

Pacific Power Renewable Energy Program in Oregon

Analysis and Recommendations

In this paper I describe and analyze the Pacific Power Blue Sky renewable energy program, evaluate various claims made in its marketing literature, and offer recommendations to consumers regarding participation. My analysis is based on data supplied by Pacific Power, the Oregon Public Utilities Commission and the Citizens' Utility Board of Oregon. My focus is, for the most part, on the Blue Sky programs specifically targeted to residential customers.

Corporate Background

Pacific Power delivers electrical service in areas of Washington, Oregon and California and is one of the business units of its parent company, PacifiCorp. PacifiCorp also delivers electrical service in Utah, Wyoming and Idaho through a second business unit, Rocky Mountain Power. A third business unit, PacifiCorp Energy, includes the electrical generation, energy trading functions, and coal-mining operations of the company. Both Pacific Power and PacifiCorp are headquartered in Portland, Oregon.

PacifiCorp is a wholly owned subsidiary of MidAmerican Energy Holdings Company, a large energy and real estate sales conglomerate with holdings in the United States and the United Kingdom. It is headquartered in Iowa. In turn, MidAmerican is principally owned (88.2%) by Berkshire Hathaway, one of America's largest, private, investor-owned companies.

Pacific Power Operations

In total, Pacific Power serves about 724,000 customers, of which 553,000 are in Oregon¹. Pacific Power delivers electrical power to its customers from a mix of power sources including²:

- Coal – 74.6%
- Hydro – 12.0%
- Natural Gas – 11.3%
- Biomass – .7%
- Wind – 0.7%
- Other – 0.7%

PacifiCorp owns energy generation capacity of about 9,286 megawatts. It distributes a portion of this power and also purchases power from other sources to meet the needs of its customers.

In 2007, Pacific Power delivered 14,077,356 megawatt hours (MWh) to Oregon customers, including residential, commercial and industrial. The average cost per kilowatt hour for Oregon residential customers was about \$.0808³.

¹ As of May, 2008 according to Pacific Power Website data.

² Based on January 2006 net system resources data provided by Pacific Power in a brochure issued by the utility in December 2008, "Comparing your Power Options."

³ From Oregon Public Utility Commission 2007 Oregon Utility Statistics.

Program Overview

Pacific Power describes its Blue Sky program as an initiative that “offers customers the option to purchase and support energy generated from renewable resources right here in our region.”⁴

The Blue Sky program was created by Pacific Power in response to state regulatory requirements to provide customers in its region with a mechanism to support the development of renewable energy sources. By law, the program must be self-supporting, meaning that revenues collected from customers must pay for all program costs, and that the utility may not profit from the program or offset any of its other regulatory requirements through the operation of the program.⁵

The Blue Sky program is completely voluntary for customers and is, itself, highly regulated in Oregon by the Public Utility Commission. The program offers customers different options for supporting renewable energy. Customers may only participate in one option at a time. Pacific Power must account fully for the revenues collected and the expenditures made on behalf the program.

Overall, the Blue Sky program is managed by Pacific Power staff, but a portion of its operations is sub-contracted.

In 2007, about 30,979 or 5.2 percent of Oregon customers participated in a Blue sky program. Blue Sky program participants contributed revenues totaling \$2,318,806 in the same year. Revenues from the program “purchased” the equivalent of 267,035 MWh of renewable electrical energy. This represents about 1.9 percent of Pacific Power’s total energy sales for the same year. All renewable energy supported by the Blue Sky program was obtained from providers outside the Pacific Power-owned generation capacity per regulatory requirement.⁶

Program Options

There are basically two program options: The Blue Sky Block option and the Blue Sky Usage option. Pacific Power promotes a third option, Blue Sky Habitat, which is just a minor variant of the Usage option.

1. Blue Sky Block

The Blue Sky Block option is fully administered by Pacific Power. Its primary focus is on supporting wind power generation, though through its development grants it also supports other forms of renewable energy including solar and biomass. Customers participate in this option by purchasing “blocks” of wind energy generation in what is described as 100 kilowatt hours (kWh) units. The minimum purchase is one block, though customers may purchase as many blocks as desired.

The program literature describes the purchase of a block as fully “offsetting”⁷ 100 kWh of conventional power usage to wind generation. However, this offset is not in real time. Pacific Power states that it

⁴ Blue Sky Renewable Energy brochure, 2007.

⁵ Applicable laws and regulations include: ORS 756.040 & 757.600-757.667 and PUC 860-038-0220.

⁶All data in this paragraph was provided by PacifiCorp communication. As we will see, characterizing the transactions as “purchases” is a little misleading.

⁷ An offset means that the power the consumer actually uses can be counted (offset) as derived from a renewable source. This characterization, as used extensively in Blue Sky literature, is misleading.

balances offsets from block purchases anytime over the course of a calendar year. For a customer using 500 kWh of conventional electricity each month, a purchase of five blocks would be needed to fully offset household energy use to wind power generation.

To participate in the block option, a customer agrees to pay an additional \$1.95 (\$.0195 per kWh) per month per block. Thus a customer desiring to offset a monthly conventional usage rate of 500 kWh would need to buy five blocks totaling \$9.75 per month. Pacific Power describes its intent to either purchase wind generated power directly or to purchase renewable energy certificates (RECs) representing an equivalent amount of wind generated electrical power. In practice, Pacific Power has, in the last few years, been exclusively purchasing RECs for its block program.

For 2007, Block option revenues in Oregon totaled about \$723,884.

Revenues remaining after certificates have been purchased are maintained in a fund from which regional renewable energy projects are supported. Oregon's share of the fund is based on its portion of the total volume of PacifiCorp's Block option sales which is currently about 35 percent. In 2007 this amounted to about \$253,359.

2. Blue Sky Usage / Habitat

The Blue Sky Usage and Habitat options are identical except that Habitat participants pay an additional monthly flat fee to support salmon habitat restoration projects. Pacific Power subcontracts the power-related component of these options to 3Degrees, a California-based Renewable Energy Certificate (REC) trading company. The salmon habitat restoration component is sub-contracted to The Nature Conservancy.

Pacific Power transmits all revenues received for the Usage option and power-related portion of the Habitat option to 3Degrees, who then purchases renewable energy certificates intended to offset each conventional kWh of energy used by program participants to renewable sources—primarily wind and biomass electricity generation. The advertised mix of renewable sources is 61 percent wind, 38 percent biomass and 1 percent solar. Pacific Power transmits all revenues earmarked for salmon habitat restoration to The Nature Conservancy. Both sub-contractors were obtained through a competitive request for proposal (RFP) process.

Customers who participate in these options agree to pay an additional monthly fee based on their electricity usage. This fee is currently set at \$.0078 per kWh. Those selecting the Habitat option also pay an additional \$2.50 per month. A customer with electrical usage of 500 kWh per month would pay an additional fee of \$3.90 while the same customer would pay a total additional fee of \$6.40 if also choosing to support the salmon habitat restoration option.

For 2007, the Usage and Habitat (power-related only) options generated revenues of about \$1,594,923. Though Pacific Power retains none of the revenues associated with these programs, it does claim around two percent of total program revenues as Oregon SB 1149 expenses to cover their overhead costs and promotional activities related to the options. For the same year Pacific Power claimed expenses of about \$31,898 which were withheld from the Public Purpose fund. This fund is supported by monthly contributions from customers, made under a separate regulatory requirement.

Renewable Energy Certificates

Since Renewable Energy Certificates (RECs) play a major role in Pacific Power's Blue Sky programs, it is necessary to understand what these certificates are and how they traded as commodities. An REC is often described as representing "the environmental, social, and other positive attributes of power generated by renewable resources."⁸ What this means is that the energy derived from renewable sources is assigned a value in excess of its basic commercial value to reflect the benefits of generating electricity through "green" methods. This excess value is then made available for purchase by those wanting to claim the benefits of renewable energy generation. The actual value of an REC is set by the trading market. When RECs are in demand, prices are higher and when they are not, prices are lower. The one constant is that a single REC is equivalent to the benefit derived from one MWh of electricity produced from a renewable source.

RECs originate from a renewable energy producer such as a wind farm. The renewable energy facility offers its RECs on one or more trading markets. A trader such as 3Degrees offers to purchase the RECs at an agreed upon price per unit. Once a contract is made, the trader forwards the sales price, less commission, to the owners of the wind farm.

Keep in mind that this REC transaction does not involve the actual purchase of energy. The wind farm has already sold its energy production as a commodity in the electricity market. The REC is an additional source of revenue for the owners of the wind farm that may be used in any way. It is hoped, of course, that the revenues generated from RECs will be used for capital investment in additional renewable energy generation capacity. But this is neither required nor monitored.

While RECs may be purchased from any renewable energy producer in the United States, the Blue Sky program is required to purchase RECs from producers in the somewhat poorly defined "western" region. Records show that the majority of Blue Sky RECs come from renewable energy producers in the Pacific Northwest.

In the final analysis, a Pacific Power customer who participates in a Blue Sky option is purchasing a benefit from the production of renewable energy, not the energy itself. In a sense, a Blue Sky participant is agreeing to pay an energy premium to potentially stimulate additional renewable energy production. But, as we have seen, this is not guaranteed. The Pacific Power literature further suggests that a Blue Sky participant can claim that his or her electricity usage is fully offset by energy produced from renewable sources⁹. This claim will be explored more fully below.

Program Economics

To make clear the economics of the program I will examine the Blue Sky options from two perspectives, first from the perspective of a single household and then from the macro-perspective of all Oregon participants.

1. Household Perspective

Let's use a simple example: a household that uses 500 kWh of electricity per month. I will start by explaining the basic utility bill and then showing how the revenues collected for the various Blue Sky options are distributed and for what purposes.

⁸ United States Energy Information Service

⁹ Blue Sky Renewable Energy brochure, 2007

As of October 2008, Pacific Power utility bill standard line items include the following:

Basic Charge – 1P	\$7.50
Delivery Charge	\$17.98
Oregon Tax Charge	\$1.00
Public Purpose Charge	\$1.31
Energy Conservation Charge	\$0.45
Low Income Assistance Charge	\$0.50
Supply Service Energy	<u>\$17.27</u>
Total Charges	\$46.01

For our present purposes, none of these line items needs further discussion except for the last one, Supply Service Energy. This is the only line item for which the customer is actually charged for energy consumption. All others are line items related to Pacific Power’s cost of doing business and taxes. Regardless of whether a customer chooses a Blue Sky option or not, all customers pay the Supply Service Energy line item, which covers the cost of Pacific Power’s standard generation mix. As we saw earlier, about 75 percent of this mix is derived from coal-fired generation. Again, every rate payer supports this supply mix.

In addition to the standard line items, Pacific Power charges additional fees to customers who voluntarily agree to participate in a Blue Sky renewable energy program. Based on a monthly household consumption of 500 kWh, Blue Sky total fees and component disbursements are as follows:

Blue Sky Block option (5 blocks)	Total	\$9.75	
Program administration and marketing	\$2.44	25%	
Purchase of Renewable Energy Certificates	\$3.90	40%	
Renewable energy projects fund	\$3.41	35%	

Less than half of the fee paid for the Block option is actually used to purchase RECs, which is the central purpose of the option.

Blue Sky Usage option	Total	\$3.90	
Program administration	\$0.98	25%	
Program marketing	\$0.62	16%	
Purchase of Renewable Energy Certificates	\$2.30	59%	

With this option, a higher percentage of the fee is used to purchase RECs, though in absolute terms, fewer dollars are available for this purpose.

Blue Sky Habitat option	Total	\$6.40	
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The first \$3.90 of the fee for this option is dispersed just as in the Usage option. The remaining \$2.50 is dispersed directly to The Nature Conservancy to support salmon habitat restoration projects. These funds are allocated as follows:

The Nature Conservancy administration	\$0.37	15%
Salmon habitat restoration projects	\$2.13	85%

The donations that flow through to the Nature Conservancy have the least overhead burden associated with them.

2. Oregon Perspective¹⁰

For the year 2007, the last calendar year for which complete financial records are available, total Blue Sky revenues from Oregon were dispersed as follows.

Blue Sky Block option

There were about 7,188 participants in Oregon who purchased a total of 625,580 blocks, thus contributing total revenues of \$723,884 to support various wind generation providers in the region. Revenues were dispersed approximately as follows¹¹:

Program administration and marketing	\$180,971	25%
Purchase of Renewable Energy Certificates	\$289,553	40%
Renewable energy projects fund	\$253,359	35%

Blue Sky Usage option

There were 19,306 participants in Oregon who used a total of 163,412,170 kWh of electricity resulting in total revenues of \$1,274,615 to support renewable energy providers in the region. Revenues were dispersed approximately as follows:

Program administration	\$318,654	25%
Program marketing	\$203,938	16%
Purchase of Renewable Energy Certificates	\$752,023	59%

Blue Sky Habitat option

There were 4,485 participants in Oregon who used a total of 41,065,115 kWh of electricity resulting in total revenues of \$320,308 to support renewable energy providers in the region. In addition, these participants collectively donated \$122,362 to The Nature Conservancy for salmon habitat restoration projects. Revenues were dispersed as follows:

Usage program administration	\$80,077	25%
Usage program marketing	\$51,249	16%
Purchase of Renewable Energy Certificates	\$188,982	59%
The Nature Conservancy administration	\$18,354	15% of habitat donation
Salmon habitat restoration projects	\$104,008	85% of habitat donation

Program Claims

Pacific Power primarily communicates with its customers about the Blue Sky program through marketing materials and information posted on its Website. Twice a year Pacific Power conducts recruitment drives during which promotional materials are sent directly to customers. In addition, cities in the Pacific Power service area have also been encouraged to recruit new participants by establishing “challenge” drives where the cities use their own communication networks to share information and promote participation.

After reviewing Pacific Power marketing literature and carefully reviewing the Pacific Power Website, I found several key claims worth examining.

¹⁰ All data in this section were provided by PacifiCorp.

¹¹ No detailed Oregon Income Statements were made available for the option programs, so these are estimates based on advertised rates per kWh, total energy usage and total participation.

Claim 1: In a 2007 Blue Sky program brochure¹², Pacific Power states the following: “We live in a beautiful part of the country—we take pride in keeping it clean. So when our customers asked us for renewable energy choices that help make a difference in creating healthier communities, we delivered with Blue Sky...” The claim inherent in this statement that Pacific Power voluntarily and for supposedly noble reasons initiated the Blue Sky program is a bit of a stretch. It is not likely that the company would have added a program promoting renewable energy resources without the regulatory requirement to do so.

In many of its marketing materials, Pacific Power promotes the Blue Sky program as an integral part of its business model, when they are more accurately entitled to claim only regulatory compliance. The reader of promotional literature is left with the impression that Pacific Power is strongly committed to environmental values when, in fact, they are still mostly a coal-fired electric utility.

My review of the ownership status of the company makes clear that Pacific Power’s corporate policy environment is complex and primarily driven by issues of profitability and return on investment for owner’s who have little connection to the Northwest. While this is hardly unusual in the current environment of consolidated energy holdings in the United States, it does suggest caution in interpreting the motives behind various programs and consumer marketing initiatives.

It’s probably a good thing when an investor-owned corporation publicly accepts its regulatory burden. But we should not imagine for a minute that its commitment is any deeper than the public relations benefit that the mandatory “green” programs offer.

Claim 2: Throughout its marketing literature, Pacific Power regularly claims that customers who participate in the Blue Sky program are purchasing renewable energy. Again from the 2007 Blue Sky program brochure we find an example describing Blue Sky as a “program that offers customers the option to purchase ... energy generated from renewable resources right here in our region.”

Strictly speaking, this is an inaccurate portrayal. Customers are not buying any renewable energy through the program. They are buying Renewable Energy Certificates— just the excess value of the benefits derived from the renewable energy sources themselves.

As we have seen in the economic analysis, Blue Sky customers continue to purchase the standard Pacific Power energy mix. Only a relatively small portion of the Blue Sky fee paid each month is actually used to purchase RECs. It is quite clear that participating customers are not actually purchasing renewable energy.

A more accurate characterization of the relationship between a program participant and the renewable energy resources would be something like this: Blue Sky participants are making a “donation” to support the further development of electricity generation from renewable resources. But as we have also seen, this might even be an overstatement of reality because the sellers of RECs have no obligation to use the revenues received for infrastructure expansion. However, the concept of a donation is reasonably apt.

Claim 3: The marketing literature suggests that Blue Sky participants are able to fully offset their electricity use to renewable sources. For instance, the 2007 Blue Sky program brochure presents a table comparing the three program options. As an example, the data for the Usage option suggest that the

¹² Blue Sky Renewable Energy brochure, 2007

participant is purchasing 100% of the household's energy use from 100% renewable sources. This is another inaccurate characterization.

While it is true that an REC "certifies" that a given number of units of electricity were derived from a renewable source, it certifies nothing about the energy use of the person purchasing the REC. The claim for offsets via RECs is a semantic fiction which obscures the real transactions that have occurred.

Again, Blue Sky customers purchase the standard mix of Pacific Power energy and make a small donation potentially supporting the expansion of renewable energy sources. That's all that can be legitimately claimed.

Claim 4: The Blue Sky marketing literature clearly places the program emphasis on renewable energy resources. This is fine as far as it goes. However, some customers may infer that the program is also carbon neutral, particularly because the energy offset examples used in the marketing literature are framed in carbon offset terms, such as stating the renewable energy equivalence of removing the exhaust of a certain number of cars from the roadways.

But the Usage and Habitat options are probably not carbon neutral. About 40 percent of the RECs are derived from biomass energy production, and biomass is not carbon neutral unless the amount of carbon released by burning the biomass is offset by newly planted trees or crops with the capacity to fully absorb the carbon dioxide produced during energy generation. These distinctions are not made adequately in the program literature.

Claim 5: Also muddying the picture is Pacific Power's tendency to co-mingle regulatory messages in its Blue Sky literature. For instance, again from the 2007 Blue Sky program brochure: "Pacific Power purchases cost effective renewable energy on behalf of all our customers and we'll continue to buy even more. These purchases are *in addition* [emphasis in original] to Blue Sky customer purchases. We're working to add 1,400 megawatts of renewable energy over the next decade."

Yes, this is an accurate characterization, but it fails to acknowledge that acquiring more renewable assets is required under a separate regulatory mandate. The customer may be left with the impression that Pacific Power is onboard with renewable energy and that these additional efforts may even be part of the Blue Sky initiative.

Claim 6: The Blue Sky marketing literature is nearly silent on the topic of program costs. The 2007 Blue Sky program brochure only mentions program costs in a footnote to a table. None of the marketing materials I have received have provided any disclosure on the significant overhead costs associated with the Blue Sky options.

Recommendations

Based on my analysis, I have developed several recommendations in two categories. First, I will discuss ways to improve the Blue Sky program. Second, I will offer recommendations for strengthening overall energy policy and contemplate the Blue Sky program's place in the greater context of environmental sustainability.

Blue Sky Program Improvements

Recommendation #1: Marketing materials should be revised to more accurately and fully describe the program.

Inappropriate claims made in the current literature should be corrected. There should be full financial disclosure and an annual audit should be published. The Oregon Public Utility Commission (PUC) should retain full editorial control on all marketing materials, if it does not already have this authority. Customers deserve to have a clear, accurate understanding of what the Blue Sky program is and what participation in the program actually accomplishes.

Recommendation #2: Specific goals should be set for reducing program overhead costs.

Overhead costs should be reduced for all options to around 15 percent of revenues. Here are some, by no means comprehensive, options. Consider eliminating the separate recruitments. Use the monthly statements to convey solicitations. Reduce reliance on hard-copy materials. Focus on creating and maintaining a more comprehensive, accurate and user-friendly Website presence. Get absolutely efficient in all processes.

Recommendation #3: The Habitat option should be considered for possible discontinuation.

Since state regulations only require Pacific Power to offer one renewable power option, consider reducing administrative complexity and cost by eliminating the Habitat option¹³. It is true that the monthly Blue Sky Habitat donation to The Nature Conservancy is a convenient way to support salmon habitat restoration. But a personal, direct monthly contribution to The Nature Conservancy is no less convenient or effective, and carries with it an eligible tax deduction that is lost when a customer makes a contribution through the Pacific Power program. Consumers should also carefully review how The Nature Conservancy disperses resources compared with other habitat restoration organizations, to determine relative impact and cost effectiveness. Other programs may offer better results based on the criteria being applied.

Energy Policy Development

Recommendation #1: The Blue Sky program should be imbedded in a more comprehensive energy policy.

The Blue Sky program lacks context. The PUC or perhaps the Citizens Utility Board of Oregon (CUB) should develop a perspective on the place of renewable energy support in the broader context of sustainable energy policy. This context should then be shared with Pacific Power customers.

Developing this context will be harder than it sounds, because we lack a cohesive national energy policy on which to base our perspective. But customers need the big picture in order to make sound decisions about participating in the Blue Sky program. As an example, we could start with just one energy policy goal—reducing the use of coal for electricity generation—and relate participation in the Blue Sky program to achieving it.

¹³ However, if Pacific Power matched customer contributions dollar for dollar, this option could really make an impact on habitat restoration and should, therefore, obviously be retained. The PUC Portfolio Options Committee might make this recommendation to Pacific Power.

Recommendation #2: Customers should consider Blue Sky participation in a broader context.

Should a Pacific Power customer participate in the Blue Sky program? There is not a clear answer to this question. As we have seen, the effects of participation on renewable energy production are positive, if mild. It is less clear that participation represents good value for the resources invested. And it is clear that participation does not resolve all of the customer's energy consumption issues. In fact, to the extent that a Blue Sky customer believes that his or her environmental impact has been completely mitigated, participation is a negative factor.

Blue Sky participation seems like a very small part of a larger set of personal actions to be taken to meet our energy goals (for example, the reduction of coal burning for energy production). A course of action that would be much more significant than participating in a Blue Sky program, for instance, would be a household commitment to reduce monthly electricity usage by 10 percent. Energy conservation is the single most important step that an individual or a family can take to help solve our energy problems.

A strong energy conservation program would yield more important benefits at this point in time than a program supporting renewable energy generation.

Pacific Power has no corporate obligation to advise citizens on the value of various energy-related choices, but organizations like the PUC and CUB do—and they should not hesitate to exercise more leadership. They should build and communicate a model of energy use and options and promote it heavily—perhaps including the Blue Sky program. But Blue Sky participation will never be more than a small part of the solution.¹⁴

Recommendation #3: Municipalities should explicitly justify participation in the Blue Sky program.

Presumably, when municipalities participate in the Blue Sky program, they are spending tax revenues to pay the additional fees. But as we have seen, what they are purchasing is primarily a public relations benefit. Is this an appropriate and cost effective expenditure of tax revenues? Especially given the magnitude of the overhead costs associated with the options? Only local officials can answer these questions—but answer them they must and in public view. It can be argued that the contributions to renewable energy generation, though small, have value. Where the decision points are must be worked out locally, in the context of all other needs competing for scarce resources. This decision should be revisited explicitly in the annual municipal budget development process.

¹⁴ Pacific Power customers, who are interested in supporting the development of renewable power through the purchase of Renewable Energy Certificates other than through Pacific Power's programs, might want to look at the carbon offset programs offered for sale by the Bonneville Environmental Foundation (www.b-e-f.org). The cost per unit of renewable energy is about the same as the Blue Sky Block program. But according to its most recent financial statement, BEF spends nearly all of the revenue received from the sale of carbon offsets on renewable energy projects. Of course, thorough due diligence is recommended before participating in this or any other program.