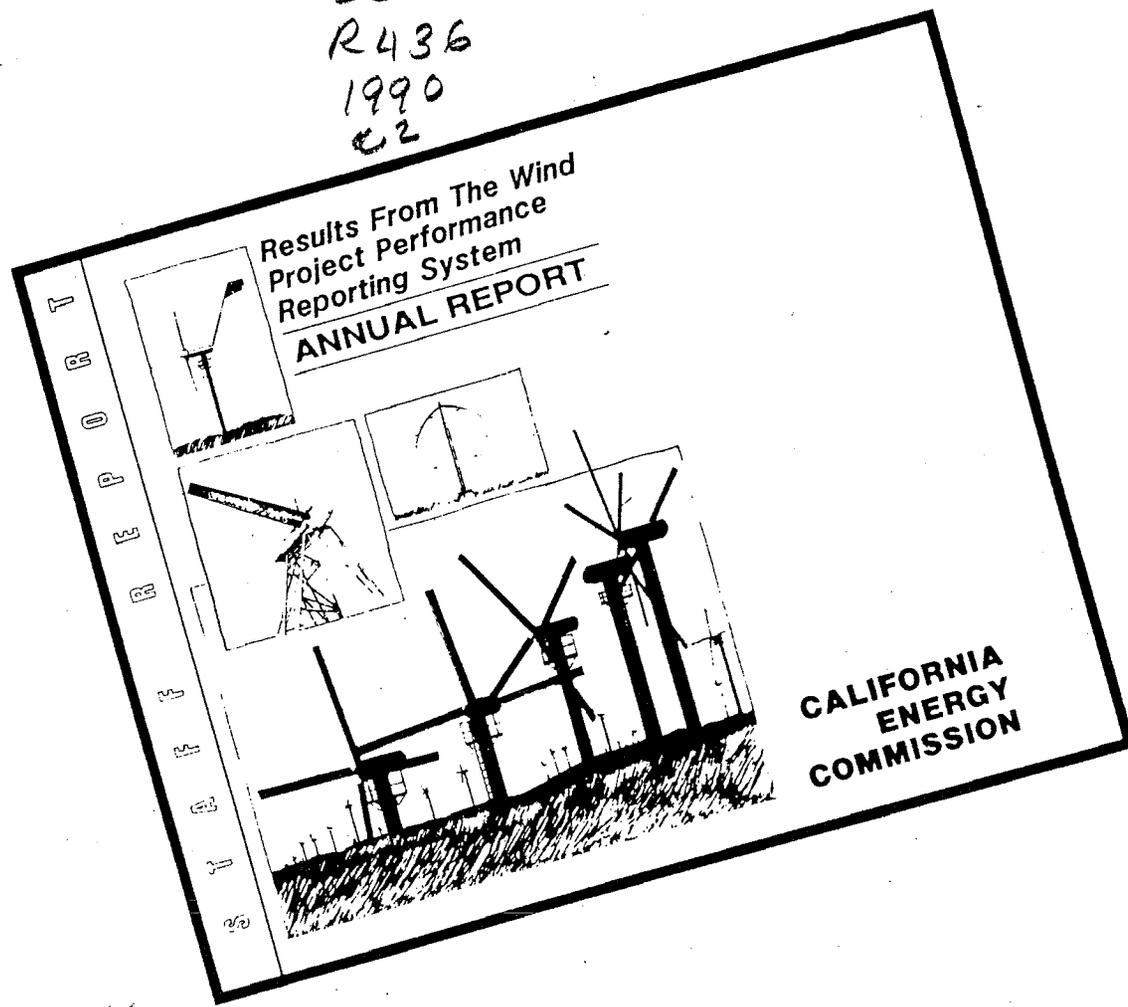


ERCDC
ED.30
R436
1990
02

ADDU



CALIFORNIA ENERGY COMMISSION

Charles R. Imbrecht, *Chairman*
Barbara Crowley, *Vice Chair*
Richard A. Bilas
Art S. Kevorkian
Sally Rakow

ENERGY TECHNOLOGY DEVELOPMENT DIVISION

Nancy Deller, *Deputy Director*

RESEARCH & DEVELOPMENT OFFICE

Michael Smith, *Acting Manager*

PRINCIPAL AUTHORS

Samuel D. Rashkin
Juanita Loyola

ACKNOWLEDGEMENTS

Special acknowledgements are due to all those who helped establish the Wind Performance Reporting System (WPRS). The program was developed by the California Energy Commission in conjunction with the state's wind industry and the American Wind Energy Association (AWEA) under the direction of *Nancy Deller*, Deputy Director, Energy Technology Development Division; and *Michael Smith*, Acting Manager, Research and Development Office. The cover layout and design were provided by Tino Flores, Graphics Supervisor, Media and Public Communications Office.

TABLE OF CONTENTS

1.	Introduction	1
2.	WPRS Background	3
3.	WPRS Implementation Issues	5
4.	California Wind Resource Areas	6
5.	Staff Summary	7
	A. Industry Performance	7
	B. Industry Production and Capacity Trends	10
	<i>Statewide</i>	10
	<i>Resource Areas</i>	12
	<i>Turbine Size</i>	14
	<i>Turbine Types</i>	15
	<i>Domestic and Foreign Turbines</i>	17
	<i>Ten Largest Wind Turbine Manufacturers</i>	19
	<i>Five Largest Wind Project Operators</i>	21
6.	WPRS Annual Summary Tables	23
7.	WPRS Data	30
	Alphabetical List of Operators and Other Participants	31
	Wind Data Section Notes	32
	<i>Altamont Pass</i>	34
	<i>Boulevard</i>	56
	<i>Carquinez Strait</i>	57
	<i>San Geronio</i>	58
	<i>Solano</i>	77
	<i>Tehachapi</i>	78
	<u>Appendix A.</u> Wind Turbine Manufacturers	109
	<u>Appendix B.</u> WPRS Regulations	114

1. INTRODUCTION

The wind industry is now one decade old. Although relatively young by most industry standards, wind technology has already made its mark on California. Wind energy provides more than 1 percent of the total electricity generated in the state and up to 8 percent of the instantaneous electricity demand in the state's largest utility region (PG&E) during the summer peak demand season. By late 1990, California was approaching 1,500 megawatts (MW) of wind generating capacity representing almost 80 percent of the world's generating capacity. During 1990, approximately 2.5 billion kilowatt hours (kWh) of electricity output was generated, or enough power to meet the annual electricity needs of almost 400,000 typical California homes.

When the industry began what proved to be exponential growth in 1981, the California Energy Commission (Commission) and the American Wind Energy Association (AWEA) recognized the need for performance and other technology-related information. Subsequent efforts by these two organizations led to the adoption of Wind Performance Reporting System (WPRS) regulations in 1984. These regulations require all wind operators with projects rated greater than 100 kW who sell electricity to a power purchaser (utility) to report quarterly performance and related project data to the Energy Commission. Power purchasers also are required to submit quarterly reports documenting power purchases from wind operators.

The Commission has evaluated and reported data submitted by operators and utilities in WPRS quarterly and annual reports for the past six years. During this time period, approximately two-thirds of all California wind capacity was installed. As a result, the Commission has compiled extensive empirical data that can be used to describe, analyze and evaluate this important new renewable energy option.

This empirical data indicates impressive development for such a young industry. In the past six years, the cost of wind technology has declined almost 50 percent to approximately \$1,000 per kilowatt, while capacity factor performance has doubled from an industry average of 13 percent in 1985 to approximately 26 percent for new turbines installed since 1985. The large worldwide audience for WPRS reports indicates that these significant technological developments are not going unnoticed.

As in previous annual reports, the *WPRS 1990 Annual Report* contains a detailed compilation of data provided by project operators and public utilities. Energy Commission staff have used this data to summarize wind project performance results and industry production and capacity trends. The Annual Report also contains tables with data organized by statewide totals, resource areas, turbine sizes, turbine types, turbine manufacturers, project operators, and origin of turbine manufacturers.

Many valuable observations about California's wind industry can be drawn from WPRS data; however, it is important to recognize four limitations. First, data from any single year varies greatly from year to year.

A complete industry evaluation should consider collective data from all six years of published WPRS reports. A second factor is that much of the WPRS data reported is not directly comparable because the wind industry does not yet employ a standardized rating system. Turbines are tested under different conditions and rated at widely varying miles per hour specifications. Evidence of the problem is indicated by the lack of correlation between blade-swept area and turbine kW specifications. For example, one manufacturer's 400 kW turbine has only a slightly larger blade-swept area than another manufacturer's 95 kW turbine. A third factor is that operator or manufacturer performance may not be accurately represented in the report because old and new turbine data are grouped together. Analysis of data reported since 1985 confirms that newer equipment typically performs more efficiently and reliably than does older equipment. Performance data does not reflect other important variables such as cost per kW, expected operation and maintenance costs, durability of the system, and quality of the site's wind resource. Wind industry findings presented in the *1990 Annual Report* should be viewed in conjunction with the other factors impacting wind development.

2. WPRS BACKGROUND

What is the Wind Performance Reporting System (WPRS)?

California law requires the California Energy Commission to serve as a central repository in state government for the collection and dissemination of information on energy supplies. Relative to wind energy, the Commission adopted WPRS regulations on November 28, 1984. Starting in January 1985, these regulations required all California wind operators with projects rated at 100 kW or more to provide quarterly wind performance reports if they sold electricity to a power purchaser. WPRS reports filed by operators include actual energy production and related project information. In addition, all California power purchasers are required to file quarterly reports documenting power purchases from wind operators. The Commission compiles and evaluates this data and documents findings in quarterly and annual reports on wind industry performance in California.

Why Were WPRS Regulations Developed?

WPRS regulations were instituted for several reasons. First, the industry, investors, financial community, and government agencies needed actual performance data to better evaluate the status of wind technology. Second, information that would help minimize tax abuse would benefit everyone involved in wind development: the industry would generate less "bad press" and more favorable public opinion; investors would be better able to make

informed investments; and government and public monies would be allocated to projects with optimal performance. WPRS regulations also were intended to provide performance data useful for government tracking of energy supplies, allowing for better planning of the state's energy needs.

Before federal tax credits expired in 1985, project financing was primarily venture capital from private investors willing to take a substantial risk on the technology due to available tax benefits. Since the tax credits expired, wind projects have focused on revenues from power sales and placed greater reliance on conventional financing from institutional lenders and foreign investors. WPRS data has been used to establish performance credibility for these new sources of financing.

What Information Do WPRS Reports Provide?

The *WPRS Quarterly Report* includes the following information for all wind projects in California rated at 100 kW or more that sell electricity: turbine manufacturers, model numbers, rotor diameters and kW ratings; the number of cumulative and new turbines installed; the projected output per turbine; the output for each turbine model; and the output for the entire project. The *WPRS Annual Report* is a compilation of data from all four quarters.

What Information is Not Found in WPRS Reports?

WPRS reports do not provide information on every wind energy project in California. Non-operating wind projects are not required to report performance information. The absence of a project from WPRS reports typically indicates that the project is not selling any power or is rated less than 100 kW. Other

unreported capacity results from turbines that do not produce electricity for sale, including turbines installed by utilities, government organizations and research facilities.

WPRS reports do not always contain data that differentiates between old and new turbine performance. Turbines are often reported in groups combining old and new machines. Where possible, new turbine performance has been analyzed separately to track improvements in technology.

As the limited number of developers reporting preclude adequate confidentiality of cost data, aggregate cost data has not been included in the *1990 Annual Report*.

3. WPRS IMPLEMENTATION ISSUES

WPRS implementation issues encountered and resolved are discussed below.

Validating performance data. Originally it was intended that utility quarterly reports be used to validate operator output data; however, numerous problems occurred. Some utilities did not provide data according to calendar quarters consistent with that used by wind operators. In addition, utilities only provide data for operators who filed a power sales agreement. In many cases, more than one project was reported under a single utility contract, making it difficult to verify individual project output figures.

To establish a more reliable validation procedure, Commission staff allowed operators to voluntarily submit utility receipts with quarterly reports. When output figures provided by operators agree with either submitted utility receipts or utility reported data, output figures are recorded as "validated."

Operators who fail to file. Utility quarterly reports inform Commission staff of all wind farm operators with projects rated 100 kW or more who sell power. These operators are required to submit WPRS reports. Operators who sell power but do not submit reports are noted as "failed to file." By the end of 1990, seven operators had failed to file. Depending on the circumstances, Commission staff will consider various options for resolving filing issues.

Operators who file reports with missing data. Some operators filed WPRS reports with one or more data items missing. The predominant missing data item was projected quarterly output per turbine. Some wind projects were sold with only annual output estimates. In such cases, the value "0" has been assigned. Commission staff continues to assist project operators with reporting so that submitted data will be complete.

4. CALIFORNIA WIND RESOURCE AREAS

The wind resource map includes the geographical location and quality associated with major wind resource areas in California. During 1990, wind performance data was received from operators with projects located in the following six resource areas:

Shown:

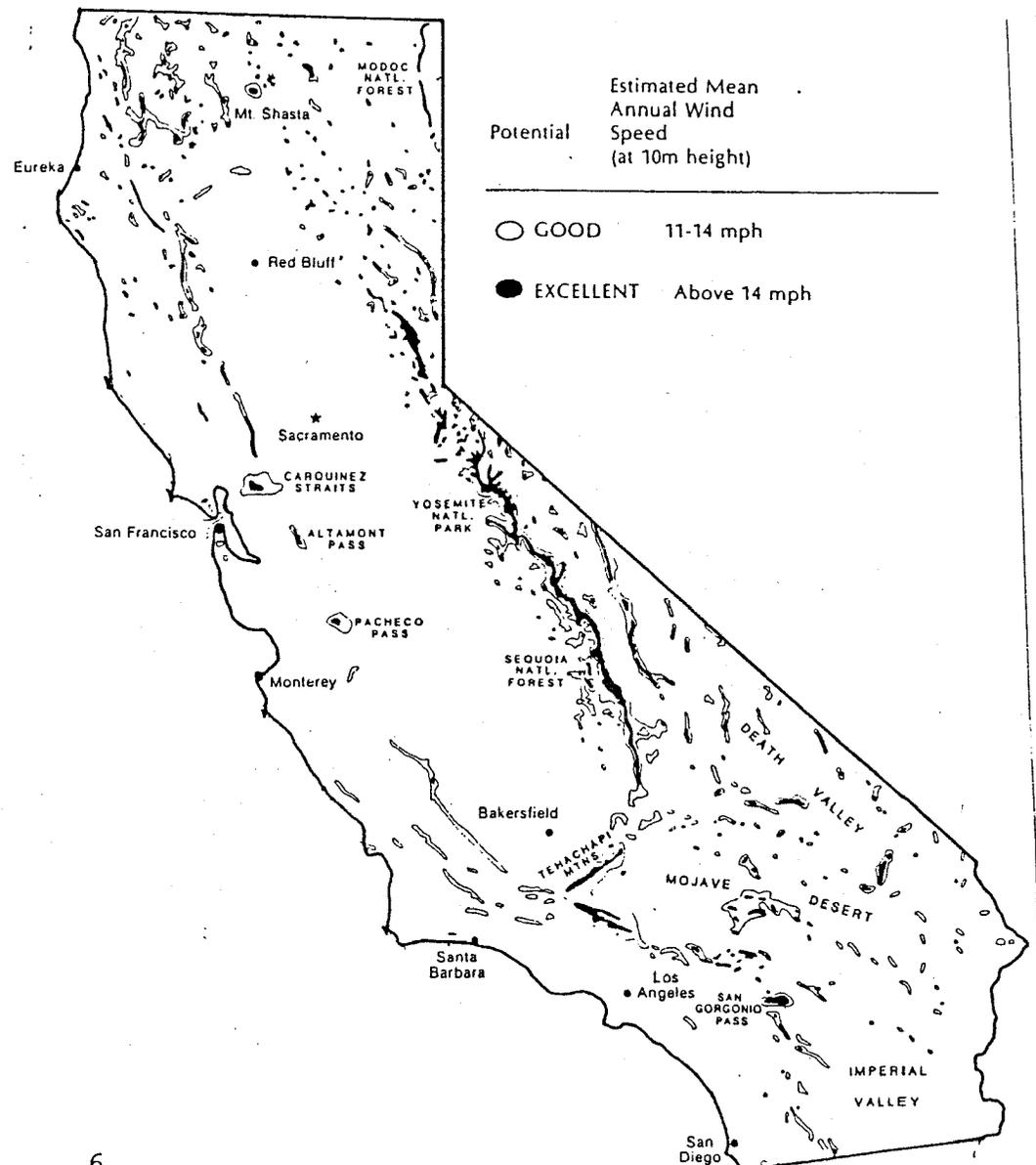
- *Altamont Pass*
- *Carquinez Straits*
- *San Geronio Pass*
- *Tehachapi Pass*

Not Shown:

- *Boulevard (San Diego County)*
- *Solano (Solano County)*

Areas designated "good" are roughly equivalent to an estimated mean annual power, at 10 meter height, of 200 to 300 watts per square meter (W/m^2), and "excellent" if more than 300 W/m^2 .

Source: A. Miller and R. Simon, *Wind Power Potential in California*, San Jose State University, prepared for the CEC, May 1978.



5. STAFF SUMMARY

5.A INDUSTRY PERFORMANCE

Total Capacity. A cumulative capacity of 1,454 megawatts was reported operational during the fourth quarter of 1990. Total capacity for 1990 represents substantial growth since the beginning of 1985 when there was slightly more than 500 MW. However, the *rate* of installed capacity has leveled off since the end of 1986 when there was 1,235 MW. A high rate of attrition for older turbines installed from 1981 to 1985 appears to have counteracted the limited amount of new capacity installed since 1987. Early turbines were often manufactured and installed hastily due to difficult time constraints because investor financing was available late in the calendar year, while projects had to be completed by the end of the year to qualify for tax incentives. The amount of capacity installed during 1990 more closely matches the increase in cumulative capacity. This correlation between installed and cumulative capacity indicates that significantly less attrition occurred during 1990.

Electricity Output. In 1990, the California wind industry produced more than 2.4 billion kWh of electricity, or enough power to meet the annual electricity needs of almost 400,000 typical California homes.

Electricity Production Percent of Projected. Not only did California wind projects produce a substantial amount of electricity, the industry as a whole

produced 69 percent of the total output projected for 1990. This figure compares favorably to the 45 percent of total projected output attained in 1985 and represents real progress toward meaningful projections by the wind industry.

Both industry observers and participants agree that many wind developers overstated output capabilities during the tax credit era with projections that were often not achievable. The improved percent of projected output during 1990 is more significant after recognizing that older turbines with overstated projections continue to lower the total average percent of output.

Capacity Factor. Capacity factor is defined as the ratio of actual energy output to the amount of energy a project would produce if it operated at full rated power for 24 hours per day within a given time period. As indicated, there should be standardized testing of all wind turbines for capacity factors to be truly comparable. Although the American Wind Energy Association (AWEA) recently completed development of voluntary standards for testing wind turbines, there is no current mandatory program. Wind turbine ratings are based on widely varying test conditions and miles per hour specifications.

Despite testing limitations, the capacity factor is considered to be a strong indicator of wind project performance. The annual capacity factor is computed as the average of quarterly capacity factors calculated for each group of turbines reported. Only operating turbines are used to calculate capacity factors so that performance results are not skewed by non-operational capacity. For projects with new turbines,

only one-half of new capacity is included in the capacity factor calculation during the quarter of installation because new turbines are not likely to operate for the entire quarter. In addition, new equipment typically needs a "debugging" period before operating at full-rated power.

Continuing the trend in recent years of gradual improvement, the statewide capacity factor for 1990 climbed to a new high of 20 percent. Wind performance for California turbines has reached the 20 to 30 percent capacity factor range typically cited for wind technology in most scientific reports. The statewide capacity factor for 1990 represents nearly a 54 percent increase from the 13 percent capacity factor in 1985 and a 12 percent increase from the 18 percent capacity factor in 1989. The upper limit for capacity factor appears to range from 30 to 35 percent, based on one project that consistently reaches this upper limit including an annual capacity factor of 33 percent in 1990.

Statewide performance may be adversely affected by a substantial number of older turbines much less reliable and efficient than those currently being installed. When wind turbines installed after 1985 could be separately analyzed, the capacity factor was 26 percent, 30 percent higher than the industry as a whole (*Figure 1*). Although the difference was even greater in previous years, new turbines installed since 1985 now account for more than 66 percent of total installed wind capacity.

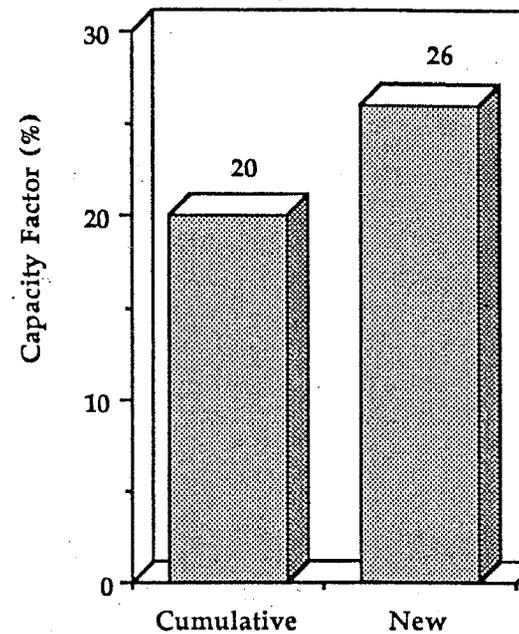


FIGURE 1: Capacity Factors for Turbine Stock

Kwh per Square Meter. The annual kWh per square meter is another reliable wind technology performance indicator, based on blade-swept area, a wind turbine specification determined by standard measurements rather than non-standardized kW ratings used to determine capacity factors. It is still difficult to develop directly comparable kWh per square meter results because data reported for some turbine models include new turbines which have not had the benefit of a full operational year. In most cases, the existing capacity is so much larger than the new capacity that this would not affect the results significantly. Nonetheless, when any kWh per square meter calculation does not include a full operational year for all turbines, an asterisk has been placed next to the value on all summary tables.

The average kWh per square meter production for 1990 was 713, or four percent higher than the 1989 level of 685. When turbines installed after 1985 could be isolated, the resulting kWh per square meter annual production figure increased 26 percent to 869 (Figure 2).

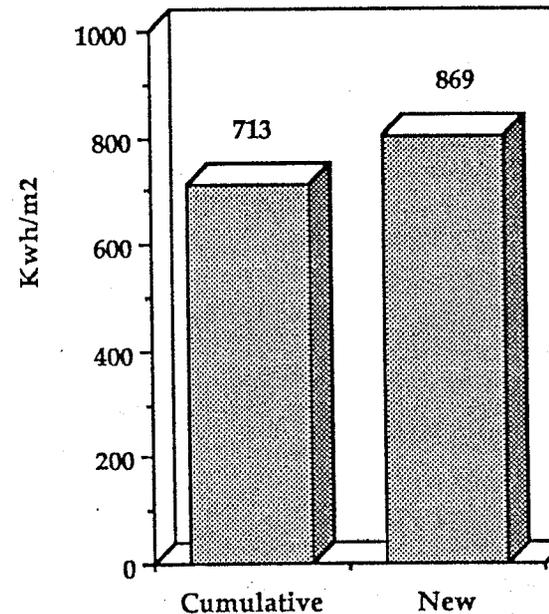


FIGURE 2: Kwh Per Square Meter Production of Turbine Stock

5.B PRODUCTION AND CAPACITY TRENDS

Statewide

The growth rate of wind development has declined substantially since the expiration of federal and state tax credits at the end of 1985 and 1986 respectively. However, a small surge in growth occurred in 1990 in an apparent effort by developers to use long-term contracts before expiration. Although these contracts were negotiated with utilities in 1985, their provisions allowed five years for implementation. Future qualifying facility development is expected to fall dramatically because the only contract option remaining is the short-term "as-is" contract that pays rates too low to support technology development.

During 1990, 161 MW of new capacity was installed, compared to only 64 MW of new capacity in 1989 and 59 MW of new capacity in 1988. The net result is that total cumulative capacity increased from 1,302 MW in 1989 to 1,454 MW in 1990 (*Figure 3*).

Wind output during 1990 was consistent with the typical California wind resource profile: low winds at the beginning and end of the year and high winds during spring and summer when the heating season creates a natural draw of cool coastal air into hot valleys and deserts. WPRS data indicates that 72 percent of all annual output was produced in the second and third quarters of 1990 (*Figure 4*). This is a good match to California's high seasonal peak demand for electricity during summer months.

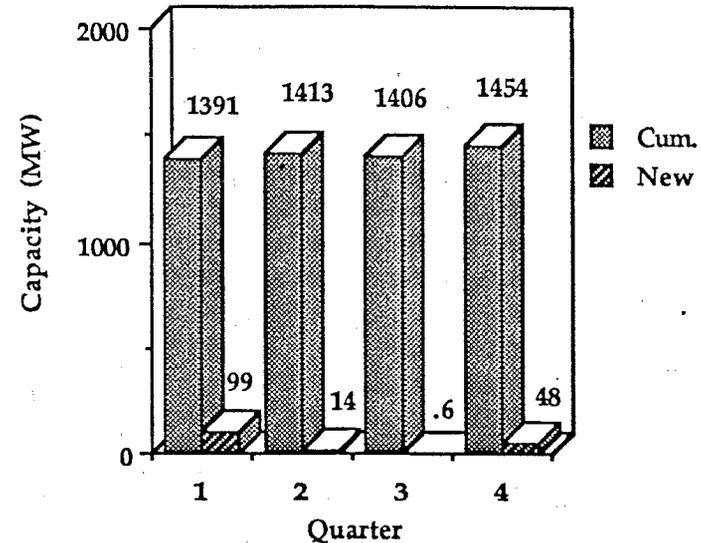


FIGURE 3: Statewide Wind Capacity

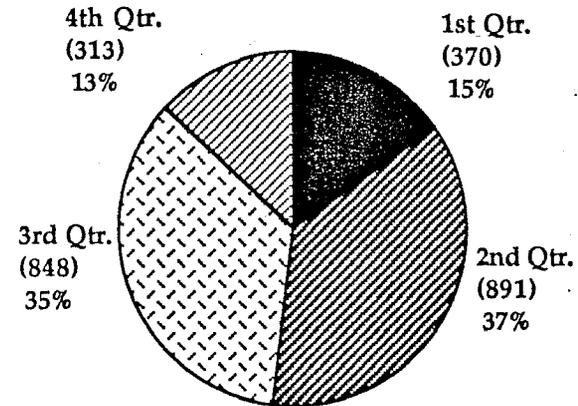


FIGURE 4: Statewide Wind Output (Millions of kWh)

Although total capacity has increased only 152 MW since 1989, productivity has steadily increased. Total output in 1990 was 16 percent higher than in 1989 and more than 200 percent higher than in 1985 (Figure 5). Quarterly capacity factors were consistent with the strong mid-year wind resource profile previously discussed. The capacity factors were 14, 29, 27, and 11 percent respectively for the first, second, third, and fourth quarters. The total annual capacity factor increased from earlier years (Figure 6). The annual average statewide capacity factor for 1990 was 20 percent, compared to 18 percent for 1989; 17 percent for 1988; 16 percent for 1987; and 13 percent for both 1986 and 1985.

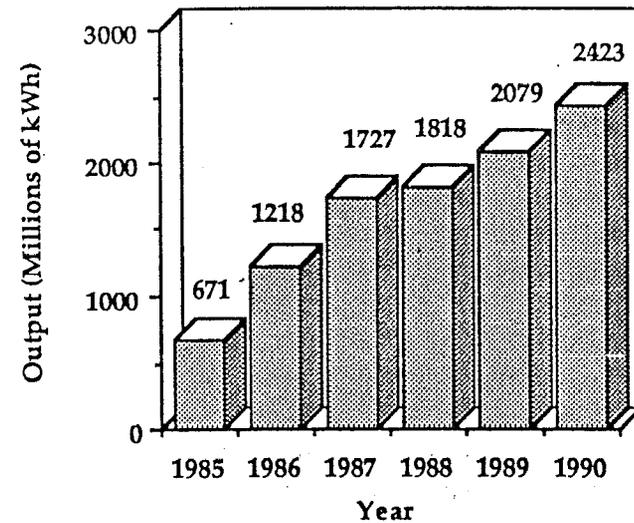


FIGURE 5: Statewide Wind Output 1985-1990

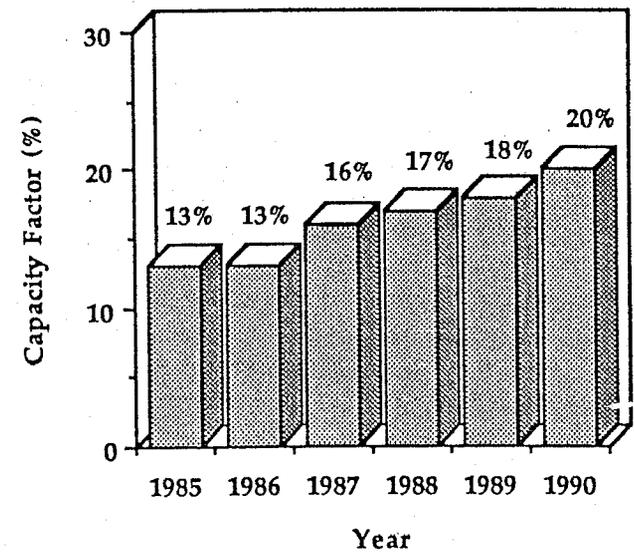


FIGURE 6: Statewide Capacity Factors 1985-1990

Resource Areas

Although wind project operators from six different resource areas in California reported to WPRS, more than 96 percent of all California capacity and output is generated in only three resource areas: Altamont Pass, San Gorgonio Pass and Tehachapi Pass. All three of these areas are natural topographical bottlenecks formed by narrow passes in coastal mountain ranges between cold marine air masses and hot inland valley or desert regions. In these three resource areas, 47 percent of all capacity is found in Altamont Pass, 16 percent in San Gorgonio Pass and 33 percent in Tehachapi Pass (*Figure 7*).

Growth as a percentage of existing capacity was highest in Tehachapi (18 percent), followed by San Gorgonio (6 percent), and Altamont (2.5 percent). Quantitatively, 54 percent of all new capacity was developed in the Tehachapi Pass. The kWh output and percent of total statewide output for each of the three primary resource areas are shown in *Figure 8*. Compared with the capacity distribution from *Figure 7*, San Gorgonio (22 percent output vs. 16 percent capacity) produced a higher proportion of output than Altamont (43 percent output vs. 47 percent capacity) and Tehachapi (33 percent output vs. 33 percent capacity). Differences in output vs. capacity figures for these resource areas are smaller than in prior years.

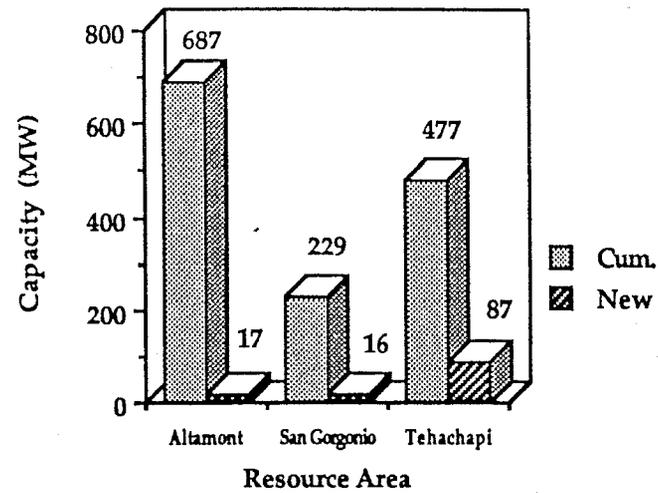


FIGURE 7: Resource Area Capacity

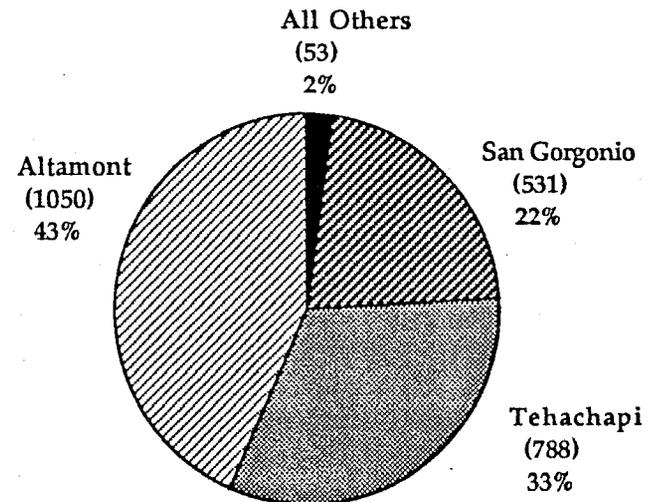


FIGURE 8: Resource Area Output (Millions of Kwh)

Of the three largest resource areas, San Gorgonio had the highest capacity factor (25 percent), followed by Tehachapi (20 percent) and Altamont (19 percent) (Figure 9). Newer machines in this resource area may account for San Gorgonio's higher capacity factor because many San Gorgonio wind developers met substantial delays getting local government approvals for their projects during early wind development years. In the Altamont resource area, two large developers operate with more than 280 MW of capacity and only a 7.5 percent average capacity factor, lowering Altamont's overall performance.

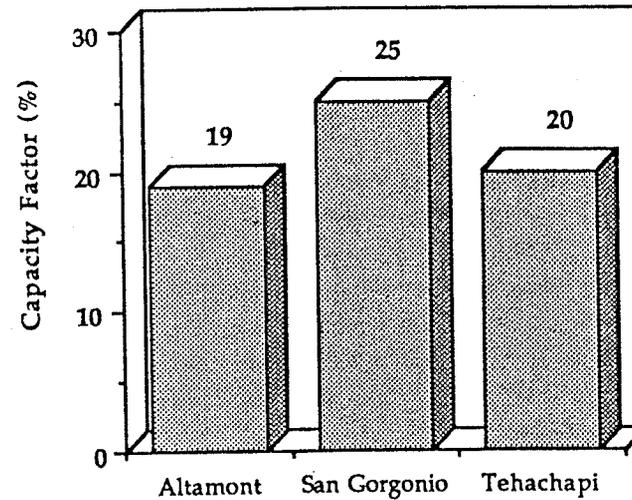


FIGURE 9: Capacity Factor by Resource Area

Turbine Size

Sixty percent of all new turbine capacity for 1990 was found in the 200+ kW size category. This is consistent with the prediction of many industry specialists that turbines in the 300 kW size range would be the trend for future wind development. However, 1990 data continues to indicate that 51 to 100 kW turbine capacity is the dominant size category overall, accounting for more than 60 percent of cumulative wind capacity (Figure 10). Capacity percentages and factors for individual turbine categories follow:

Size (kW)	Capacity	New Capacity	Capacity Factor
0-50	4%	0%	15%
51-100	61%	37%	21%
101-150	15%	0%	21%
151-200	5%	2%	26%
200+	16%	60%	18%

Capacity factors were higher for all size categories except 0-50kW. Capacity factors were low for the 0-50kW size category because this group typically contains the oldest turbines. The 151-200 kW size group had the highest capacity factor (26 percent) and the 200+ kW size category was most improved (Figure 11).

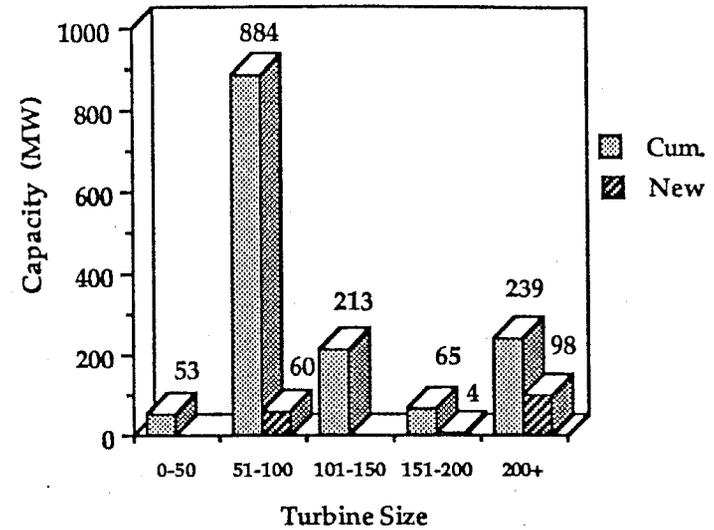


FIGURE 10: Capacity by Turbine Size

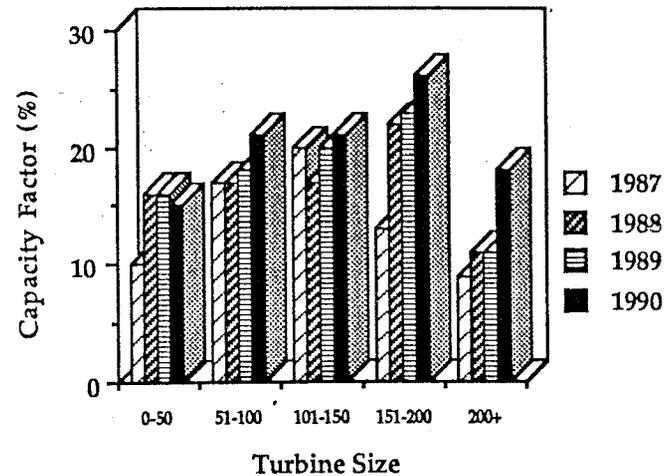


FIGURE 11: Capacity Factor by Turbine Size

Turbine Types

WPRS performance results also have been categorized by horizontal or vertical axis machines. Turbine axis data indicates the California wind industry is clearly dominated by horizontal axis machines that account for approximately 93 percent of all capacity and 100 percent of new capacity (Figure 12). When turbine types were compared for performance, horizontal axis turbines had a capacity factor of 21 percent, double the capacity factor of 10 percent for vertical axis turbines (Figure 13).

Other important turbine characteristics such as downwind and upwind configurations, number of blades, fixed or variable pitch blades, and braking devices are not tracked in the *Annual Report*.

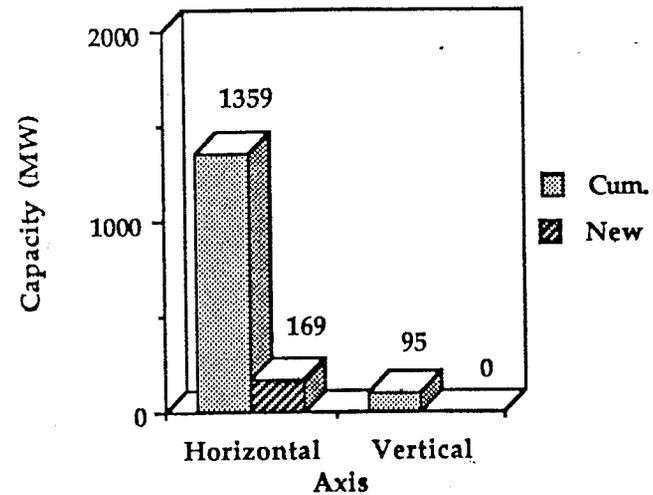


FIGURE 12: Capacity by Turbine Axis

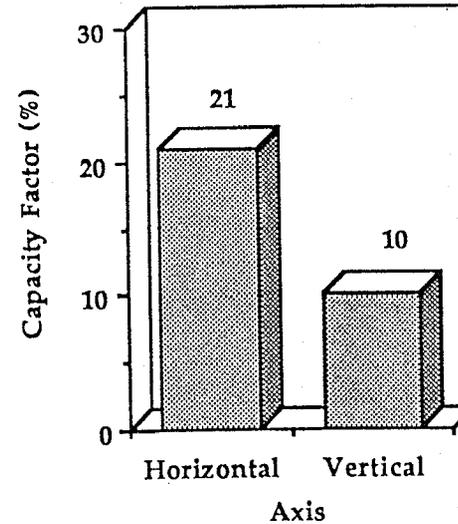


FIGURE 13: Capacity Factors by Turbine Axis

Horizontal axis turbines performed at 720 kWh per square meter, higher than the performance level of 532 for vertical axis turbines (Figure 14). Figures 13 and 14 indicate that the performance level of horizontal vs. vertical axis turbines is closer when based on kWh per square meter rather than capacity factor.

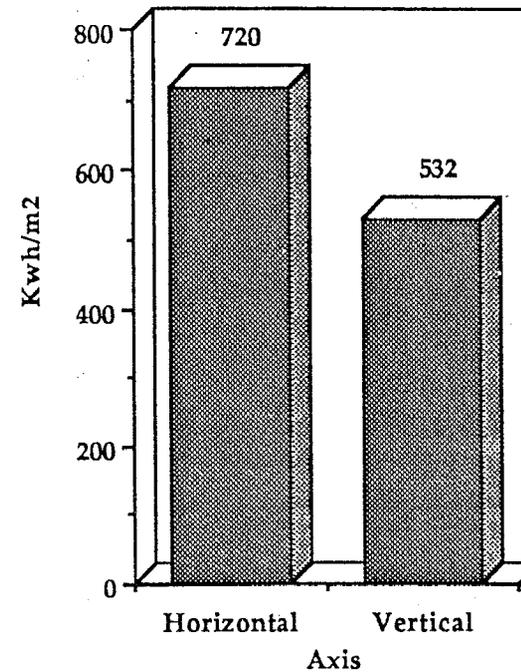


FIGURE 14: Kwh Per Square Meter Production by Turbine Axis

Domestic and Foreign Turbines

Interest is widespread in comparisons between domestic and foreign turbine capacities. By the end of 1990, domestic turbine capacity was 770 MW, compared to 684 MW of foreign turbine capacity. New foreign capacity (88 MW) exceeded domestic capacity (73 MW) by 20 percent (Figure 15). The foreign turbine share of total capacity increased from 33 percent in 1985 to 47 percent by the end of 1990 (Figure 16).

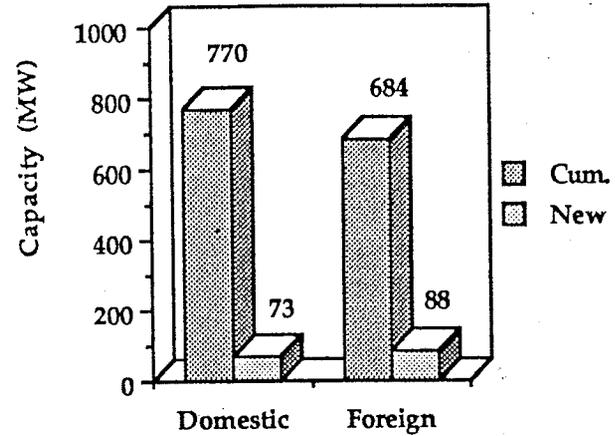


FIGURE 15: Capacity by Turbine Origin

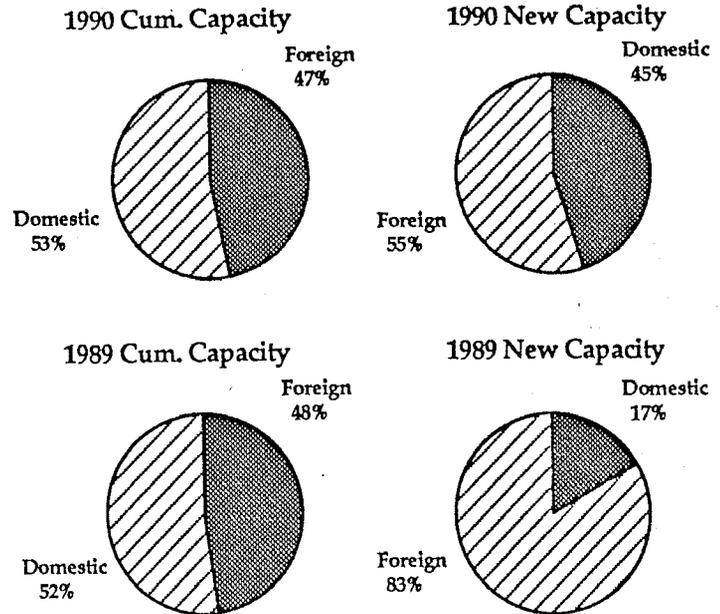


FIGURE 16: Capacity Distribution by Origin

Foreign turbine capacity installed since 1985 accounts for approximately 89 percent of total foreign capacity. As a result, foreign turbine performance results benefit from considerably newer machines.

The capacity factor for foreign turbines (23 percent) was 28 percent higher than for domestic turbines (18 percent). However, two large domestic turbine manufacturers in the Altamont Pass resource area with more than 230 MW of turbine capacity have an average capacity factor of less than 6.5 percent that brings down overall domestic turbine performance. When these low performing turbines are eliminated from the domestic turbine data base, the adjusted domestic turbine performance (23.5 percent) slightly exceeds that of foreign turbines (*Figure 17*).

When a kWh per square meter analysis is used to measure performance, domestic turbines perform at levels only 6 percent lower than foreign turbines without any adjustments (*Figure 18*). For domestic turbines, the kWh per square meter performance measure is better than the capacity factor because rated capacities appear to be overstated for many of the older domestic models.

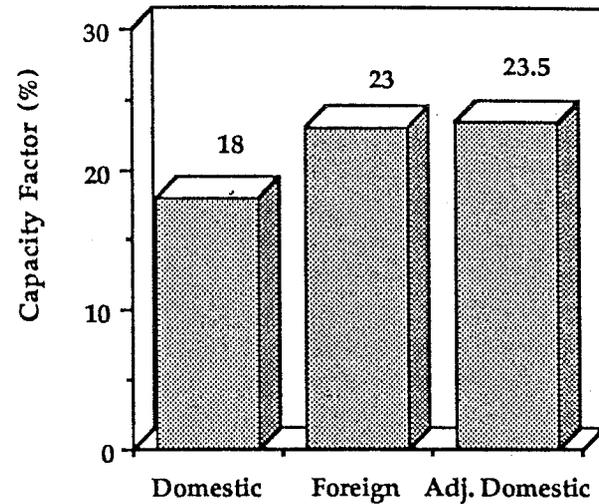


FIGURE 17: Capacity Factor by Origin

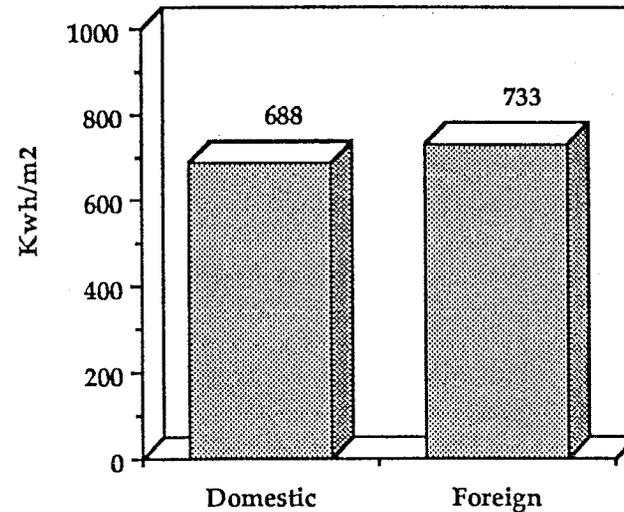


FIGURE 18: Kwh Per Square Meter Production

The 10 Largest Wind Turbine Manufacturers

The 10 largest wind turbine manufacturers represent more than 86 percent of California's wind generating capacity. The four largest manufacturers alone (U. S. Windpower, Vestas, Micon, and Fayette) account for 58 percent of all capacity. The 10 largest manufacturers and their individual generating capacities are shown in Figure 19. A wide range of capacity factors exist among these manufacturers (Figure 20). Manufacturers with the highest capacity factors are Danwin (31 percent), Micon and U.S. Windpower (26 percent), and Bonus, Nordtank, Vestas and Mitsubishi (MWT) (22 percent).

Both equipment and siting variables should be considered when evaluating turbine manufacturer data. For instance, turbine performance has improved significantly during the past six years. In addition, the quality of the wind resource varies considerably among different resource areas and even among different sites within the same resource area.

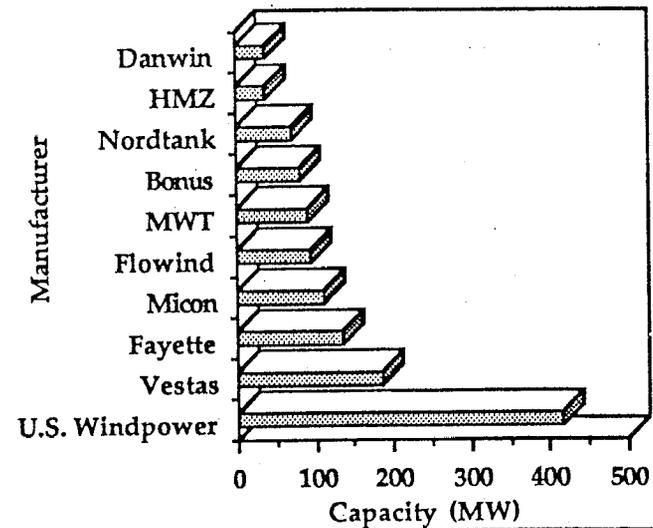


FIGURE 19: Cumulative Capacity for 10 Largest Turbine Manufacturers

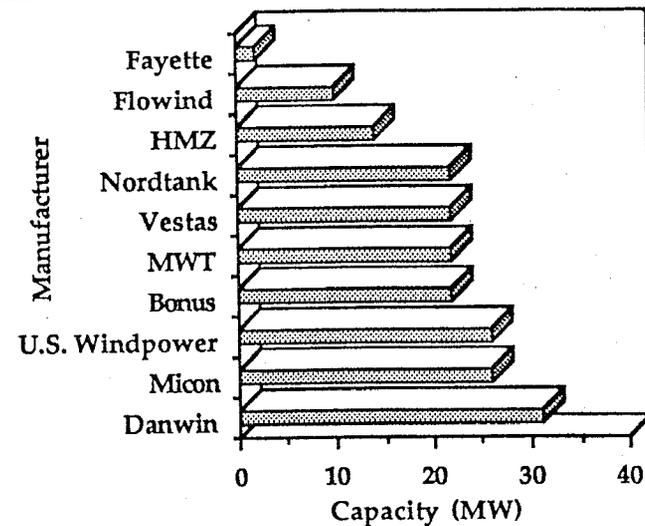


FIGURE 20: Capacity Factors for 10 Largest Turbine Manufacturers

Annual kWh per square meter results are shown in Figure 21 for the 10 largest manufacturers. Manufacturers with the highest kWh per square meter production are Danwin (1,043), U.S. Windpower (843), Micon (798), Nordtank (711), Vestas (710), and Bonus (703).

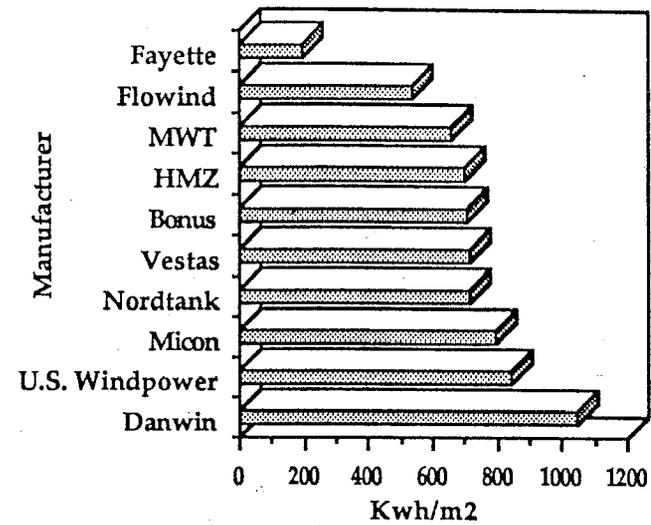


FIGURE 21: Kwh Per Square Meter Production for 10 Largest Manufacturers

The Five Largest Wind Project Operators

Due to industry consolidation and growth primarily limited to major developers, the five largest wind project operators (U.S. Windpower, SeaWest, Zond, Fayette, and FloWind) represent more than 76 percent of total California wind generating capacity (Figure 22).

Capacity factors vary for the largest wind project operators (Figure 23). Operators with the highest capacity factors are U.S. Windpower (26 percent), SeaWest (25 percent) and Zond (21 percent). One smaller operator, San Gorgonio Farms (not shown in Figures 22 and 23), has consistently produced the highest capacity factors for every year WPRS data has been compiled and published. San Gorgonio Farms capacity factor was 33 percent for 1990. This project consistently demonstrates that wind technology performance is enhanced when developers combine quality machines with a good wind resource site.

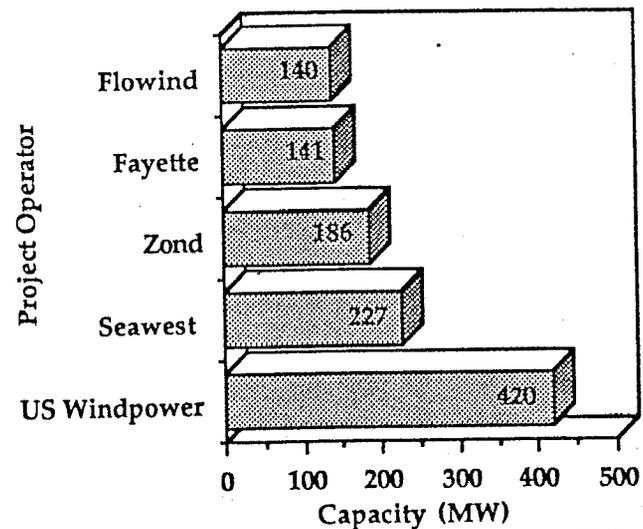


FIGURE 22: Cumulative Capacity for 5 Largest Operators

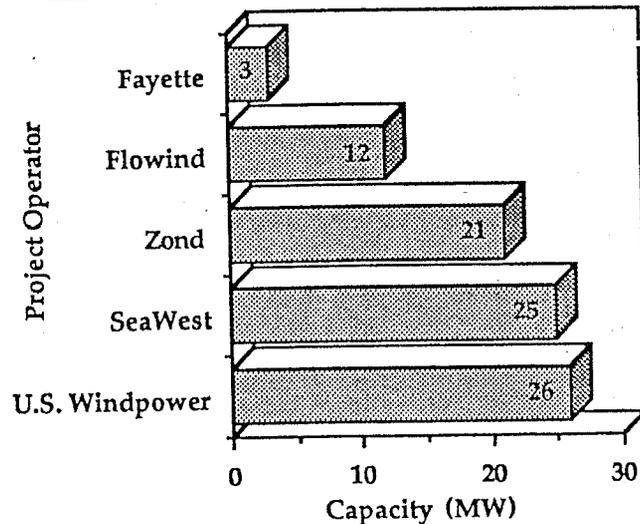


FIGURE 23: Capacity Factors for 5 Largest Operators

Annual kWh per square meter results for the five largest operators are shown in *Figure 24*. Among these operators, U.S. Windpower (844), SeaWest (796), and Zond (693) had the best performance. Of all operators, San Gorgonio Farms (not shown on *Figure 24*) had the best performance at 1,135 kWh per square meter.

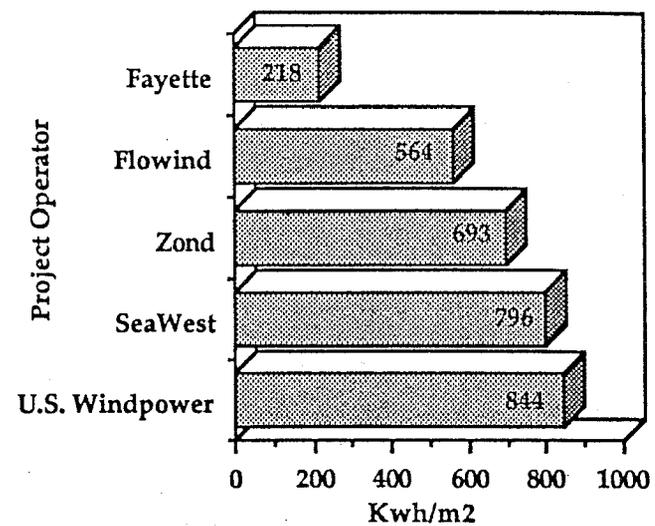


FIGURE 24: Kwh Per Square Meter Production for 5 Largest Operators

6. WPRS ANNUAL SUMMARY TABLES

Summary tables include aggregate data for all wind projects submitting 1990 quarterly reports to the California Energy Commission as part of the WPRS program. Summary tables contain data extracted from project operator quarterly reports compiled in Section 7.

The summary tables are designed to provide information about specific resource areas, turbine sizes, turbine types, turbine manufacturers, turbine operators, and turbine origins (domestic or foreign). Reports from some operators contained missing data. As a result, totals for the various subcategories may not always equal statewide totals.

Also, kWh per square meter results include an asterisk if some portion of the cumulative turbine capacity being considered includes new turbine capacity that did not operate for a full year. Unless the new turbine capacity represents a significant percentage of cumulative capacity, the negative impact on performance for most turbine groups will be minimal.

1990 WPRS DATA SUMMARY TABLE

Data Category	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
STATEWIDE								
1st Quarter	1,391,258	98,700	370,410,912	72	14	115 *	14,335	456
2nd Quarter	1,412,533	14,400	891,209,025	69	29	262 *	14,486	63
3rd Quarter	1,406,478	585	848,361,440	71	27	249 *	14,440	9
4th Quarter	1,454,078	47,750	312,634,305	65	11	87 *	14,910	476
1990 Totals	1,454,078	161,435	2,422,615,682	69	20	713	14,910	1,004
RESOURCE AREA								
Altamont								
1st Quarter	672,965	2,000	119,391,668	75	11	88 *	6,387	20
2nd Quarter	672,965	0	368,034,539	51	25	250	6,387	0
3rd Quarter	671,800	0	455,286,540	65	31	312	6,374	0
4th Quarter	686,800	15,000	107,538,936	48	8	68 *	6,524	150
1990 Totals	686,800	17,000	1,050,251,683	60	19	718	6,524	170
San Geronio								
1st Quarter	223,681	14,000	84,624,074	66	17	132 *	3,242	35
2nd Quarter	231,006	450	225,119,479	76	43	339 *	3,331	1
3rd Quarter	228,491	585	148,880,122	62	27	212 *	3,323	9
4th Quarter	229,141	650	72,554,205	90	13	105 *	3,333	10
1990 Totals	229,141	15,685	531,177,880	74	25	788	3,333	55
Tehachapi								
1st Quarter	465,052	72,200	164,371,967	76	18	141 *	4,384	296
2nd Quarter	479,002	13,950	278,736,027	81	27	236 *	4,446	62
3rd Quarter	476,627	0	218,110,344	81	21	184	4,421	0
4th Quarter	477,227	600	126,597,937	63	12	107 *	4,422	1
1990 Totals	477,227	86,750	787,816,275	75	20	668	4,422	359

1990 WPRS DATA SUMMARY TABLE

Data Category	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
TURBINE SIZE								
1-50 kw								
1st Quarter	52,937	0	11,768,870	46	10	71	1,721	0
2nd Quarter	52,937	0	25,013,690	50	26	180	1,721	0
3rd Quarter	52,937	0	19,355,044	58	17	118	1,721	0
4th Quarter	52,787	0	9,356,528	50	8	57	1,715	0
1990 Totals	52,787	0	65,494,132	51	15	426	1,715	0
51-100 kw								
1st Quarter	832,320	12,500	204,758,645	77	14	109 *	9,672	125
2nd Quarter	839,520	0	537,199,371	79	30	267	9,762	0
3rd Quarter	836,565	585	498,475,751	71	27	249 *	9,733	9
4th Quarter	883,715	47,150	164,203,422	66	11	77 *	10,208	475
1990 Totals	883,715	60,235	1,404,637,189	73	21	702	10,208	609
101-150 kw								
1st Quarter	213,699	0	63,268,422	69	14	126	1,735	0
2nd Quarter	213,574	0	127,405,625	62	28	250	1,734	0
3rd Quarter	213,074	0	144,721,645	84	31	284	1,730	0
4th Quarter	213,074	0	55,602,914	87	12	109	1,730	0
1990 Totals	213,074	0	390,998,606	76	21	769	1,730	0
151-200 kw								
1st Quarter	68,280	3,600	22,631,929	67	16	151 *	383	18
2nd Quarter	68,080	0	53,230,549	71	37	356	382	0
3rd Quarter	65,480	0	50,482,729	78	35	339	369	0
4th Quarter	65,480	0	21,566,111	59	15	145	369	0
1990 Totals	65,480	3,600	147,911,318	69	26	991	369	18

1990 WPRS DATA SUMMARY TABLE

Data Category	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
TURBINE SIZE								
200+ kw								
1st Quarter	224,022	82,600	55,433,453	84	16	128 *	824	313
2nd Quarter	238,422	14,400	115,492,155	53	24	245 *	887	63
3rd Quarter	238,422	0	106,862,646	67	22	227	887	0
4th Quarter	239,022	600	46,344,669	58	9	98 *	888	1
1990 Totals	239,022	97,600	324,132,923	66	18	698	888	377
TURBINE AXIS								
Horizontal								
1st Quarter	1,296,458	98,700	342,517,303	74	15	115 *	13,823	456
2nd Quarter	1,317,733	14,400	827,713,548	71	30	264 *	13,974	63
3rd Quarter	1,311,678	585	797,842,301	71	28	253 *	13,928	9
4th Quarter	1,359,278	47,750	285,989,354	66	11	88 *	14,398	476
1990 Totals	1,359,278	161,435	2,254,062,506	71	21	720	14,398	1,004
Vertical								
1st Quarter	94,800	0	15,344,016	57	7	103	512	0
2nd Quarter	94,800	0	30,627,842	55	15	206	512	0
3rd Quarter	94,800	0	22,055,514	66	11	148	512	0
4th Quarter	94,800	0	11,084,290	52	5	75	512	0
1990 Totals	94,800	0	79,111,662	58	10	532	512	0

1990 WPRS DATA SUMMARY TABLE

Turbine Totals	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
DOMESTIC TURBINES								
1st Quarter	718,335	26,500	132,700,763	65	12	95 *	7,800	160
2nd Quarter	725,410	0	390,306,793	53	26	259	7,889	0
3rd Quarter	723,865	0	409,492,182	59	26	267	7,874	0
4th Quarter	770,215	46,500	109,789,674	50	9	67 *	8,333	465
1990 Totals	770,215	73,000	1,042,289,412	57	18	688	8,333	625
FOREIGN TURBINES								
1st Quarter	672,923	72,200	225,160,556	76	17	130 *	6,535	296
2nd Quarter	687,123	14,400	468,034,597	80	32	264 *	6,597	63
3rd Quarter	682,613	585	410,405,633	78	28	233 *	6,566	9
4th Quarter	683,863	1,250	187,283,970	75	13	106 *	6,577	11
1990 Totals	683,863	88,435	1,290,884,756	77	23	733	6,577	379

1990 WPRS DATA SUMMARY TABLE

Data Category	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
TURBINE MANUFACTURER								
Aeroman (Germany)	11,320	0	21,856,153	0	22	628	283	0
Airmaster (USA)	1,000	0	0	0	0	0	10	0
Blue Max (USA)	3,120	0	2,282,200	42	8	294	80	0
Bonus (Denmark)	81,555	450	159,480,794	71	22	703 *	838	1
Bouma (Netherlands)	4,860	0	3,993,602	0	9	353	36	0
Carter (USA)	7,350	0	8,397,815	50	15	584	168	0
Century (USA)	4,400	0	122,556	0	0	24	44	0
Danwin (Denmark)	36,030	0	98,232,717	64	31	1043	233	0
ESI (USA)	30,695	0	23,469,488	35	10	261	433	0
Enertech (USA)	20,200	0	16,332,015	34	11	294	475	0
Fayette (USA)	135,465	0	23,962,814	10	2	194	1,351	0
Floda (Austria)	1,500	0	1,974,243	44	15	646	3	0
Flowind (USA)	94,800	0	79,111,662	58	10	532	512	0
HMZ (Belgium)	37,300	0	46,915,704	3	14	696	174	0
Howden (Scotland)	28,290	0	54,306,635	132	22	835	91	0
Jacobs (USA)	11,705	0	17,160,723	61	18	578	630	0
MWT (Japan)	90,000	60,000	142,107,680	71	22	654 *	360	240
Micon (Denmark)	110,483	500	242,986,749	81	26	798 *	1,281	2
Nordtank (Denmark)	71,940	0	138,690,909	89	22	711	840	0
Oak (USA)	20,777	0	35,390,537	101	19	497	322	0
Polenko (Netherlands)	2,700	0	3,820,874	86	16	514	27	0
Starwind (USA)	0	0	0	0	0	0	0	0
Storm Master (USA)	400	0	328,099	36	9	290	10	0
Sumitomo (Japan)	800	600	831,549	0	36	1226 *	2	1
US Windpower (USA)	414,400	59,000	774,630,676	98	26	843 *	4,144	590
Vestas (Denmark)	185,450	25,650	343,033,956	81	22	710 *	2,169	116
WEG (England)	5,300	0	9,602,024	73	21	899	21	0
Wenco (Switzerland)	0	0	0	0	0	0	0	0
Wincon (USA)	10,968	0	23,757,752	80	25	806	100	0
Windane (USA)	14,560	14,000	37,208,560	101	33	1101 *	49	35
Windmatic (Denmark)	16,335	1,235	23,051,167	78	17	535 *	219	19
Windtech (USA)	375	0	134,515	0	8	108	5	0

1990 WPRS DATA SUMMARY TABLE

Project Operator Totals	Cumulative Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual / Projected Output (%)	Actual Capacity Factor (%)	Kwh/ Square Meter	Cumulative Turbines	New Turbines
Altamont-American Partners	—	—	1,920	—	—	—	—	—
Altamont Energy	—	—	35,865,880	—	—	—	—	—
American Power Systems, Inc.	3,705	0	6,953,681	62	21	736	204	0
Arbutus	15,950	0	28,164,000	59	21	330	250	0
Birds Landing Power, Inc.	250	0	0	0	0	0	1	0
Buckeye International	660	0	3,300	0	0	1	30	0
Calwind Resources, Inc.	8,710	0	14,616,000	87	19	543	134	0
Cannon Financial Group	69,288	500	93,278,228	0	16	539 *	716	2
Coram Energy Group	11,320	0	21,856,153	0	22	628	283	0
Energy Unlimited, Inc.	9,475	0	19,969,637	80	25	840	129	0
FDIC/Thompson Engineering Fayette	2,890	0	4,480,000	133	18	640	38	0
Fayette	140,949	0	28,554,572	18	3	218	1,399	0
Flowind Corporation	140,040	600	149,464,004	49	12	564 *	863	1
Howden Wind Parks	28,290	0	54,306,635	145	22	835	91	0
Mogul Energy Corporation	3,120	0	2,282,200	42	8	294	80	0
Oak Creek Energy Systems	20,862	0	35,521,456	101	19	497	323	0
Renewable Energy Ventures	17,080	0	22,183,200	51	15	477	376	0
Richard T. Immel Wind Farm	—	—	28,331	—	—	—	—	—
Riverview Ventures	4,360	0	3,991,000	63	13	451	218	0
San Gorgonio Farms	30,085	14,450	83,265,279	76	33	1,135 *	226	36
Sandberg/Section 28 Owners	—	—	47,736,000	—	—	—	—	—
Seawest Energy Group	227,112	60,000	475,186,792	74	25	796 *	1,901	240
Southern California Sunbelt	13,045	1,235	18,521,171	80	19	573 *	163	19
Tera Corporation	8,555	0	3,495,206	8	5	263	145	0
Triad American Energy	—	—	1,260,000	—	—	—	—	—
Triad II Owners Association	7,200	0	1,746,000	17	4	90	90	0
U.S. Windpower	419,700	59,000	784,232,700	93	26	844 *	4,165	590
Westwind Association	16,207	0	36,444,000	93	26	808	172	0
Windfarms Management	—	—	1,352,000	—	—	—	—	—
Windland, Inc.	10,925	3,600	19,857,692	57	22	814 *	109	18
Windmaster	37,300	0	46,915,704	3	14	174	174	0
Windridge	—	—	3,224,000	—	—	—	—	—
Windustries, Inc.	6,720	0	3,378,500	12	6	167	144	0
Wintec, Ltd.	14,730	0	39,110,430	85	30	884	282	0
Zond Systems, Inc.	185,550	22,050	335,370,011	76	21	693 *	2,204	98

7. WPRS DATA

This section of the *WPRS 1990 Annual Report* contains performance data as submitted by wind project operators for four quarters. Wind data is organized by individual resource areas. Operators are listed alphabetically within each resource area.

Project operators are numbered sequentially throughout the WPRS performance data section. For quick access to specific wind industry data, an alphabetical list of wind project operators and participants keyed to these sequential numbers follows.

Section Notes immediately precede performance report data. These notes describe how WPRS data is reported and calculated. Points of clarification and limitations of the data also are discussed.

Appendix A contains a list of turbine manufacturers keyed to sequential numbers assigned to operators and participants. Appendix B contains WPRS Regulations that provide definitions for most wind categories used in this report.

Data contained in the *WPRS 1990 Annual Report* represents project performance results for only a single year. Data from any one year should not be used as the sole basis for evaluating wind project performance.

Alphabetical List of Wind Project Operators and Participants

The following alphabetical list includes all operators and other participants involved in California wind projects reporting 1990 performance data to the WPRS program. The number in parentheses following each operator and other participant refers to the sequential number location in this section.

Alta Mesa	(21D)	Renewable Energy Ventures	(17A)
Altamont American Partners	(1A)	Richard Immel Wind Farm	(13A)
Altamont Energy Corp.	(2A)	Riverview Ventures	(18A-B)
Altamont Midway Ltd.	(7B)	San Gorgonio Farms	(19A)
Altech Energy Ltd.	(7A)	San Gorgonio Wind	(26C)
Altech Energy Ltd., II	(21A)	Sandberg/Sect. 28 Owners	(20A)
Altech Energy Ltd., III	(21B)	Seawest	(7A-G) (21A-D) (37A-B)
Amer. Diversified Wind Partners	(3A)	Southern California Sunbelt	(22A) (38A)
American Power Systems	(15A)	TaxVest Wind Farms	(7E-F)
Arbutus	(29A)	TERA Corp.	(8A)
Birds Landing Power, Inc.	(14A)	Triad II Owners Association	(23A)
Buckeye International	(12A)	Triad American Energy	(39A)
Cal. Wind Energy Systems, CWES	(7C)	U.S. Windpower	(9A-E), (28A)
Calwind Resources, Inc.	(30 A-B)	Viking-Energy 83 Ltd.	(7G)
Cannon Financial Group	(31A-B)	Westwind Association	(24A)
CTV Marketing Group	(32C)	Western Windfarms	(7B)
Coram Energy Group	(32A-D)	Whitewater Ventures Inc.	(18B)
Energy Conversion Technology	(32A,D)	Windfarms Management	(40A)
Energy Unlimited, Inc.	(16A) (33A)	Windland	(41A-B)
FDIC/Thompson Engineering	(3A)	Windmaster	(10A)
Fayette	(4A-K)	Windridge, Inc.	(42A)
Flowind Corp.	(5A-B) (34A-B)	Windustries	(25A)
Forsat, Inc.	(7G)	Wintec, Ltd.	(26A-D)
Grant Line Energy Corp.	(2A)	Zond Systems, Inc.	(11A), (27A-B), (33A)
Howden Wind Parks, Inc.	(6A)		(43A-W)
Mogul Energy Corp.	(35A)		
Natural Resource Ventures	(30A)		
Oak Creek Energy Systems	(36A)		
PanAero Corp.	(27B)		
Phoenix Energy, Ltd.	(21C)		

WIND DATA SECTION NOTES

This section explains methods used to report and calculate performance data. Definitions for most wind data categories used in this section are contained in WPRS regulations (*Appendix B*).

Data missing. Some operators submitted incomplete reporting forms. In these cases, items not completed were assigned a value of "0". Operators who submit reports with missing data are in violation of WPRS regulations.

Failed to File. Commission staff identified wind project operators who did not submit performance data but, according to utility reports, should have participated in the WPRS program. Subsequently, Commission staff notified non-reporting operators by mail of the WPRS requirements. Non-reporting operators who were notified but did not respond or provide an explanation of why they should be exempted were noted as "failed to file."

Electricity Produced. Individual turbine model outputs submitted by wind operators are included for each quarter along with an annual total. An annual total for the entire project follows. Individual turbine model outputs may not always equal total project output because individual turbine production is usually read from meters owned by project operators, while total project output is measured from utility substation meters. Line losses and calibration differences between meters should account for these differences.

The validation status of output data submitted by operators is noted in parentheses next to the quarterly output reported for each turbine model. The designation "V" indicates operator data has been validated either by a match to utility billings submitted by the operator or outputs reported to the Commission by the utility, "NV" indicates operator data has not been validated because it does not match utility billings submitted by the operator or outputs reported by the utility, and "UD" indicates output data has been derived solely from utility data reported to the Commission in the absence of any operator reported data. When project output is based solely on utility data and there is more than one turbine model, data is entered for only the first turbine model and is noted with an asterisk(*), necessary as utility reports do not list output by individual turbine models.

Other Participant(s). In some cases, participants in addition to the listed project operator may be involved in a project. For instance, these participants could include project managers, joint venture partners, and wind developers using another developer's site.

Projected Quarterly Production Per Turbine. The total quarterly projected production for a specific turbine model is determined by multiplying the "Projected Quarterly Production Per Turbine" times the "Cumulative Number of Turbines" for that turbine model. The total quarterly projected production for an entire project is calculated by adding the projected production totals for all turbine models in a project. A comparison of total projected production with total project "Electricity Produced" can indicate how closely a specific project came to achieving projected output. When making this comparison, note that any new capacity would not benefit from a full operational quarter in the first quarter following installation.

Rotor (M²). The diameter of the rotor swept area for each wind turbine allows different wind systems to be compared independently of wind resource area. Theoretically, the power available for any wind turbine is proportional to the square of the diameter of the rotor swept area. Thus, doubling the size of the rotor diameter should increase the power output by a factor of four.

Size (kw). For each turbine model listed, the kw size rating is followed by a miles per hour (mph) specification noted in parentheses. Because there is no standardized rating method, these mph specifications vary widely for different turbine models.

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

1 ALTAMONT-AMERICAN PARTNERS
5755 Oberlin Dr., Suite 200
San Diego, CA 92121

A. Altamont-American Partners	FAILED TO FILE	1	1,920 (UD)
	FAILED TO FILE	2	0 (UD)
	FAILED TO FILE	3	0 (UD)
	FAILED TO FILE	4	0 (UD)

PROJECT TOTAL 1,920

2 ALTAMONT ENERGY CORP.
68 Mitchell Blvd., Suite 205
San Rafael, CA 94903

A. Jess and Souza Ranches	FAILED TO FILE	1	5,735,673 (UD)
	FAILED TO FILE	2	10,463,635 (UD)
Other Participant:	FAILED TO FILE	3	11,823,625 (UD)
Grant Line Energy	FAILED TO FILE	4	7,842,947 (UD)

PROJECT TOTAL 35,865,880

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)		
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.			
<i>ALTAMONT PASS (Alameda & Contra Costa)</i>											
3 F.D.I.C./THOMPSON ENGINEERING											
410 Ericwood Court											
Manteca, CA 95336											
	A.	Wind Farm I	Polenko	(H)	302	100 kw @ 29 mph	1	7,900	0	12	143,900 (V)
							2	50,800	0	12	625,500 (V)
							3	53,600	0	12	785,100 (V)
							4	8,700	0	12	126,500 (V)
							Annual	121,000			1,681,000
			Windmatic	(H)	154	65 kw @ 35 mph	1	6,090	0	26	272,100 (V)
							2	31,125	0	26	1,106,500 (V)
							3	33,375	0	26	1,214,900 (V)
							4	6,840	0	26	205,500 (V)
							Annual	77,430			2,799,000
PROJECT TOTAL											
4,480,000											

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE
P.O. Box 1149
Tracy, CA 95378

A. Castello Windranch	Fayette 95IIS	(H)	95	95 kw @ 37 mph	1	7,000	0	8	0 (V)
					2	64,400	0	8	177,013 (V)
					3	61,600	0	8	179,252 (V)
					4	7,000	0	8	12,782 (V)
					Annual	140,000			369,047
PROJECT TOTAL								369,047	
B. Fayette Wind Farms	Bonus 120/20	(H)	296	120 kw @ 34 mph	1	15,000	0	14	0 (V)
					2	138,000	0	14	1,110,122 (V)
					3	132,000	0	0	0 (V)
					4	15,000	0	0	0 (V)
					Annual	300,000			1,110,122
	Fayette 400KW	(H)	374	400 kw @ 44 mph	1	30,000	0	2	0 (V)
					2	276,000	0	2	0 (V)
					3	264,000	0	2	0 (V)
					4	30,000	0	2	0 (V)
					Annual	600,000			0

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

*NO of Turbine
X Rating*

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

B. Fayette Wind Farms (Cont'd)	Fayette 75IIS	(H)	85	75 kw @	40 mph	1	6,000	0	14	0 (V)
						2	55,200	0	14	25,136 (V)
						3	52,800	0	14	25,346 (V)
						4	6,000	0	14	2,266 (V)
						Annual	----- 120,000			----- 52,748
	Fayette 95IIS	(H)	95	95 kw @	37 mph	1	7,000	0	1,061	0 (V)
						2	64,400	0	1,061	8,835,428 (V)
						3	61,600	0	1,050	10,418,823 (V)
						4	7,000	0	1,050	739,582 (V)
						Annual	----- 140,000			----- 19,993,833
	Micon M110/US	(H)	293	108 kw @	33 mph	1	15,000	0	8	0 (V)
						2	138,000	0	8	0 (V)
						3	132,000	0	0	0 (V)
						4	15,000	0	0	0 (V)
						Annual	----- 300,000			----- 0

PROJECT TOTAL 21,156,703

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

ALTA MONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

C. Rachel I Energy Corp.	Bonus 120/20	(H)	296	120 kw @ 34 mph	1	15,000	0	0	0 (V)
					2	138,000	0	0	0 (V)
					3	132,000	0	14	1,238,303 (V)
					4	15,000	0	14	202,324 (V)
					Annual	300,000			1,440,627
Micon 110/US	(H)	293	108 kw @ 33 mph	1	15,000	0	0	0 (V)	
				2	138,000	0	0	0 (V)	
				3	132,000	0	8	0 (V)	
				4	15,000	0	8	0 (V)	
				Annual	300,000			0	
PROJECT TOTAL								1,440,627	
D. WETA I	Fayette 400KW	(H)	374	400 kw @ 44 mph	1	30,000	0	7	0 (V)
					2	276,000	0	7	0 (V)
					3	264,000	0	7	0 (V)
					4	30,000	0	7	0 (V)
					Annual	600,000			0
PROJECT TOTAL								0	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr. Prod./Turbine (kWh)	Projected Turbines Installed New Cum.	Electricity Produced (kWh)	
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

E. WETA II	Fayette 400KW	(H)	374	400 kw @	44 mph	1	30,000	0	23	0 (V)
						2	276,000	0	23	0 (V)
						3	264,000	0	23	0 (V)
						4	30,000	0	23	0 (V)
						Annual	600,000			0
	Fayette 95IIS	(H)	95	95 kw @	37 mph	1	7,000	0	33	0 (V)
						2	64,400	0	33	53,748 (V)
						3	61,600	0	33	125,796 (V)
						4	7,000	0	33	17,910 (V)
						Annual	140,000			197,454
PROJECT TOTAL									197,454	
F. WETA III	Bonus 120/20	(H)	296	120 kw @	29 mph	1	15,000	0	11	0 (V)
						2	138,000	0	11	874,310 (V)
						3	132,000	0	11	1,000,550 (V)
						4	15,000	0	11	166,149 (V)
						Annual	300,000			2,041,009

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

	F. WETA III (Cont'd)	Fayette 95IIS	(H)	95	95 kw @ 37 mph	1	7,000	0	19	0 (V)
						2	64,400	0	19	50,320 (V)
						3	61,600	0	19	92,072 (V)
						4	7,000	0	19	4,824 (V)
					Annual		140,000			147,216
		Micon M110/US	(H)	293	108 kw @ 33 mph	1	15,000	0	15	0 (V)
						2	138,000	0	15	0 (V)
						3	132,000	0	15	0 (V)
						4	15,000	0	15	0 (V)
					Annual		300,000			0
		PROJECT TOTAL								2,188,225

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

G. Wind Energy Partners I	Fayette 75IIS	(H)	85	75 kw @ 40 mph	1	6,000	0	30	0 (V)
					2	55,200	0	30	137,476 (V)
					3	52,800	0	30	330,934 (V)
					4	6,000	0	30	20,240 (V)
					Annual	120,000			488,650

PROJECT TOTAL 488,650

H. Wind Energy Partners II	Fayette 75IIS	(H)	85	75 kw @ 40 mph	1	6,000	0	78	0 (V)
					2	55,200	0	78	359,186 (V)
					3	52,800	0	78	552,726 (V)
					4	6,000	0	78	37,863 (V)
					Annual	120,000			949,775

PROJECT TOTAL 949,775

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

I.	Wind Energy Partners III	Fayette 75IIS	(H)	85	75 kw @ 40 mph	1	6,000	0	10	0 (V)
						2	55,200	0	10	0 (V)
						3	52,800	0	10	0 (V)
						4	6,000	0	10	0 (V)
						Annual	----- 120,000			----- 0
		Fayette 95IIS	(H)	95	95 kw @ 37 mph	1	7,000	0	23	0 (V)
						2	64,400	0	23	134,832 (V)
						3	61,600	0	23	216,989 (V)
						4	7,000	0	23	19,094 (V)
						Annual	----- 140,000			----- 370,915
PROJECT TOTAL									370,915	
J.	Windranch Partners I	Fayette 95IIS	(H)	95	95 kw @ 37 mph	1	7,000	0	17	0 (V)
						2	64,400	0	17	107,935 (V)
						3	61,600	0	17	296,524 (V)
						4	7,000	0	17	18,356 (V)
						Annual	----- 140,000			----- 422,815
PROJECT TOTAL									422,815	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

4 FAYETTE (Cont'd)

K.	Windranch Partners II	Fayette 95IIS	(H)	95	95 kw @ 37 mph	1	7,000	0	37	0 (V)
						2	64,400	0	37	225,308 (V)
						3	61,600	0	37	690,738 (V)
						4	7,000	0	37	54,315 (V)
						Annual	140,000			970,361

PROJECT TOTAL **970,361**

5 FLOWIND CORPORATION

1183 Quarry Lane
Pleasanton, CA 94566

A.	FloWind I (Dyer Road)	Flowind 17	(V)	260	143 kw @ 44 mph	1	17,357	0	75	1,176,788 (V)
						2	68,169	0	75	3,877,933 (V)
						3	51,808	0	75	3,870,401 (V)
						4	15,447	0	75	901,302 (V)
						Annual	152,781			9,826,424

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

5 FLOWIND CORPORATION (Cont'd)

A. FloWind I (Dyer Road) (Cont'd)	Flowind 19	(V)	340	250 kw @ 38 mph	1	30,717	0	1	19,468 (V)
					2	120,642	0	1	77,218 (V)
					3	91,688	0	1	81,659 (V)
					4	27,338	0	1	27,351 (V)
					Annual	----- 270,385			----- 205,696
PROJECT TOTAL								10,032,120	
B. FloWind II (Elworthy)	Bonus Mark II	(H)	302	119 kw @ 29 mph	1	37,854	0	225	2,529,729 (V)
					2	126,459	0	225	4,025,455 (V)
					3	138,986	0	225	28,866,831 (V)
					4	37,486	0	225	7,128,442 (V)
					Annual	----- 340,785			----- 42,550,457
	Bonus Mark III	(H)	415	150 kw @ 29 mph	1	54,224	0	100	1,767,309 (V)
					2	171,710	0	100	2,188,637 (V)
					3	176,229	0	100	16,807,141 (V)
					4	49,705	0	100	4,537,501 (V)
					Annual	----- 451,868			----- 25,300,588

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)				

ALTAMONT PASS (Alameda & Contra Costa)

5 FLOWIND CORPORATION (Cont'd)

B. FloWind II (Elworthy) (Cont'd)	Danwin H19	(H)	284	110 kw @ 30 mph	1	31,325	0	25	262,774 (V)
					2	108,504	0	25	283,616 (V)
					3	120,401	0	25	1,044,007 (V)
					4	32,207	0	25	210,270 (V)
					Annual	----- 292,437			----- 1,800,667
	Flowind F17	(V)	260	142 kw @ 44 mph	1	23,957	0	73	223,623 (V)
					2	107,527	0	73	655,068 (V)
					3	113,070	0	73	3,915,799 (V)
					4	24,342	0	73	671,424 (V)
					Annual	----- 268,896			----- 5,465,914
	Flowind F19	(V)	340	250 kw @ 38 mph	1	39,619	0	19	47,765 (V)
					2	187,009	0	19	169,624 (V)
					3	190,559	0	19	1,458,222 (V)
					4	40,134	0	19	354,763 (V)
					Annual	----- 457,321			----- 2,030,374

PROJECT TOTAL 77,148,000

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

6 HOWDEN WIND PARKS, INC.
6400 Village Parkway
Dublin, CA 94549

A.	Howden Wind Park I	Howden 330/33	(H)	756	330 kw @ 34 mph	1	88,317	0	82	4,946,400 (NV)
						2	16,524,000	0	82	21,052,100 (NV)
						3	19,941,000	0	82	19,268,875 (NV)
						4	7,293,000	0	82	4,923,923 (NV)
						Annual	43,846,317			50,191,298
		Howden 60/15	(H)	177	60 kw @ 34 mph	1	14,796	0	10	397,440 (NV)
						2	40,284	0	10	1,644,816 (NV)
						3	38,556	0	8	1,540,416 (NV)
						4	14,364	0	8	16,224 (NV)
						Annual	108,000			3,598,896
		Howden 750/45	(H)	1,590	750 kw @ 34 mph	1	161,660	0	1	0 (NV)
						2	440,140	0	1	175,140 (NV)
						3	421,260	0	1	250,005 (NV)
						4	156,940	0	1	91,296 (NV)
						Annual	1,180,000			516,441

PROJECT TOTAL	54,306,635
----------------------	-------------------

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine	Turbines Installed	Electricity Produced	
		Model	Axis Rotor (M2)	Size (kW)			(kWh)	New Cum. (kWh)

ALTAMONT PASS (Alameda & Contra Costa)

7 SEAWEST ENERGY GROUP

1455 Frazee Road, Suite 300

San Diego, CA 92108

	A. Altech Energy, Ltd.	Enertech 44/40	(H)	140	40 kw @ 30 mph	1	9,700	0	144	1,135,424 (V)
	Other Participants:					2	30,900	0	144	3,611,808 (V)
	Altamont Midway, Ltd.					3	30,300	0	144	4,165,829 (V)
	Altech Energy, Ltd.					4	9,100	0	144	725,174 (V)
	C.W.E.S.									
	Forsat, Inc.									
	TaxVest Wind Farms									
	Western Windfarms									
						Annual	80,000			9,638,235
										PROJECT TOTAL
										9,638,235
	B. Astroseal, Battlement	Micon 65/13	(H)	200	65 kw @ 30 mph	1	13,700	0	8	49,741 (V)
						2	43,600	0	8	272,806 (V)
						3	42,900	0	8	224,463 (V)
						4	12,800	0	8	58,961 (V)
						Annual	113,000			605,971
										PROJECT TOTAL
										605,971

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

7 SEAWEST ENERGY GROUP (Cont'd)

C.	C.W.E.S.	ESI 54	(H)	211	50 kw @ 30 mph	1	9,800	0	30	301,959 (V)
						2	31,300	0	30	800,084 (V)
						3	30,700	0	30	954,625 (V)
						4	9,200	0	30	204,456 (V)
						Annual	81,000			2,261,124

PROJECT TOTAL 2,261,124

D.	Seawest Energy Group, Inc.	Micon 60/13	(H)	200	60 kw @ 33 mph	1	15,100	0	1	17,839 (V)
						2	47,800	0	1	51,153 (V)
						3	47,000	0	1	37,070 (V)
						4	14,100	0	1	0 (V)
						Annual	124,000			106,062

PROJECT TOTAL 106,062

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

7 SEAWEST ENERGY GROUP (Cont'd)

E.	TaxVest Wind Farms, Inc. II	Micon 60/13	(H)	200	60 kw @ 33 mph	1	13,700	0	11	10,419 (V)
						2	43,600	0	11	37,239 (V)
						3	42,900	0	11	40,910 (V)
						4	12,800	0	11	7,990 (V)
						Annual	113,000			96,558

PROJECT TOTAL 96,558

F.	Taxvest Windfarm 174	Micon 60/13	(H)	200	60 kw@ 33 mph	1	13,700	0	174	121,301 (V)
						2	43,600	0	174	1,829,702 (V)
						3	42,900	0	174	3,821,342 (V)
						4	12,800	0	174	1,348,868 (V)
						Annual	113,000			7,121,213

PROJECT TOTAL 7,121,213

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

7 SEA WEST ENERGY GROUP (Cont'd)

G.	Viking-Energy 83	Micon 60/13	(H)	200	60 kw@ 33 mph	1	14,300	0	26	320,085 (V)
						2	45,500	0	26	872,846 (V)
						3	44,800	0	26	0 (V)
						4	13,400	0	26	180,078 (V)
						Annual	118,000			1,373,009

PROJECT TOTAL 1,373,009

8 TERA CORPORATION
1288 W. 11th Street, Suite 115
Tracy, CA 95376

A.	Delta Energy Project (Delta I-III)	ESI 54	(H)	211	50 kw @ 30 mph	1	42,400	0	58	24,726 (NV)
						2	63,600	0	58	176,699 (NV)
						3	63,600	0	58	155,508 (NV)
						4	42,400	0	58	16,038 (NV)
						Annual	212,000			372,971

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)	Size (kW)			

ALTAMONT PASS (Alameda & Contra Costa)

8 TERA CORPORATION (Cont'd)

A.	Delta Energy Project (Delta I-III) (Cont'd)	ESI 54S	(H)	211	65 kw @ 30 mph	1	46,400	0	87	294,044 (NV)
						2	69,600	0	87	1,282,221 (NV)
						3	69,600	0	87	1,356,187 (NV)
						4	46,400	0	87	189,783 (NV)
						Annual	----- 232,000			----- 3,122,235

PROJECT TOTAL 3,495,206

9 U.S. WINDPOWER

6952 Preston Ave.
Livermore, CA 94550

A.	Dyer Road	USW 56-100	(H)	247	100 kw @ 29 mph	1	21,000	0	418	10,656,800 (V)
						2	81,900	0	418	35,495,600 (V)
						3	86,100	0	418	41,358,800 (V)
						4	21,000	42	460	8,536,613 (V)
						Annual	----- 210,000			----- 96,047,813

PROJECT TOTAL 96,047,813

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

9 U.S.WINDPOWER (Cont'd)

B. Frick		USW 56-100	(H)	247	100 kw @ 29 mph	1	21,000	0	100	2,839,200 (V)
						2	81,900	0	100	7,986,717 (V)
						3	86,100	0	100	7,798,560 (V)
						4	21,000	0	100	2,073,714 (V)
						Annual	----- 210,000			----- 20,698,191
PROJECT TOTAL									20,698,191	
C. Midway Road (Patterson Pass Road)		USW 56-100	(H)	247	100 kw @ 29 mph	1	21,000	0	1,339	36,797,854 (V)
						2	81,900	0	1,339	106,620,316 (V)
						3	86,100	0	1,339	113,156,666 (V)
						4	21,000	62	1,401	26,236,943 (V)
						Annual	----- 210,000			----- 282,811,779
		WEG MS-2	(H)	491	250 kw @ 33 mph	1	62,454	0	20	1,630,580 (V)
						2	256,065	0	20	1,850,455 (V)
						3	237,329	0	20	4,660,326 (V)
						4	68,700	0	20	1,165,113 (V)
						Annual	----- 624,548			----- 9,306,474

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification					Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis	Rotor (M2)	Size (kW)			New	Cum.	
<u>ALTAMONT PASS (Alameda & Contra Costa)</u>										
9 U.S.WINDPOWER (Cont'd)										
C.	Midway Road (Patterson Pass Road) (Cont'd)	WEG MS-3	(H)	855	300 kw @ 26 mph	1	0	0	1	66,621 (V)
						2	0	0	1	73,749 (V)
						3	336,000	0	1	127,799 (V)
						4	84,000	0	1	27,381 (V)
						Annual	420,000			295,550
PROJECT TOTAL									292,413,803	
D.	Ralph	USW 56-100	(H)	247	100 kw @ 29 mph	1	21,000	20	763	25,804,800 (V)
						2	81,900	0	763	68,999,999 (V)
						3	86,100	0	763	77,904,000 (V)
						4	21,000	46	809	19,561,880 (V)
						Annual	210,000			192,270,679
PROJECT TOTAL									192,270,679	
E.	Vasco Road	USW 56-100	(H)	247	100 kw @ 29 mph	1	21,000	0	774	13,024,800 (V)
						2	81,900	0	774	47,379,601 (V)
						3	86,100	0	774	57,698,000 (V)
						4	21,000	0	774	11,361,600 (V)
						Annual	210,000			129,464,001
PROJECT TOTAL									129,464,001	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification					Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis	Rotor (M2)				Size (kW)	New	
<u>ALTAMONT PASS (Alameda & Contra Costa)</u>										
10 WINDMASTER P.O. Box 669 Byron, CA 94514										
	A. Windmaster	HMZ 200kw	(H)	373	200 kw @ 33 mph	1	3,228,283	0	139	3,228,283 (V)
						2	15,068,786	0	139	15,181,192 (V)
						3	15,955,411	0	139	17,631,867 (V)
						4	3,746,086	0	139	3,588,511 (V)
						Annual	37,998,566			39,629,853
		HMZ 250kw	(H)	415	250 kw @ 33 mph	1	446,016	0	20	446,016 (V)
						2	2,813,966	0	20	1,605,510 (V)
						3	2,979,535	0	20	399,950 (V)
						4	699,549	0	20	1,817 (V)
						Annual	6,939,066			2,453,293
		HMZ 300kw	(H)	483	300 kw @ 33 mph	1	502,742	0	15	502,742 (V)
						2	2,532,569	0	15	2,050,886 (V)
						3	2,681,582	0	15	1,991,362 (V)
						4	629,594	0	15	287,568 (V)
						Annual	6,346,487			4,832,558
PROJECT TOTAL										46,915,704

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

ALTAMONT PASS (Alameda & Contra Costa)

11 ZOND SYSTEMS, INC.
112 South Curry Street
Tehachapi, CA 93561

A.	1985 Zond Windsystem Partners Series 85C	Vestas 17	(H)	227	90 kw @ 35 mph	1	23,626	0	200	4,593,545 (V)
						2	84,136	0	200	13,419,900 (V)
						3	96,975	0	200	15,708,242 (V)
						4	28,263	0	200	3,633,300 (V)
						Annual	233,000			37,354,987

PROJECT TOTAL **37,354,987**

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)		
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.			
<i><u>BOULEVARD (San Diego)</u></i>										
12 BUCKEYE INTERNATIONAL 1455 Frazee Rd., Suite 300 San Diego, CA 92108										
A.	California Wind Energy, Ltd.	Micon 22	(H)	78	22 kw @ 37 mph	1	12,100	0	30	0 (V)
						2	11,000	0	30	0 (V)
						3	5,800	0	30	0 (V)
						4	8,300	0	30	3,300 (V)
						Annual	----- 37,200			----- 3,300
PROJECT TOTAL								3,300		
13 RICHARD T. IMMEL WIND FARM 3911 Via Del Campo San Clemente, CA 92672										
A.	Immel Wind Farm	Enertech 44/25	(H)	137	25 kw @ 30 mph	1	0	0	6	16,803 (V)
						2	0	0	6	8,580 (V)
						3	0	0	6	1,234 (V)
						4	FAILED TO FILE			1,714 (UD)
						Annual	----- 0			----- 28,331
PROJECT TOTAL								28,331		

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

CARQUINEZ STRAIT (Solano & Contra Costa)

14 BIRDS LANDING POWER, INC.
 (formerly Wind Generator Parks, Inc.)
 7 Wolfback Ridge Road
 Sausalito, CA 94965

A.	Wind Generator Park	Carter 250	(H)	332	250 kw @ 42 mph	1	0	0	1	0 (NV)
						2	0	0	1	0 (NV)
						3	0	0	1	0 (NV)
						4	0	0	1	0 (NV)
						Annual	-----	0	-----	0

PROJECT TOTAL 0

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected	Turbines Installed		Electricity		
		Model	Axis	Rotor		Size	Qtr. Prod./Turbine	New	Cum.	Produced	
				(M2)	(kW)	(kWh)			(kWh)		
<i>SAN GORGONIO PASS (Riverside)</i>											
15 AMERICAN POWER SYSTEMS, INC.											
P.O. Box 2007											
Rancho Mirage, CA 92270											
A.	WECS 33	Jacobs 26	(H)	49	18 kw @	27 mph	1	10,346	0	16	97,516 (NV)
	Jacoby-Kerr Wind Park	17.5 @ 120'					2	20,777	0	16	261,300 (NV)
							3	16,416	0	16	171,426 (V)
							4	8,037	0	16	65,121 (V)
							Annual	55,576			595,363
		Jacobs 26	(H)	49	18 kw @	27 mph	1	9,491	0	134	740,347 (NV)
		17.5 @ 80'					2	19,836	0	134	1,962,082 (NV)
							3	15,646	0	134	568,279 (V)
							4	7,182	0	134	473,020 (V)
							Annual	52,155			3,743,728
		Jacobs 29-20	(H)	61	20 kw @	27 mph	1	12,277	0	54	423,279 (NV)
							2	25,565	0	54	687,694 (NV)
							3	19,323	0	54	1,292,823 (V)
							4	9,662	0	54	210,794 (V)
							Annual	66,827			2,614,590
PROJECT TOTAL											
6,953,681											

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

16 ENERGY UNLIMITED, INC.

1 Aldwyn Center
Villanova, PA 19085

A.	Mountain Pass '85 Ltd.	Bonus 120	(H)	302	120 kw @ 40 mph	1	57,500	0	38	2,187,898 (V)
						2	133,800	0	38	4,724,618 (V)
						3	84,900	0	38	2,685,327 (V)
						4	38,800	0	38	1,201,072 (V)
						Annual	315,000			10,798,915
		Bonus 65/13	(H)	181	65 kw @ 40 mph	1	20,500	0	66	1,852,102 (V)
						2	72,000	0	66	4,122,982 (V)
						3	43,000	0	66	2,175,873 (V)
						4	24,500	0	66	1,014,928 (V)
						Annual	160,000			9,165,885

PROJECT TOTAL	19,964,800
----------------------	-------------------

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

SAN GORGONIO PASS (Riverside)

17 RENEWABLE ENERGY VENTURES
P.O. Box 742
North Palm Springs, CA 92258

A.	REV Wind Power Partners	ESI 54-S	(H)	216	80 kw @ 40 mph	1	38,200	0	168	2,152,152 (V)
						2	81,100	0	168	6,628,522 (V)
						3	63,500	0	168	4,311,380 (V)
						4	28,300	0	168	2,875,104 (V)
						Annual	211,100			15,967,158
		Jacobs 26-17.5	(H)	49	18 kw @ 27 mph	1	9,500	0	208	879,048 (V)
						2	19,800	0	208	2,616,278 (V)
						3	15,600	0	208	1,736,620 (V)
						4	7,200	0	208	984,096 (V)
						Annual	52,100			6,216,042

PROJECT TOTAL 22,183,200

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)			
		Model	Axis Rotor (M2)	Size (kW)						
<i>SAN GORGONIO PASS (Riverside)</i>										
18 RIVERVIEW VENTURES 19020 North Indian Avenue North Palm Springs, CA 92258										
A.	RVI Windpark	Jacobs 20	(H)	50	20 kw @ 27 mph	1	8,634	0	177	782,200 (V)
						2	16,166	0	177	1,591,200 (V)
						3	12,394	0	177	1,154,400 (V)
						4	2,806	0	177	463,200 (V)
						Annual	40,000			3,991,000
						PROJECT TOTAL				3,991,000
	B.	WVI Windpark	(H)	50	20 kw @ 27 mph	1	8,634	0	41	0 (V)
						2	16,166	0	41	0 (V)
						3	12,394	0	41	0 (V)
						4	2,806	0	41	0 (V)
						Annual	40,000			0
						PROJECT TOTAL				0

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

SAN GORGONIO PASS (Riverside)

19 SAN GORGONIO FARMS
21515 Hawthorne Blvd., Suite 1059
Torrance, CA 90503

A.	San Gorgonio Farms Wind Park	Bonus 100	(H)	294	100 kw @ 28 mph	1	62,400	0	55	3,260,300 (V)
						2	146,520	0	55	8,386,970 (V)
						3	141,160	0	55	5,460,715 (V)
						4	49,920	0	55	2,217,410 (V)
						Annual	----- 400,000			----- 19,325,395
		Bonus 120	(H)	294	120 kw @ 40 mph	1	68,640	0	1	72,520 (V)
						2	161,172	0	1	113,101 (V)
						3	155,276	0	1	117,742 (V)
						4	54,912	0	1	52,255 (V)
						Annual	----- 440,000			----- 355,618
		Bonus 450	(H)	0	450 kw @ 30 mph	1	187,200	0	0	0 (V)
						2	439,560	1	1	263,480 (V)
						3	423,480	0	1	380,080 (V)
						4	149,760	0	1	151,040 (V)
						Annual	----- 1,200,000			----- 794,600

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

SAN GORGONIO PASS (Riverside)

19 SAN GORGONIO FARMS (Cont'd)

A. San Gorgonio Farms Wind Park (Cont'd)	Bonus 65	(H)	177	65 kw @ 33 mph	1	43,680	0	81	2,487,227 (V)
					2	102,564	0	81	6,764,598 (V)
					3	98,812	0	81	4,472,781 (V)
					4	34,944	0	81	1,905,996 (V)
					Annual	280,000			15,630,602
	Floda 500	(H)	1,018	500 kw @ 31 mph	1	218,400	0	3	364,320 (V)
					2	512,820	0	3	863,401 (V)
					3	494,060	0	3	624,719 (V)
					4	174,720	0	3	121,803 (V)
					Annual	1,400,000			1,974,243

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)	
		Model	Axis	Rotor (M2)			Size (kW)	New		Cum.
<i><u>SAN GORGONIO PASS (Riverside)</u></i>										
19 SAN GORGONIO FARMS (Cont'd)										
A.	San Gorgonio Farms Wind Park (Cont'd)	Micon 65	(H)	177	65 kw @ 33 mph	1	43,680	0	50	1,237,365 (V)
						2	102,564	0	50	3,559,288 (V)
						3	98,812	0	50	2,327,098 (V)
						4	34,944	0	50	1,135,455 (V)
						Annual	280,000		50	8,259,206
		Windane 34	(H)	908	400 kw @ 30 mph	1	171,600	35	35	5,174,580 (V)
						2	402,930	0	35	11,746,728 (V)
						3	388,190	0	35	13,607,338 (V)
						4	137,280	0	35	6,396,969 (V)
						Annual	1,100,000		35	36,925,615
PROJECT TOTAL								83,265,279		

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

20 SANDBERG/SECTION 28 OWNERS' ASSOCIATION
 1000 N. Farrell Dr., #404
 Palm Springs, CA 92262

A. Ventus Wind Park	FAILED TO FILE	1			4,596,000 (UD)
	FAILED TO FILE	2			20,820,000 (UD)
	FAILED TO FILE	3			15,336,000 (UD)
	FAILED TO FILE	4			6,984,000 (UD)

PROJECT TOTAL 47,736,000

21 SEAWEST ENERGY GROUP
 1455 Frazee Rd., Suite 300
 San Diego, CA 92108

A. Altech Energy Ltd. II	Enertech 44/40	(H)	141	40 kw @ 30 mph	1	24,300	0	85	78,440 (V)
					2	56,100	0	85	0 (V)
					3	38,200	0	85	138,000 (V)
					4	15,500	0	85	672,000 (V)

Annual ----- 134,100 ----- 888,440

PROJECT TOTAL 888,440

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed New	Electricity Produced Cum. (kWh)
		Model	Axis (M2)	Rotor (kW)				

SAN GORGONIO PASS (Riverside)

21 SEAWEST ENERGY GROUP (Cont'd)

B. Altech Energy Ltd. III	Micon 100/US	(H)	283	108 kw @	30 mph	1	53,500	0	268	9,575,774 (V)					
						2	160,200	0	268	31,014,742 (V)					
						3	108,900	0	268	18,131,501 (V)					
						4	41,400	0	268	5,713,753 (V)					
						Annual	----- 364,000			----- 64,435,770					
						Micon 60	(H)	201	60 kw @	30 mph	1	32,200	0	53	1,080,227 (V)
											2	79,900	0	53	3,665,258 (V)
											3	52,700	0	53	1,980,499 (V)
											4	22,200	0	53	5,742,247 (V)
											Annual	----- 187,000			----- 12,468,231
PROJECT TOTAL									76,904,001						
C. Phoenix Energy Associates Other Participant: Phoenix Energy, Ltd.	Enertech 44/40	(H)	140	40 kw @	30 mph	1	27,283	0	90	152,713 (V)					
						2	59,388	0	90	0 (V)					
						3	42,988	0	90	653,661 (V)					
						4	17,331	0	90	854,971 (V)					
						Annual	----- 146,990			----- 1,661,345					

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr. Prod./Turbine (kWh)	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

SAN GORGONIO PASS (Riverside)

21 SEAWEST ENERGY GROUP (Cont'd)

	C. Phoenix Energy Associates (Cont'd)	Micon 60/13	(H)	200	60 kw @ 33 mph	1	41,574	0	130	3,633,287 (V)
						2	90,496	0	130	10,688,914 (V)
						3	65,520	0	130	7,298,433 (V)
						4	26,410	0	130	2,337,574 (V)
						Annual	----- 224,000			----- 23,958,208
							PROJECT TOTAL			25,619,553
	D. Swanmill Farms I/Farms II	Danwin 23	(H)	415	160 kw @ 29 mph	1	110,440	0	117	9,071,700 (V)
Other Participant: Alta Mesa						2	170,680	0	117	21,304,000 (V)
						3	125,500	0	117	13,456,000 (V)
						4	95,380	0	117	7,424,000 (V)
						Annual	----- 502,000			----- 51,255,700
							PROJECT TOTAL			51,255,700

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification					Projected		Turbines		Electricity Produced (kWh)
		Model	Axis	Rotor (M2)	Size (kW)		Qtr. Prod./Turbine (kWh)	Installed	New Cum.		
<i>SAN GORGONIO PASS (Riverside)</i>											
22 SOUTHERN CALIFORNIA SUNBELT											
701 S. Parker St., Suite 7300											
Orange, CA 92668											
A. Palm Springs Wind Park (Edom Hill)	Starwind	(H)	0	125 kw @	0 mph	1	0	0	5	0 (V)	
						2	0	0	4	0 (V)	
						3	0	0	0	0 (NV)	
						4	0	0	0	0 (V)	
						Annual	-----		0	-----	
	Wenco	(H)	0	200 kw @	0 mph	1	0	0	14	0 (V)	
						2	0	0	13	0 (V)	
						3	0	0	0	0 (NV)	
						4	0	0	0	0 (V)	
						Annual	-----		0	-----	
	Windmatic 15S	(H)	189	65 kw @	32 mph	1	28,061	0	64	1,299,906 (V)	
						2	57,957	0	64	4,683,903 (V)	
						3	47,453	9	73	2,230,079 (NV)	
						4	20,590	10	83	1,415,907 (V)	
						Annual	-----		154,061	-----	
	PROJECT TOTAL										9,629,795

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

23 TRIAD II OWNERS ASSOCIATION
6506 Halm Avenue
Los Angeles, CA 90056

A.	Triad II Windpark	ESI 54S	(H)	216	80 kw@ 40 mph	1	22,900	0	0	0 (V)
						2	48,600	90	90	726,000 (V)
						3	38,100	0	90	888,000 (V)
						4	16,900	0	90	132,000 (V)
						Annual	126,500			1,746,000

PROJECT TOTAL 1,746,000

24 WESTWIND ASSOCIATION
19020 North Indian Avenue
North Palm Springs, CA 92258

A.	Westwind Association Windpark	Micon 108	(H)	293	108 kw @ 33 mph	1	50,893	0	13	541,279 (V)
						2	112,031	0	13	1,183,696 (V)
						3	91,002	0	13	677,429 (V)
						4	7,450	0	13	332,470 (V)
						Annual	261,376			2,734,874

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis (M2)	Rotor (kW)			Size (kW)	New	

SAN GORGONIO PASS (Riverside)

24 WESTWIND ASSOCIATION (Cont'd)

A. Westwind Association Windpark (Cont'd)	Micon 65	(H)	200	65 kw @ 33 mph	1	38,170	0	46	1,354,881 (V)
					2	84,023	0	46	3,519,674 (V)
					3	68,252	0	46	1,983,707 (V)
					4	19,555	0	46	996,214 (V)
					Annual	----- 210,000			----- 7,854,476
	Nordtank 65	(H)	201	65 kw @ 34 mph	1	38,170	0	13	378,129 (V)
					2	84,023	0	13	996,137 (V)
					3	68,252	0	13	483,836 (V)
					4	19,555	0	13	238,796 (V)
					Annual	----- 210,000			----- 2,096,898
	Wincon 108	(H)	293	108 kw @ 33 mph	1	47,940	0	16	549,499 (V)
					2	124,080	0	16	1,817,971 (V)
					3	64,860	0	16	924,274 (V)
					4	45,120	0	16	434,087 (V)
					Annual	----- 282,000			----- 3,725,831

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis	Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

24 WESTWIND ASSOCIATION (Cont'd)

A.	Westwind Association Windpark (Cont'd)	Wincon 110	(H)	295	110 kw @ 33 mph	1	47,940	0	84	3,392,212 (V)
						2	124,080	0	84	9,210,522 (V)
						3	64,860	0	84	4,990,754 (V)
						4	45,120	0	84	2,438,433 (V)
						Annual	282,000			20,031,921

PROJECT TOTAL 36,444,000

25 WINDUSTRIES, INC.

P.O. Box 913
North Palm Springs, CA 92258

A.	Windustries I	Enertech 44/40	(H)	141	40 kw @ 30 mph	1	23,500	0	96	389,800 (V)
						2	58,700	0	96	1,142,280 (V)
						3	45,500	0	96	431,000 (V)
						4	20,300	0	96	13,000 (V)
						Annual	148,000			1,976,080

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

25 WINDUSTRIES, INC. (Cont'd)

A.	Windustries I (Cont'd)	Enertech 44/60	(H)	141	60 kw @ 35 mph	1	28,900	0	48	202,700 (V)
						2	78,800	0	48	861,720 (V)
						3	58,400	0	48	338,000 (V)
						4	24,600	0	48	0 (V)
						Annual	190,700			1,402,420

PROJECT TOTAL 3,378,500

26 WINTEC, LTD.

P.O. Box 457
N. Palm Springs, CA 92258

A.	Wintec Cahuilla Windpark	Nordtank 65	(H)	201	65 kw @ 34 mph	1	45,326	0	72	2,939,319 (V)
						2	84,871	0	72	6,106,018 (V)
						3	65,071	0	72	4,040,260 (V)
						4	14,732	0	72	1,207,382 (V)
						Annual	210,000			14,292,979

PROJECT TOTAL 14,292,979

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected	Turbines Installed		Electricity	
		Model	Axis	Rotor		Size	Prod./Turbine	New	Cum.	Produced
						(kWh)			(kWh)	
			(M2)							
						(kW)				
<u>SAN GORGONIO PASS (Riverside)</u>										
26 WINTEC, LTD. (Cont'd)										
	D. Wintec Palm Windpark	Micon 65	(H)	200	65 kw @ 33 mph	1	45,326	0	30	1,139,704 (V)
						2	84,871	0	30	2,339,581 (V)
						3	65,071	0	30	1,549,829 (V)
						4	14,732	0	30	492,304 (V)
						Annual	210,000			5,521,418
		Nordtank 65	(H)	201	65 kw @ 34 mph	1	45,326	0	4	150,977 (V)
						2	84,871	0	4	296,401 (V)
						3	65,071	0	4	205,912 (V)
						4	14,732	0	4	58,314 (V)
						Annual	210,000			711,604
PROJECT TOTAL									16,369,422	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

SAN GORGONIO PASS (Riverside)

27 ZOND SYSTEMS, INC.
112 South Curry
Tehachapi, CA 93561

A.	Painted Hills "B" & "C"	Vestas 15	(H)	184	65 kw @ 35 mph	1	40,471	0	61	1,544,542 (V)	
						2	84,861	0	61	4,004,797 (V)	
						3	59,410	0	61	2,586,335 (V)	
						4	28,036	0	61	1,129,891 (V)	
						Annual	212,778			9,265,565	
		Vestas 17	(H)	227	90 kw @ 45 mph	1	47,658	0	170	6,420,535 (V)	
						2	99,672	0	170	15,792,498 (V)	
						3	69,960	0	170	9,225,273 (V)	
						4	33,015	0	170	4,199,747 (V)	
						Annual	250,305			35,638,053	
									PROJECT TOTAL		44,903,618

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			
<i>SAN GORGONIO PASS (Riverside)</i>							
27 ZOND SYSTEMS, INC. (Cont'd)							
B.	Zond-PanAero Windsystems	Vestas 15	(H) 184	65 kw @ 35 mph	1	460	10,536,596 (V)
					2	460	22,583,125 (V)
					3	460	15,385,939 (V)
					4	460	8,698,223 (V)
					Annual	247,707	57,203,883
PROJECT TOTAL							57,203,883

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			
<u>SOLANO (SOLANO)</u>							
28 U.S. WINDPOWER 6952 Preston Ave. Livermore, CA 94550							
A.	Russell	USW 56-100	(H)	247	100 kW@ 29 mph	1	21,000 105 285 2,006,400 (V)
						2	81,900 0 285 19,310,400 (V)
						3	86,100 0 285 26,083,200 (V)
						4	21,000 315 600 5,938,213 (V)
						Annual	----- 210,000 ----- 53,338,213
PROJECT TOTAL							53,338,213

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)	
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.		
<u>TEHACHAPI PASS (Kern)</u>										
29 ARBUTUS 2691 Richer Ave., #114 Irvine, CA 92714										
	A.	Pajuela Peak Wind Park	Bonus 65	(H) 225	65 kw @ 45 mph	1	40,500	0	231	5,817,980 (V)
						2	60,750	0	231	10,186,301 (V)
						3	45,600	0	231	6,387,530 (V)
						4	55,650	0	231	5,354,729 (V)
						Annual	202,500			27,746,540
			Windane 14	(H) 144	40 kw @ 30 mph	1	0	0	14	74,020 (V)
						2	0	0	14	109,699 (V)
						3	0	0	14	67,765 (V)
						4	0	0	14	31,461 (V)
						Annual	0			282,945
			Windtech 75	(H) 250	75 kw @ 35 mph	1	0	0	5	0 (V)
						2	0	0	5	0 (V)
						3	0	0	5	72,705 (V)
						4	0	0	5	61,810 (V)
						Annual	0			134,515
PROJECT TOTAL										28,164,000

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

TEHACHAPI PASS (Kern)

30 CALWIND RESOURCES, INC.
23241 Ventura Blvd., Suite 216
Woodland Hills, CA 91364

A.	Natural Resource Ventures (Wind Resource I)	Nordtank 65/13	(H)	201	65 kw @ 35 mph	1	24,500	0	20	392,836 (NV)
						2	36,500	0	20	655,234 (V)
						3	21,200	0	20	350,594 (V)
						4	17,800	0	20	269,841 (V)
						Annual	100,000			1,668,505

PROJECT TOTAL 1,668,505

B.	Calwind Resources Inc. (Wind Resource I)	Nordtank 65/13	(H)	201	65 kw @ 35 mph	1	28,400	0	114	2,239,164 (NV)
						2	41,760	0	114	5,264,766 (V)
						3	28,320	0	114	3,157,406 (V)
						4	21,480	0	114	2,286,159 (V)
						Annual	119,960			12,947,495

PROJECT TOTAL 12,947,495

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Qtr.	Projected Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

TEHACHAPI PASS (Kern)

31 CANNON FINANCIAL GROUP
6920 Miramar Rd., Suite 304
San Diego, CA 92121

A.	Cameron Ridge Windpark	Bouma 200	(H)	314	135 kw @ 40 mph	1	0	0	36	1,227,738 (V)
						2	0	0	36	1,292,464 (V)
						3	0	0	36	1,025,614 (V)
						4	0	0	36	447,786 (V)
					Annual	450,000			3,993,602	
		CT-9000	(H)	117	100 kw @ 37 mph	1	0	0	44	24,895 (V)
						2	0	0	44	0 (V)
						3	0	0	44	43,070 (V)
						4	0	0	44	54,591 (V)
					Annual	266,000			122,556	
		Micon 108	(H)	284	108 kw @ 33 mph	1	0	0	3	258,005 (V)
						2	0	0	3	451,226 (V)
						3	0	0	3	292,581 (V)
						4	0	0	3	179,228 (V)
					Annual	388,000			1,181,040	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)	New		Cum.		

TEHACHAPI PASS (Kern)

31 CANNON FINANCIAL GROUP (Cont'd)

A. Cameron Ridge Windpark (Cont'd)	Nordtank 150	(H)	330	150 kw @ 42 mph	1	0	0	102	7,471,066 (V)
					2	0	0	102	12,738,004 (V)
					3	0	0	102	8,340,892 (V)
					4	0	0	102	4,361,043 (V)
					Annual	-----	520,000	-----	32,911,005
	Nordtank 65/136	(H)	201	65 kw @ 35 mph	1	0	0	50	1,146,557 (V)
					2	0	0	50	1,840,740 (V)
					3	0	0	50	1,141,068 (V)
					4	0	0	50	646,881 (V)
					Annual	-----	190,000	-----	4,775,246
	Nordtank 90/16.6	(H)	216	75 kw @ 42 mph	1	0	0	340	8,970,055 (V)
					2	0	0	340	11,596,315 (V)
					3	0	0	340	9,918,325 (V)
					4	0	0	340	4,091,546 (V)
					Annual	-----	276,000	-----	34,576,241
PROJECT TOTAL								77,559,690	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)	
		Model	Axis (M2)	Rotor (kW)			Size	New		Cum.
<u>TEHACHAPI PASS (Kern)</u>										
31 CANNON FINANCIAL GROUP (Cont'd)										
	B. Cannon Phase V	Micon 108	(H)	284	108 kw @ 33 mph	1	0	0	138	3,298,735 (V)
						2	0	0	138	4,037,663 (V)
						3	0	0	138	4,804,664 (V)
						4	0	0	138	1,550,774 (V)
						Annual	----- 388,000			----- 13,691,836
		Micon 250	(H)	452	250 kw @ 33 mph	1	0	2	3	347,750 (V)
						2	0	0	3	826,414 (V)
						3	0	0	3	515,556 (V)
						4	0	0	3	336,982 (V)
						Annual	----- 600,000			----- 2,026,702
PROJECT TOTAL									15,718,538	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

32 CORAM ENERGY GROUP
1725 S. Douglass Road, Suite B
Anaheim, CA 92806

A.	Coram Taxvest Windfarms	Aeroman 12.5 Series II	(H)	123	40 kw @ 27 mph	1	0	0	100	1,889,506 (V)	
	Other Participant: Energy Conversion Technology, Inc.					2	0	0	100	3,205,111 (V)	
						3	0	0	100	2,056,504 (V)	
						4	0	0	100	1,282,875 (V)	
						Annual	-----	160,000		-----	8,433,996

PROJECT TOTAL 8,433,996

B.	Coram Taxvest Windfarms	Aeroman 12.5 Series II	(H)	123	40 kw @ 27 mph	1	0	0	47	751,718 (V)	
	Other Participant: Coram Energy Group					2	0	0	47	1,366,290 (V)	
						3	0	0	47	764,508 (V)	
						4	0	0	47	551,114 (V)	
						Annual	-----	160,000		-----	3,433,630

PROJECT TOTAL 3,433,630

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)		
		Model	Axis	Rotor (M2)		Size (kW)	New		Cum.	
<u>TEHACHAPI PASS (Kern)</u>										
32 CORAM ENERGY GROUP (Cont'd)										
	C. Coram Taxvest Windfarms	Aeroman 12.5 Series II	(H)	123	40 kw @ 27 mph	1	0	0	109	1,713,165 (V)
						2	0	0	109	2,951,589 (V)
	Other Participant:					3	0	0	109	1,829,524 (V)
	CTV Marketing Group					4	0	0	109	1,191,692 (V)
						Annual	-----160,000			-----7,685,970
						PROJECT TOTAL				7,685,970
	D. Coram Energy Group	Aeroman 12.5 Series I	(H)	123	40 kw @ 27 mph	1	0	0	27	524,842 (V)
						2	0	0	27	853,424 (V)
	Other Participant:					3	0	0	27	576,427 (V)
	Energy Conversion Technology, Inc.					4	0	0	27	347,864 (V)
						Annual	-----160,000			-----2,302,557
						PROJECT TOTAL				2,302,557

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

33 ENERGY UNLIMITED, INC.
1 Aldwyn Center
Villanova, PA 19085

A.	Windy Flats '82 and Mountain Flats '83	Carter 25kw	(H)	75	25 kw @ 25 mph	1	27,774	0	25	4,837 (V)
						2	23,320	0	25	0 (V)
						3	12,464	0	25	0 (V)
						4	16,472	0	25	0 (V)
						Annual	----- 80,030			----- 4,837

Other Participant:
Zond Systems, Inc.

PROJECT TOTAL 4,837

34 FLOWIND CORPORATION
1183 Quarry Lane
Pleasanton, CA 94566

A.	FloWind Cameron Ridge	Flowind 17	(V)	260	142 kw @ 44 mph	1	59,841	0	161	7,484,710 (V)
						2	90,175	0	161	14,688,932 (V)
						3	46,249	0	161	5,950,708 (V)
						4	55,297	0	161	4,437,096 (V)
						Annual	----- 251,562			----- 32,561,446

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

TEHACHAPI PASS (Kern)

34 FLOWIND CORPORATION (Cont'd)

A. FloWind Cameron Ridge (Cont'd)	Flowind 19	(V)	340	250 kw @ 38 mph	1	115,641	0	122	4,485,988 (V)
					2	182,951	0	122	7,120,132 (V)
					3	90,982	0	122	4,623,885 (V)
					4	103,621	0	122	3,268,220 (V)
					Annual	----- 493,195			----- 19,498,225
	Flowind 25	(V)	515	381 kw @ 44 mph	1	0	0	2	0 (V)
					2	0	0	2	0 (V)
					3	0	0	2	0 (V)
					4	0	0	2	0 (V)
					Annual	----- 0			----- 0
	Sumitomo H22	(H)	363	200 kw @ 30 mph	1	0	0	1	83,370 (V)
					2	0	0	1	104,228 (V)
					3	0	0	1	42,971 (V)
					4	0	0	1	0 (V)
					Annual	----- 0			----- 230,569

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

34 FLOWIND CORPORATION (Cont'd)

A.	FloWind Cameron Ridge (Cont'd)	Sumitomo H36	(H)	1,018	600 kw@ 30 mph	1	0	0	0	0 (V)
						2	0	0	0	0 (V)
						3	0	0	0	0 (V)
						4	0	1	1	600,980 (V)
						Annual	0		600,980	

PROJECT TOTAL 52,891,220

B.	FloWind IV	Flowind 19	(V)	340	250 kw @ 38 mph	1	94,005	0	58	1,874,724 (V)
						2	165,917	0	58	3,982,284 (V)
						3	84,944	0	58	2,123,988 (V)
						4	84,562	0	58	1,411,668 (V)
						Annual	429,428		9,392,664	

PROJECT TOTAL 9,392,664

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

35 MOGUL ENERGY CORPORATION
3501 Bernard #11C
Bakersfield, CA 93306

A.	Liberty Wind Park	Blue Max	(H)	97	39 kw@ 35 mph	1	11,300	0	80	473,144 (NV)
						2	32,800	0	80	850,216 (NV)
						3	21,124	0	80	599,160 (NV)
						4	9,276	0	80	359,680 (NV)
						Annual	74,500			2,282,200

PROJECT TOTAL **2,282,200**

36 OAK CREEK ENERGY SYSTEMS
P.O. Box 469
Tehachapi, CA 93581

A.	Oak Creek Energy Systems	Flowind 17	(V)	260	85 kw @ 27 mph	1	22,329	0	1	30,950 (V)
						2	48,849	0	1	56,651 (V)
						3	34,412	0	1	30,852 (V)
						4	25,904	0	1	12,466 (V)
						Annual	131,494			130,919

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

TEHACHAPI PASS (Kern)

36 OAK CREEK ENERGY SYSTEMS (Cont'd)

A. Oak Creek Energy Systems (Cont'd)	Oak 4	(H)	78 15 kw @ 27 mph	1	7,568	0	10	108,380 (V)
				2	16,556	0	10	139,745 (V)
				3	11,663	0	10	162,160 (V)
				4	8,779	0	10	95,457 (V)
				Annual	44,566			505,742
	Oak 5	(H)	80 22 kw @ 27 mph	1	8,449	0	1	0 (V)
				2	18,483	0	1	1,170 (V)
				3	13,021	0	1	9,490 (V)
				4	9,802	0	1	3,999 (V)
				Annual	49,755			14,659

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)	
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.		
<i>TEHACHAPI PASS (Kern)</i>										
36 OAK CREEK ENERGY SYSTEMS (Cont'd)										
A. Oak Creek Energy Systems (Cont'd)	Oak 7A	(H)	184	55	kw @ 27 mph	1	14,015	0	79	1,340,195 (V)
						2	30,660	0	79	2,979,353 (V)
						3	21,598	0	79	1,641,685 (V)
						4	16,259	0	79	956,412 (V)
						Annual	82,532			6,917,645
	Oak 7B	(H)	199	55	kw @ 27 mph	1	14,936	0	132	2,401,062 (V)
						2	32,676	0	132	3,434,630 (V)
						3	23,019	0	132	3,065,083 (V)
						4	17,328	0	132	1,718,389 (V)
						Annual	87,959			10,619,164
	Oak 9	(H)	296	90	kw @ 27 mph	1	22,642	0	100	3,247,413 (V)
						2	49,533	0	100	7,267,382 (V)
						3	34,893	0	100	4,411,757 (V)
						4	26,267	0	100	2,406,775 (V)
						Annual	133,335			17,333,327
	PROJECT TOTAL									35,521,456

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

37 SEAWEST ENERGY GROUP
 1455 Frazee Road, Suite 300
 San Diego, CA 92108

A. Difwind VI/Viking I/Viking II
 ToyoWest

	Danwin 23/160	(H)	423	160 kw @ 34 mph	1	120,000	0	91	7,725,497 (V)
					2	204,000	0	91	12,397,466 (V)
					3	162,000	0	91	16,649,848 (V)
					4	114,000	0	91	8,403,539 (V)
					Annual	600,000			45,176,350
	Micon 110	(H)	300	108 kw @ 30 mph	1	70,700	0	251	16,006,116 (V)
					2	137,800	0	251	25,122,339 (V)
					3	85,700	0	251	30,384,754 (V)
					4	78,200	0	251	15,945,151 (V)
					Annual	372,400			87,458,360
	MWT-250	(H)	491	250 kw @ 21 mph	1	130,000	0	20	2,705,586 (V)
					2	240,500	0	20	4,132,720 (V)
					3	149,500	0	20	3,482,198 (V)
					4	130,000	0	20	1,601,937 (V)
					Annual	650,000			11,922,441

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)	
		Model	Axis	Rotor (M2)			Size (kW)	New		Cum.
<u>TEHACHAPI PASS (Kern)</u>										
37 SEAWEST ENERGY GROUP (Cont'd)										
A. Difwind VI/Viking I/Viking II										
	Toyo West (Cont'd)	Nordtank 150S	(H)	330	150 kw @ 35 mph	1	77,300	0	62	4,670,302 (V)
						2	150,400	0	62	6,821,629 (V)
						3	93,500	0	62	8,927,034 (V)
						4	85,400	0	62	4,155,571 (V)
						Annual	406,600			24,574,536
							PROJECT TOTAL			169,131,687
B. Mojave 17/16/18										
		MWT-250	(H)	610	250 kw @ 29 mph	1	156,450	240	340	29,796,037 (V)
						2	260,750	0	340	45,973,908 (V)
						3	178,800	0	340	39,992,816 (V)
						4	149,000	0	340	14,422,478 (V)
						Annual	745,000			130,185,239
							PROJECT TOTAL			130,185,239

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

38 SOUTHERN CALIFORNIA SUNBELT
701 S. Parker St., Suite 7300
Orange, CA 92668

A.	Mojave Wind Park	Airmaster	(H)	201	100 kw @ 40 mph	1	0	0	10	0 (V)
						2	0	0	10	0 (V)
						3	0	0	10	0 (V)
						4	0	0	10	0 (V)
						Annual	----- 0		----- 0	
		Windmatic 17S	(H)	227	95 kw @ 34 mph	1	28,061	0	95	2,085,975 (V)
						2	57,957	0	95	3,451,453 (V)
						3	47,453	0	70	2,091,061 (V)
						4	20,590	0	70	1,262,887 (V)
						Annual	----- 154,061		----- 8,891,376	
PROJECT TOTAL									8,891,376	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			
<i>TEHACHAPI PASS (Kern)</i>							
39 TRIAD AMERICAN ENERGY 2212 Dupont Dr., St. A Irvine, CA 92715							
	A.	Triad V	FAILED TO FILE		1		1,260,000 (UD)
			FAILED TO FILE		2		0 (V)
			FAILED TO FILE		3		0 (V)
			FAILED TO FILE		4		0 (V)
					Annual		1,260,000
PROJECT TOTAL							1,260,000
40 WINDFARMS MANAGEMENT 2509 Thousand Oaks Blvd., Suite 197 Thousand Oaks, CA 91362							
	A.	Cache Creek Wind Farm	FAILED TO FILE		1		330,000 (UD)
			FAILED TO FILE		2		476,000 (UD)
			FAILED TO FILE		3		406,000 (UD)
			FAILED TO FILE		4		140,000 (UD)
PROJECT TOTAL							1,352,000

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification				Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			New	Cum.	

TEHACHAPI PASS (Kern)

41 WINDLAND, INC.
118 State Place, Suite 201
Escondido, CA 92029

A.	Windland Wind Park (Boxcar I)	Bonus 120/20	(H)	296	120 kw @ 40 mph	1	78,000	0	11	572,345 (V)
						2	157,000	0	11	1,173,577 (V)
						3	78,500	0	11	725,339 (V)
						4	78,500	0	11	536,783 (V)
						Annual	----- 392,000			----- 3,008,044
		Carter 25	(H)	77	25 kw @ 30 mph	1	15,300	0	39	346,837 (V)
						2	30,700	0	39	727,970 (V)
						3	15,300	0	39	518,978 (V)
						4	15,300	0	39	279,363 (V)
						Annual	----- 76,600			----- 1,873,148
		Carter 250/300	(H)	332	250 kw @ 38 mph	1	120,000	0	13	482,700 (V)
						2	240,000	0	13	873,843 (V)
						3	120,000	0	13	530,805 (V)
						4	120,000	0	13	304,968 (V)
						Annual	----- 600,000			----- 2,162,316

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

41 WINDLAND, INC. (Cont'd)

A.	Windland Wind Park (Boxcar I) (Cont'd)	Storm Master 12	(H)	113	40 kw @ 42 mph	1	18,000	0	10	70,925 (V)
						2	36,000	0	10	139,009 (V)
						3	18,000	0	10	79,279 (V)
						4	18,000	0	10	38,886 (V)

Annual ----- 90,000 ----- 328,099

PROJECT TOTAL 7,371,607

B.	Windland Wind Park (Boxcar II)	Bonus 65/13	(H)	181	65 kw @ 40 mph	1	37,200	0	4	38,683 (V)
						2	74,400	0	4	81,125 (V)
						3	37,200	0	4	44,831 (V)
						4	37,200	0	4	47,753 (V)

Annual ----- 186,000 ----- 212,392

		Enertech 44/60	(H)	180	60 kw @ 35 mph	1	0	0	12	105,802 (V)
						2	0	0	12	313,768 (V)
						3	0	0	12	199,123 (V)
						4	0	0	12	120,185 (V)

Annual ----- 0 ----- 738,878

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)		New	Cum.	

TEHACHAPI PASS (Kern)

41 WINDLAND, INC. (Cont'd)

B.	Windland Wind Park (Boxcar II) (Cont'd)	Vestas V25	(H)	491	200 kw @ 30 mph	1	125,000	18	20	2,447,515 (V)
						2	125,000	0	20	4,235,196 (V)
						3	125,000	0	20	2,702,043 (V)
						4	125,000	0	20	2,150,061 (V)
						Annual	----- 375,000			----- 11,534,815

PROJECT TOTAL 12,486,085

42 WINDRIDGE

406 East Tehachapi Blvd.
Tehachapi, CA 93561

A.	Willowind	FAILED TO FILE				1				626,000 (UD)
		FAILED TO FILE				2				1,108,000 (UD)
		FAILED TO FILE				3				898,000 (UD)
		FAILED TO FILE				4				592,000 (UD)

PROJECT TOTAL 3,224,000

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC.
112 South Curry
Tehachapi, CA 93561

A.	Project '82 Pool PO1, 1983 Pool PO2	Polenko	(H)	254	100 kw @ 35 mph	1	87,139	0	15	457,892 (V)
						2	106,030	0	15	635,229 (V)
						3	66,595	0	15	517,475 (V)
						4	58,262	0	15	529,278 (V)
						Annual	318,026			2,139,874

PROJECT TOTAL 2,139,874

B.	Project '82 Pool VO1, 1983 Pool VO2	Vestas 15	(H)	184	65 kw @ 35 mph	1	58,869	0	66	1,161,984 (V)
						2	71,631	0	66	2,127,510 (V)
						3	44,989	0	66	964,532 (V)
						4	39,360	0	66	923,509 (V)
						Annual	214,849			5,177,535

PROJECT TOTAL 5,177,535

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

C. Project '82 Pool WO1, 1983 Pool WO2	Windmatic 14S	(H)	165	65 kw @ 35 mph	1	58,444	0	30	436,965 (V)
					2	71,114	0	30	702,222 (V)
					3	44,665	0	30	241,756 (V)
					4	39,077	0	30	143,605 (V)
					Annual	213,300			1,524,548
PROJECT TOTAL								1,524,548	
D. Project '83 Pool VO2, ZO1, ZO2, '84 Pool VO4	Vestas 15	(H)	184	65 kw @ 35 mph	1	65,199	0	95	1,992,971 (V)
					2	79,333	0	95	3,159,959 (V)
					3	49,827	0	95	1,771,596 (V)
					4	43,593	0	95	1,507,619 (V)
					Annual	237,952			8,432,145
PROJECT TOTAL								8,432,145	
E. Project '84 Pool VO4, '85 Pool VZ1	Vestas 15	(H)	184	65 kw @ 35 mph	1	54,239	0	97	2,188,147 (V)
					2	65,998	0	97	3,662,266 (V)
					3	41,452	0	97	1,866,956 (V)
					4	36,265	0	97	1,450,451 (V)
					Annual	197,954			9,167,820
PROJECT TOTAL								9,167,820	

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

F.	Project '84 Pool VO4, VO5, '85 Pool VO7, '85 VZ1	Vestas 15	(H)	184	65 kw @ 35 mph	1	51,082	0	87	1,978,319 (V)
						2	62,156	0	87	3,152,538 (V)
						3	39,038	0	87	1,615,439 (V)
						4	34,154	0	87	1,311,647 (V)
						Annual	----- 186,430			----- 8,057,943
						PROJECT TOTAL				
G.	Project '84 Pool VO6	Vestas 17	(H)	227	90 kw @ 35 mph	1	67,129	0	4	173,016 (V)
						2	81,681	0	4	256,927 (V)
						3	51,302	0	4	143,934 (V)
						4	44,883	0	4	110,232 (V)
						Annual	----- 244,995			----- 684,109
						PROJECT TOTAL				
H.	Project '84 Pool WO3 '84 Pool WO4	Windmatic 15S	(H)	184	65 kw @ 35 mph	1	33,752	0	9	65,727 (V)
						2	41,069	0	9	64,403 (V)
						3	25,794	0	9	14,870 (V)
						4	22,567	0	9	8,699 (V)
						Annual	----- 123,182			----- 153,699
						PROJECT TOTAL				

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

I.	Project '84 Pool WO4	Windmatic 15S	(H)	184	65 kw @ 35 mph	1	9,093	0	1	2,241 (V)
						2	11,064	0	1	40,129 (V)
						3	6,949	0	1	8,966 (V)
						4	6,079	0	1	1,413 (V)
						Annual	33,185			52,749

PROJECT TOTAL 52,749

J.	Project '85 Pool V13	Vestas 15	(H)	184	65 kw @ 35 mph	1	0	0	8	160,496 (V)
						2	0	0	8	330,352 (V)
						3	0	0	8	157,847 (V)
						4	0	0	8	103,462 (V)
						Annual	0			752,157

PROJECT TOTAL 752,157

K.	Project '85 Pool V14, V18, V20	Vestas 15	(H)	184	65 kw @ 35 mph	1	39,891	0	41	768,541 (V)
						2	51,489	0	41	1,379,013 (V)
						3	32,729	0	41	678,847 (V)
						4	29,911	0	41	634,364 (V)
						Annual	154,020			3,460,765

PROJECT TOTAL 3,460,765

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

L.	Project '85 Pool V19, V21, V26	Vestas 17	(H)	227	90 kw @ 35 mph	1	50,810	0	41	1,499,515 (V)
						2	65,583	0	41	2,491,259 (V)
						3	41,688	0	41	1,371,855 (V)
						4	38,098	0	41	1,087,739 (V)
						Annual	----- 196,179			----- 6,450,368
PROJECT TOTAL										6,450,368
M.	Project '85 Pool V22 '86 Pool V25, '87 Pool V26	Vestas 17	(H)	227	90 kw @ 35 mph	1	60,682	0	34	1,368,302 (V)
						2	73,837	0	34	2,144,078 (V)
						3	46,375	0	34	1,272,921 (V)
						4	40,573	0	34	985,065 (V)
						Annual	----- 221,467			----- 5,770,366
PROJECT TOTAL										5,770,366
N.	Project '85 Windsystems Partners, "A"	Vestas 17	(H)	227	90 kw @ 35 mph	1	64,944	0	151	3,115,668 (V)
						2	78,371	0	151	6,134,935 (V)
						3	47,605	0	151	3,028,025 (V)
						4	47,581	0	151	2,412,886 (V)
						Annual	----- 238,501			----- 14,691,514
PROJECT TOTAL										14,691,514

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification					Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis	Rotor (M2)				Size (kW)	New	

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

O.	Project '85 Windsystems Partners, "B"	Vestas 17	(H)	227	90 kw @ 35 mph	1	64,944	0	249	7,458,793 (V)
						2	78,371	0	249	13,748,396 (V)
						3	47,605	0	249	7,225,361 (V)
						4	47,581	0	249	6,417,634 (V)
						Annual	238,501			34,850,184

PROJECT TOTAL	34,850,184
----------------------	-------------------

P.	Project '86 Pool V23	Vestas 23	(H)	415	200 kw @ 35 mph	1	77,440	0	1	75,564 (V)
						2	94,228	0	1	8,467 (V)
						3	59,182	0	1	0 (V)
						4	51,777	0	1	0 (V)
						Annual	282,627			84,031

PROJECT TOTAL	84,031
----------------------	---------------

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

Q.	Project '86 Pool V26	Vestas 17E	(H)	227	90 kw @ 35 mph	1	52,938	0	1	55,594 (V)
						2	68,328	0	1	85,591 (V)
						3	43,433	0	1	55,079 (V)
						4	39,693	0	1	41,262 (V)
						Annual	204,392			237,526

PROJECT TOTAL 237,526

R.	Project Victory Garden Phase IV	Vestas 27	(H)	572	225 kw @ 35 mph	1	4,113	5	5	102,793 (V)
						2	69,702	26	31	2,230,871 (V)
						3	111,739	0	31	4,545,813 (V)
						4	110,843	0	31	3,786,651 (V)
						Annual	296,397			10,666,128

		Vestas 27	(H)	572	225 kw @ 35 mph	1	102,994	31	31	2,469,383 (V)
						2	185,687	0	31	5,360,161 (V)
						3	105,948	0	31	3,221,352 (V)
						4	105,099	0	31	3,165,204 (V)
						Annual	499,728			14,216,100

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis	Rotor		Size	New	
			(M2)	(kW)				

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

R.	Project Victory Garden Phase IV (Cont'd)	Vestas 27	(H)	572	225 kw@	35 mph	1	0	0	0	0 (V)
							2	122,314	31	31	3,949,387 (V)
							3	113,605	0	31	4,235,561 (V)
							4	112,694	0	31	3,328,314 (V)
							Annual	----- 348,613			----- 11,513,262
		Vestas 27	(H)	572	225 kw@	35 mph	1	0	0	0	0 (V)
							2	190,817	5	5	1,114,144 (V)
							3	113,040	0	5	740,337 (V)
							4	112,134	0	5	568,243 (V)
							Annual	----- 415,991			----- 2,422,724

PROJECT TOTAL 38,818,214

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification					Projected Qtr. Prod./Turbine (kWh)	Turbines Installed		Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)				New	Cum.	

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

S.	Project Zond '87	Vestas 15	(H)	184	65 kw @ 35 mph	1	48,686	0	2	62,562 (V)
						2	70,781	0	2	127,867 (V)
						3	45,559	0	2	86,225 (V)
						4	39,366	0	2	54,520 (V)
						Annual	204,392			331,174
		Vestas 17	(H)	227	90 kw @ 35 mph	1	49,379	0	59	2,373,443 (V)
						2	71,788	0	59	4,135,386 (V)
						3	46,207	0	59	2,432,559 (V)
						4	39,926	0	59	1,895,964 (V)
						Annual	207,300			10,837,352
							PROJECT TOTAL			11,168,526
T.	Project Zond '87 (H&S 20)	Vestas 17	(H)	227	90 kw @ 35 mph	1	50,453	0	54	2,663,641 (V)
						2	73,349	0	54	4,847,393 (V)
						3	47,212	0	54	3,062,706 (V)
						4	40,794	0	54	2,250,109 (V)
						Annual	211,808			12,823,849
							PROJECT TOTAL			12,823,849

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)
		Model	Axis Rotor (M2)	Size (kW)			

TEHACHAPI PASS (Kern)

43 ZOND SYSTEMS, INC. (Cont'd)

U. Project Zond '87 (QFID 6107)	Vestas 15	(H) 184	65 kw @ 35 mph	1	48,686	0	3	96,276 (V)
				2	70,781	0	3	129,782 (V)
				3	45,559	0	3	74,009 (V)
				4	39,366	0	3	70,577 (V)
				Annual	204,392			370,644
	Vestas 17	(H) 227	65 kw @ 35 mph	1	48,686	0	47	2,245,667 (V)
				2	70,781	0	47	4,066,837 (V)
				3	45,559	0	47	2,516,097 (V)
				4	39,366	0	47	1,900,166 (V)
				Annual	204,392			10,728,767
	Vestas 17E	(H) 227	90 kw @ 35 mph	1	48,686	0	13	562,182 (V)
				2	70,781	0	13	1,003,592 (V)
				3	45,559	0	13	669,550 (V)
				4	39,366	0	13	488,572 (V)
				Annual	204,392			2,723,896
	PROJECT TOTAL							13,823,307

1990 ANNUAL WIND PROJECT PERFORMANCE REPORTING DATA

Location/Operator	Project	Turbine Specification			Projected Qtr. Prod./Turbine (kWh)	Turbines Installed New Cum.	Electricity Produced (kWh)			
		Model	Axis Rotor (M2)	Size (kW)						
<u>TEHACHAPI PASS (Kern)</u>										
43 ZOND SYSTEMS, INC. (Cont'd)										
V.	Project Zond '87 (QFID 6108)	Vestas 17	(H)	227	90 kw @ 35 mph	1	48,686	0	62	2,753,688 (V)
						2	70,781	0	62	4,715,695 (V)
						3	45,559	0	62	2,893,703 (V)
						4	39,366	0	62	2,274,158 (V)
						Annual	----- 204,392	-----	-----	----- 12,637,244
PROJECT TOTAL								12,637,244		
W.	Project Zond '84, Pool V04 1985 Pool V07	Vestas 15	(H)	184	65 kw @ 35 mph	1	49,084	0	45	1,159,472 (V)
						2	59,725	0	45	1,903,672 (V)
						3	37,512	0	45	1,058,392 (V)
						4	32,818	0	45	827,514 (V)
						Annual	----- 179,139	-----	-----	----- 4,949,050
PROJECT TOTAL								4,949,050		

APPENDIX A WIND TURBINE MANUFACTURERS

Appendix A contains the name, address and telephone number of each manufacturer and/or distributor of wind turbines installed in California wind projects as reported to WPRS.

MANUFACTURER/DISTRIBUTOR	COUNTRY OF ORIGIN	TURBINE BRAND NAME(S)	PROJECT(S) WHERE TURBINE IS USED
1. Airmaster c/o Basin Petroleum Service P.O. Box 1161 Powell, WY 82435 "No Longer Active"	U.S.	Airmaster	38(A)
2. American M.A.N. West Coast Office 303 Hegenberger Rd., Suite 402 Oakland, CA 94621	West Germany	Aeroman	32(A-D)
3. Arizona Micro-Utilities 1890 E. Greenway Tempe, AZ 85282	Switzerland	Wenco	22(A)
4. Bonus Wind Turbines, Inc. Fabriksvej 4 DK 7330, Brande Denmark	Denmark	Bonus	4(B-C, F), 5(B), 16(A), 19(A), 29(A), 41(A-B)
5. Bouma Wind Turbines P.O. Box 79483 Houston, TX 77024	Holland	Bouma	31(A)
6. Carter Wind Systems, Inc. Route 1, Box 405A Burkburnett, TX 76364	U.S.	Carter	14(A), 26(B), 33(A), 41(A)
7. Century Design, Inc. 3635 Afton Road San Diego, CA 92123 "No Longer Active"	U.S.	Century (CT)	31(A)

MANUFACTURER/DISTRIBUTOR	COUNTRY OF ORIGIN	TURBINE BRAND NAME(S)	PROJECT(S) WHERE TURBINE IS USED
8. Danish Wind Technology Marsk Stiysvey 4 DK 8800, Viborg Denmark	Denmark	Windane	19(A), 29(A)
9. Danwin A/S Industrivej 12 DK-3000, Helsingor Denmark	Denmark	Danwin	5(B), 21(D), 37(A)
10. Energy Sciences, Inc. 7791 Fitch Irvine, CA 92714 "No Longer Active"	U.S.	ESI	7(C), 8(A), 17(A), 23(A)
11. Enertech Corporation P.O. Box 1085 Norwich, VT 05055 "No Longer Active"	U.S.	Enertech	7(A), 13(A), 21(A,C), 25(A), 41(B)
12. Fayette Manufacturing Corp. P.O. Box 1149 Tracy, CA 95376	U.S.	Fayette	4(A-B, D-K)
13. Flowind Corporation 1183 Quarry Lane Pleasanton, CA 94566	U.S.	Flowind	5(A-B), 34(A-B), 36(A)
14. HMZ Belgium N.V. Rellestraat 3 Industrie Zone 5 3800 Sint-Truiden Belguim	Belgium	HMZ	10(A)

MANUFACTURER/DISTRIBUTOR	COUNTRY OF ORIGIN	TURBINE BRAND NAME(S)	PROJECT(S) WHERE TURBINE IS USED
15. Hall Machinery 1401 Airport Drive Bakersfield, CA 93308 "No Longer Active"	U.S.	Blue Max	35(A)
16. Holec Power Systems, Inc. P.O. Box 2227 Livermore, CA 94550	Denmark	Polenko	3(A), 43(A)
17. James Howden and Company 195 Scotland Street Glasgow C5 9PJ Scotland	Scotland	Howden	6(A)
18. Micon Wind Turbines, Inc. 2352 Research Drive Livermore, CA 94556	Denmark	Micon	4(B-C, F), 7(B, D-G) 12(A), 19(A), 21(B-C) 24(A), 26(B,D), 31(A-B), 37(A)
19. Mitsubishi c/o SeaWest Industries, Inc. 1455 Frazee Road, Suite 300 San Diego, CA 92108	Japan	MWT	37(A-B)
20. Nordtank Energy Group Nyballevej 8 DK-8444 Balle Denmark	Denmark	Nordtank	24(A), 26(A, C-D), 30(A-B) 31(A), 37(A)
21. Oak Creek Energy Systems, Inc. P.O. Box 469 14633 Willow Springs Rd. Tehachapi, CA 93581	U.S.	Oak	36(A)

MANUFACTURER/DISTRIBUTOR	COUNTRY OF ORIGIN	TURBINE BRAND NAME(S)	PROJECT(S) WHERE TURBINE IS USED
22. Starwind Maintenance 103 N. Hwy 101, Suite 2001 Encinitas, CA 92024	U.S.	Starwind	22(A)
23. Sumitomo Machinery Corp. 2143 E. "D" Street Ontario, CA 91764	Japan	Sumitomo	34(A)
24. U.S. Windpower 6952 Preston Ave. Livermore, CA 94550	U.S.	U.S. Windpower (USW)	9(A-E), 28(A)
25. Vestas P.O. Box 42 DK 6940, Lem Denmark	Denmark	Vestas	11(A), 27(A-B), 41(B) 43(B, D-G, J-W)
26. Villas Styria Grossfolz 1-A 8790 Eisenerz, Austria	Austria	Floda	19(A)
27. Wincon Energy Systems 3942 Valley Ave. Pleasanton, CA 94566	U.S.	Wincon	24(A)
28. Wind Energy Group, Ltd. 345 Ruislip Rd. Southall, Middlesex, UB1 2QX England	England	Wind Energy Group (WEG)	9(C)
29. Wind Power Systems 9279 Cabot Drive San Diego, CA 92126 "No Longer Active"	U.S.	Storm Master	41(A)

MANUFACTURER/DISTRIBUTOR	COUNTRY OF ORIGIN	TURBINE BRAND NAME(S)	PROJECT(S) WHERE TURBINE IS USED
30. Wind Turbine Industries, Corp. 16801 Industrial Circle, S.E. Prior Lake, MN 55872	U.S.	Jacobs	15(A), 17(A), 18(A-B)
31. Windmatic 17900 Sky Park Circle Suite 106 Irvine, CA 92714	U.S.	Windmatic	3(A), 22(A), 38(A), 43(C,H,I)
32. Windtech Inc. P.O. Box 837 Glastonbury, CT 06033	U.S.	Windtech	29(A)

APPENDIX B

REGULATIONS
CALIFORNIA ADMINISTRATIVE CODE
TITLE 20, CHAPTER 2, SUBCHAPTER 3, ARTICLE 4

WIND PROJECT PERFORMANCE REPORTING SYSTEM

Adopted
November 28, 1984

1381 Title and Purpose

The purpose of this article is to specify performance reporting requirements for operators of specified wind energy projects and for entities which purchase electricity from the projects and to identify requirements for the Commission to publish the information.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1382 Definitions

For the purposes of this article, the following definitions shall apply unless the Commission has clearly indicated otherwise in these regulations:

- (a) "Contingency Costs": the costs which may be paid by investors after the initial investment, but which are not paid out of project revenues. Contingency costs may include such costs as turbine repairs or annual insurance fees paid during the reporting year.
- (b) "Cumulative Number of Turbines Installed": the cumulative total number of turbines of a given model installed by the end of the reporting period.
- (c) "Electricity Produced (kWh)": the total kilowatt hours actually produced by all of the turbines of a particular turbine model contained within the wind project where the electricity is delivered to a wind power purchaser for sale during the reporting period.
- (d) "Name of Wind Project": the name used for the project in any prospectus, offering memorandum, or sales literature.
- (e) "Number of Turbines Installed During Reporting Period": the number of additional turbines installed during the calendar quarter of the reporting period.
- (f) "Project Cost": the total cost of the turbines installed during the reporting period. Project cost includes all debt and equity investment in the project (including nonrecourse notes) and should be comparable to the project cost shown in the offering memorandum, prospectus or sales literature published by the developer.
- (g) "Projected Annual Production Per Turbine (kWh)": the annual average kWh production, by model, predicted by the developer in its prospectus, offering memorandum, or sales literature. This figure may be revised annually prior to the first reporting quarter of each year and shall be based upon average site specific wind distributions and the wind turbine power curves.
- (h) "Projected Quarterly Production Per Turbines (kWh)": the quarterly breakdown of the Projected Annual Production Per Turbine.

- (i) "Rotor (M²)": The rotor swept area in square meters for each turbine model.
- (j) "Size (kW)": the turbine manufacturer's published kW rating at a specific miles per hour (mph) with wind speed shown in parentheses.
- (k) "Turbine Model": the common or manufacturer's name for the turbine if that is a commonly used term for the model of a specific rotor (M²) and size (kW).
- (l) "Wind Power Purchaser": any electricity utility or other entity which purchases electricity from a wind project, as defined in this section.
- (m) "Wind Project": one or more wind turbine generators installed in California with a combined rated capacity of 100 kW or more, the electricity from which is sold to another party.
- (n) "Wind Project Operator": any developer or operator who directly receives payments for electricity from the wind power purchaser.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1383 Reporting Period

For the purpose of this article, and unless otherwise indicated, the reporting period shall be each calendar quarter, beginning with the first quarter following the effective date of this article. Quarterly reports filed pursuant to this article shall be submitted not later than the forty-fifth day following the close of each reporting period. Reports shall be deemed submitted as of the date of postmark, provided that the report is properly and legibly completed.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1384 Requirements to File

The information required by this article shall be submitted to the Commission by wind project operators and wind power purchasers. Reports shall be made on forms prescribed by order of the Commission and according to instructions accompanying the forms. A copy of the wind project prospectus, offering memorandum, and other sales literature shall accompany the initial report. All reports must be verified by a responsible official of the firm filing the report. Requests for confidentiality may be filed pursuant to 20 Cal. Admin. Code section 2501 et. seq.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1385 Information Requirements: Wind Project Operators

Each operator firm submitting information pursuant to the provisions of the article shall include the following:

- (1) Name of wind project
- (2) Name and address of operator
- (3) Name and phone number of contact person at operator's firm
- (4) Operator's name as shown on power purchase contract (if different than 2 above)
- (5) Name of wind power purchaser
- (6) Purchase contract number
- (7) Resource area and county
- (8) Dates of reporting period
- (9) Turbine model
- (10) Cumulative number of turbines installed
- (11) Number of turbines installed during reporting period
- (12) Rotor (M²)
- (13) Size (kW) at stated wind speed
- (14) Project cost
- (15) Additional project contingency costs for which investors may be responsible
- (16) Projected quarterly production per turbine (kWh)
- (17) Projected annual production per turbine (kWh)
- (18) Electricity produced (kWh)
- (19) Turbine manufacturer's name and address
- (20) Operator comments, if any

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1386 Information Requirement: Wind Power Purchase

Each wind power purchaser submitting information pursuant to the provisions of this article shall include the following:

- (1) Name of purchaser's firm
- (2) Name and phone number of contact person at purchaser's firm
- (3) Date of report
- (4) Name of wind project operator
- (5) Number of contract with wind project operator
- (6) kWh's produced during reporting period
- (7) Dates of reporting period
- (8) The maximum MW's which the operator can deliver to the purchaser as specified in the power sales agreement
- (9) Purchaser comments, if any

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1387 Publication of Data

The Commission staff shall compile and distribute, on a quarterly basis, the information reported by wind project operators and purchasers. Cost data will be published by the Commission in an aggregated form to the extent necessary to assure confidentiality. The final publication of each year shall combine the performance data for that year. The publication shall designate the name of any wind project operator from whom performance data is not

received.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.

1388 Failure to Provide Information

The Commission may, after notifying any person of the failure to provide information pursuant to this article, take such action to secure the information as is authorized by any provision of law, including, but not limited to, Public Resources Code section 25900.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605 (e), and 25900, Public Resources Code.

1389 Exemptions

Operators of wind projects of less than 100 kW rated capacity or operators who do not offer electricity for sale are exempt from this article.

Authority cited: Sections 25213 and 25218 (e), Public Resources Code Reference: Sections 25216.5 (d), 25601 (c), and 25605, Public Resources Code.