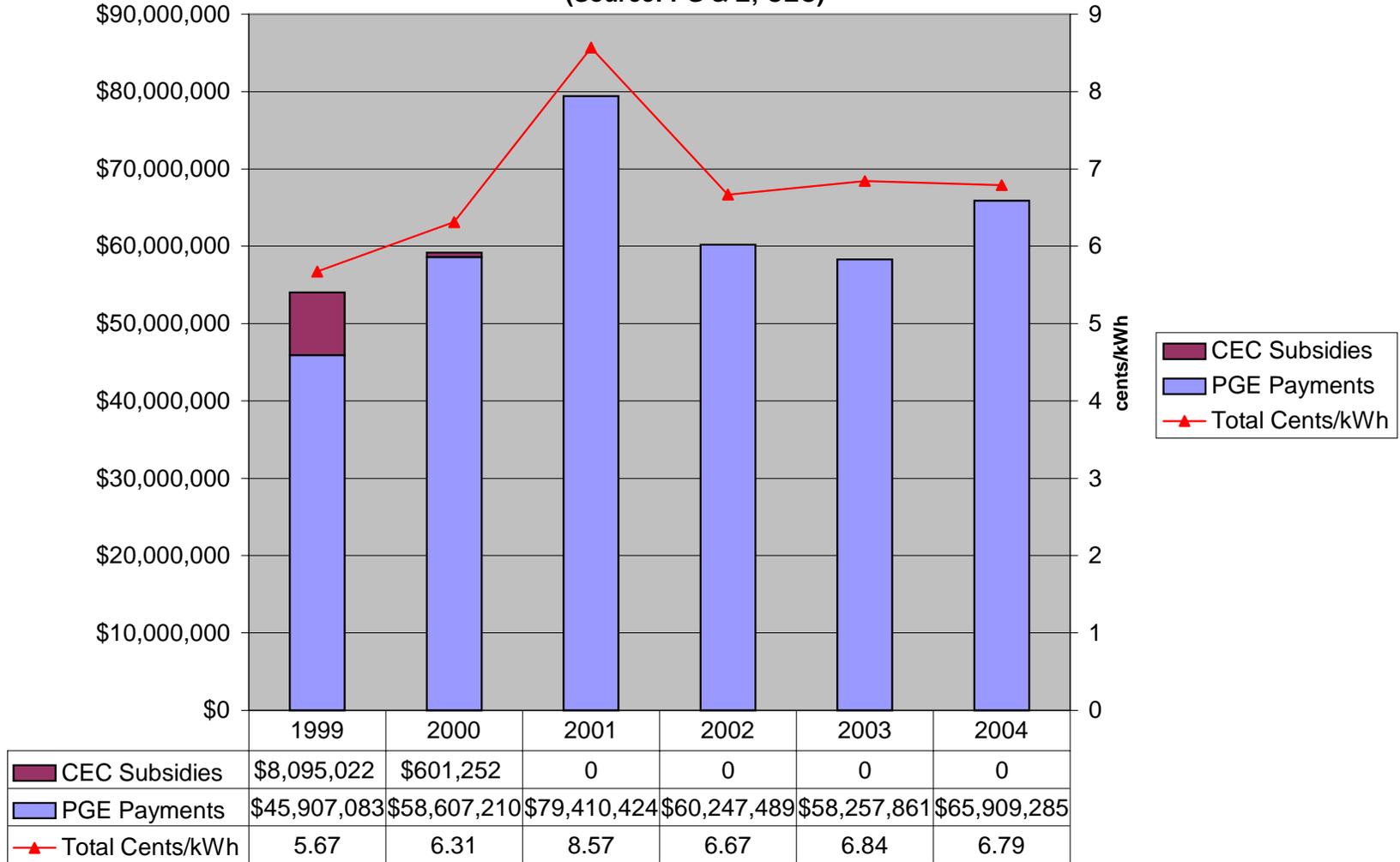
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CEC Projected Annual Avg. Market-Clearing Price, cents/kwh	2.85	3.10	2.59	2.53	2.69	2.91	3.07	3.10	3.32	3.60	4.19
Actual Energy Payment Electricity Price Received By Wind Companies, cents/kwh	4.4	6.83	4.85	4.84	4.77						

Source: California Energy Commission, “Market Clearing Price Scenarios Under Alternative Resource Scenarios, 2000—2010” (February 2000); PG&E, Annual FERC Form 1 for years 2000 to 2004.

The result has been a significant unexpected increase in revenues and profits since 2000. Figure 3 on the next page sets forth the revenues, including CEC subsidies, that the wind companies have received each year from 1999 to 2004.

Figure 3¹

Annual Electricity Sales Revenues From The Altamont Pass Wind Turbines
(Source: PG & E; CEC)



Thus, even assuming a \$50 million “pre-energy crisis minimum annual profitable revenue level” (rather than the \$46 million to \$49 million level estimated in the preceding section), the wind companies have earned the following annual revenue above \$50 million since 2000: \$9.2 million in 2000; \$29.4 million in 2001; \$10.2 million in 2002; \$8.2 million in 2003; \$15.9 million in 2004. This is a cumulative **\$73 million** in revenues over the past five years. (See Figure 4, below.)

Most of this amount has been revenue due to unexpectedly high prices caused by the energy crisis and its aftermath, revenue the wind companies could not have anticipated in 1998. As noted above, \$54 million was the foreseeable maximum revenue (including CEC subsidies) estimated above for an average power production year at the maximum anticipated electricity price; it was also the actual revenue for 1999, a year with higher-than-average electricity production. Assuming \$54 million as the “pre-energy crisis maximum anticipated annual revenue level” would yield unanticipated revenues of: \$5.2 million in 2000; \$25.4 million in 2001; \$6.2 million in 2002; \$4.2 million in 2003; \$11.9 million in 2004. This is a cumulative **\$53 million** in unexpected revenues over the past five years. (See Figure 4, below.)

Except for lease payments which range between 2% and 10%, wind company expenses are generally fixed costs that do not vary with the amount of energy produced (e.g., there is no fuel to purchase) and do not vary with the amount of revenue received, and so almost all of this unexpected revenue, minus lease payments, will be pretax profit.

During that same five-year period, the wind companies have killed an estimated 4,400 to 6,500 eagles, hawks, falcons, and owls.

Figure 4

Year	Total annual revenue	Annual revenue in excess of \$50 million	Annual revenue in excess of \$54 million
2000	\$59,208,462	\$9,208,462	\$5,208,462
2001	\$79,410,424	\$29,410,424	\$25,410,424
2002	\$60,247,489	\$10,247,489	\$6,247,489
2003	\$58,257,861	\$8,257,861	\$4,257,861
2004	\$65,909,285	\$15,909,285	\$11,909,285
Total 2000 to 2004	\$323,033,521	\$73,033,571	\$53,033,575

IV. Effect of Revenue Loss From Turbine Shutdowns

These data can also be used to estimate the revenue effects of the proposed permanent and seasonal turbine shutdowns.

In their presentation made at the March 3, 2005 Board of Supervisors hearing, the wind companies state that implementing the permanent and seasonal turbine shutdowns necessary to reduce raptor mortality by at least 50% would reduce their revenue by **14%**. (Source: Slide 13, Altamont Pass Wind Power Companies' 3/3/05 Powerpoint Presentation.)

Annual revenues for the past three post-energy crisis years (2002 through 2004) have averaged approximately \$61.5 million per year. 14% of this amount is \$8.6 million. Subtracting \$8.6 million from \$61.5 million yields **\$52.9 million** in average annual revenues after the permanent and seasonal turbine shutdowns necessary to achieve a 50% raptor mortality reduction. In years like 2004, when wind production is higher than average, revenues would be similarly higher. Revenue in 2004 was \$65.9 million; 14% of this amount is \$9.2 million, leaving a net revenue of **\$56.7 million** after the permanent and seasonal turbine shutdowns necessary to achieve a 50% raptor mortality reduction.

This analysis shows that the wind companies could immediately implement shutdowns necessary to reduce raptor mortality by at least 50% and still remain within the revenue and profit ranges that would have been projected in 1998 before the energy crisis.

Moreover, it is important to note that the wind companies' 14% revenue reduction estimate of March 3, 2005 was based on the permanent turbine shutdown analyzed in the January CEC Assessment. The January CEC Assessment required a permanent shutdown of 89 megawatts of turbine capacity together with a 3.5 month seasonal shutdown to achieve at least a 50% raptor mortality reduction. The most recent June CEC Assessment requires only a 29.9 megawatt permanent shutdown, just one-third of the permanent shutdown proposed in the January CEC Assessment, in combination with a 3.5 month seasonal shutdown to achieve at least a 50% reduction in raptor mortality. Thus, using the substantially fewer permanent shutdowns of the June CEC Assessment instead of the more numerous permanent shutdowns of the January CEC Assessment should correspondingly result in an estimate of revenue reduction loss that is lower than the wind companies' 14% estimate based on the January CEC Assessment.

¹ Notes to Figure 3: 1) Because of PG&E's bankruptcy, not all of the revenue earned in 2001 was paid in 2001, but it is our understanding that it has now all been paid. 2) In July 2001, the wind companies and PG&E amended their contracts to provide for a fixed electricity price for energy payments from 2001 to 2006. The fixed price averages 5.37 cents/kwh on an annual basis but varies seasonally and by time of day, so the actual average annual electricity price received by the wind companies has been less than that: 4.85 cents/kwh in 2002, 4.84 cents/kwh in 2003, and 4.77 cents/kwh in 2004. 3) For most of 2000, electricity prices were well above the CEC target price of 3.5 cents/kwh and have remained above it ever since, so CEC subsidies are no longer paid to any wind companies.