

Wind power from the past

By Larry Elliott

For over six weeks I'd traveled hundreds of miles over dusty, rutted roads that sometimes seemed to go on forever. Wheat fields, cattle, an occasional horse, and perhaps a mailbox standing as a lonely sentinel pointing directions to another lonely ranch road, were the only things to break the monotony. If I was real lucky, I'd see an old pickup truck coming in the opposite direction with the driver giving a cautious wave and nod to this unknown traveler.

The landscape in eastern Montana is flat from horizon to horizon and only rarely studded with, perhaps, a wind blown tree or dusty little town. It was this very condition that brought this western Pennsylvania young man so many miles in search of the elusive "wind charger." There were few areas of the country in the 1930s and 1940s that had more use for, or numbers of, these marvels of "modern" technology.

For many years they gave isolated farmers and ranchers a source of electric power beyond the grid. Forty years later, they are silent rusting relics of the days before the Rural Electrification Administration (REA). Before the government decided to string wires for endless miles, only to serve perhaps one or two lonely ranches, wind chargers kept many a light burning even before some city dwellers could boast as much.

The energy crunch of the 1970s sent quite a few people out in search of these iron workhorses of the past in hopes of finding one that hadn't been sent to the scrapper to help build a liberty ship or tank during World War II. Occasionally, with luck and a lot of searching, one could be found that, with some new parts and a fresh coat

of paint, could once again harvest all those watts blowing by us each day.

I was no different in my desire to discover a Jacobs (which, by the way, was the Cadillac of its day) or even a Wincharger, (the Model T equivalent). But I also wanted to learn a little something of the people who originally had lived with these units and discover just what could be operated from them and how much living on



Marcellus Jacobs stands on tower holding his 3-kilowatt wind electric plant in this vintage 1940s portrait.

one differed from, say, living on city power. These people were true alternative energy pioneers out of necessity rather than ideology. I felt their opinions would be valuable.

I kept somewhat of a diary of my travels and made a point of sitting down and talking with anyone who had owned a "charger," had lived with one, or perhaps had been a dealer. I managed to meet several people whose recollections became memorable to me, but one in particular was a man who really helped open a window to the past. His name was Bill

Bowden and, even in his seventies, he still looked the part of a grizzled, wind blown rancher.

What made his experiences of extra value was his participation in an early wind electric study by a certain mid-west college whose name he couldn't recall. It seems that during the 1930s several colleges and even the government, showed a real interest in finding out just how much maintenance was required on these commercial wind generators, what their monthly and yearly electric production amounted to, and whether some models actually performed at all better than the rest.

The area of Montana Bill called home was a pretty isolated rural area in the 1930s and for the most part still is. There was no TV, and radio was still an infant industry, so any information or sales advice on wind generators had to come from farm magazines or newspapers.

Sometimes a local hardware store or farm equipment dealer would take on a dealership and set up displays at the local county fair. It was at a county fair that Bill first got a look at the latest in windcharger equipment. During the 1930s and 1940s over 15 manufacturers of windchargers competed fiercely for the highly specialized market that these overworked "gridless" farmers represented. There were names like Parris-Dunn, Wincharger, WinPower, Wind King, and Air Electric, just to name a few.

Wincharger corporation had a line of chargers displayed that ranged from small 6 volt 80 watt plants, used to keep a radio battery charged, to units up to 110 volts at 1500 watts. Zenith radio corporation even gave these 6 volt chargers free with the purchase of a radio. My, how times have changed!

The company displaying equipment that really caught Bill's eye, though, was the Jacobs Wind Electric Company. They had only one model of generator, a 32 volt 1500 watt unit of massive proportions and rugged design. It dwarfed all others at the fair. The generator was displayed on the



This is part of an ad from a 1930s handbill that shows the many uses that wind power could be put to.

back of a Ford pickup, and Bill said the company sales manager, Marcellus Jacobs himself, promoted the virtues and benefits of his generator with a lot of flair and enthusiasm.

Unlike some windcharger manufacturers, the Jacobs company sold a complete line of appliances and accessories to go along with the 32-volt current these units produced. Radios, freezers, toasters, blenders, refrigerators, power tools and many other items were on open display to help entice the often overworked farmers or their wives into buying these labor saving devices.

Of particular interest to Bill and his wife was a massive freezer that could keep food frozen for better than seven days, even if the power went off. This especially appealed to his wife, who looked after the feeding of their six kids. Unlike many farmers in the 1930s, Bill felt fortunate to have an above average income from his wheat farming. This allowed him to buy the expensive Jacobs with all the accessories. To get a feel for the expense Bill had to absorb, consider that a new Hudson cost a little over \$750. A new Dodge or Ford pickup was just a little over \$600. A complete Jacobs system without the accessories was over \$1000. Most windchargers today are cheap by comparison.

Bill told me that the day the Jacobs system was delivered and set up it had an impact on the family's daily duties and activities as significant as a new baby. No longer did they have to pump water by hand for laundry or

dishes. The wash board became a rarely-used relic.

Fibber Magee and Molly, Amos and Andy, and President Roosevelt soon became familiar voices as the family sat beside the big new 32 volt radio. No longer would it die in the middle of a funny line or important message, as the old radio did, simply because the old dry cell battery decided to give up the ghost.

I guess you could say that life became easier for Bill and his family though still not easy. I don't think life on a Montana ranch in the 1930s could ever be described as easy.

Before long Bill added many more labor saving devices to the system. He said he had at least 40 mazda bulbs (a brand name of bulb now long gone and replaced by a Japanese car) of 25 to 100 watts. For his wife, a washing machine, iron, vacuum, heating pad, corn popper and toaster. For Bill, a sickle bar grinder and flood light for the barnyard.

He even managed to run a 5 cubic foot refrigerator. This was a real treat. Remember, in the 1930s on a ranch as isolated as his, even an ice box would have been a luxury. As strange as it may seem in this age of instant everything and pleasure on demand, Bill's wife found she was as popular as Santa Claus with local kids who could eat homemade strawberry ice cream in July because of this wind powered reefer. Can you imagine the pleasure a hard working field hand must have felt as ice cold lemonade cut through the dust of a summer day?

The college mentioned earlier loaned Bill several watt-hour meters that let him tabulate the amount of power his Jacobs produced on a monthly or yearly basis. By his recollections 170 kwh were produced in October of 1937 or '38. He remembered the month because of a prank a kid from a neighboring ranch tried to pull on him.

Seems the boy climbed the tower wrapped in a white sheet with the intention of howling like a ghost to scare Bill's kids. As it turned out the boy got the sheet all wrapped around the tower and couldn't climb down. He cried until Bill helped him get untangled. Bill says the boy's father gave him a good "whooping" that he remembers to this day.

In the months of July and August, Bill claimed the production fell off quite a bit. He said he still produced over 70 kwh on average and never ran short of power. Remember that back then the REA figured 100 kwh was more than sufficient to supply all the electrical needs most farmers would have. Compare that to the average 1000 to 1500 kwh thought to be only average in most homes today. Most farms and ranches use far more than this.

During World War II, gas rationing was started in order to supply adequate fuel for the war effort. Bill said that a rancher such as himself got special allotments of fuels because wheat farmers, and farmers in general, were considered critical industries. His Jacobs helped to reduce the amount of

fuel he would have needed to run a gas generator.

This reduction was considered so important that windcharger manufacturers were also given special allotments of copper, brass and steel by the government, to help in production of more windchargers. For many windcharger manufacturers the war was a boom time, since farmers and ranchers had more money to spend and the windchargers used an energy source that couldn't be rationed.

Bill used his Jacobs for over 18 years before the REA came in around 1954. He said that having the REA bring in electricity gave him the added benefit of a phone, since the REA also brought in phone lines, but the Jacobs was a more reliable supplier of electricity, especially in winter when lines were down quite often. Seems the REA demanded that he take his Jacobs down before they would hook him up.

In 18 years of use Bill said maintenance was not a problem. A yearly grease job and repainting of props every five or six years could keep it up and running. Bill said he had three sets of batteries over the years and had bought the last set only three years before selling his system. He sold his generator and all that went with it for \$200 to a rancher who wouldn't get electricity from the REA for another ten years.

When asked if he felt a farmer could depend on wind-generated electricity, he emphatically stated, "Yes. Using all of our equipment as freely as

desired, we never had been without sufficient power."

It's now 1993 and only seven short years to a new century. The technology of those years long ago is needed more now than ever if we are to meet the twenty first century head on. If old Bill is still with us, he is well into his eighties and, and even though he probably doesn't think of himself as an environmentalist, I'm sure he would approve of what is now being done on wind farms or new homesteads still beyond the grid.

President Lincoln once called wind "the least tapped force in nature." Bill tapped it many years ago, and it seems there will still be enough to last until another author writes about another Bill in another era.

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A BHM Writer's Profile



Larry Elliott is a 44-year-old inventor/tinkerer/business owner living on 40 acres of central Oregon high desert. For over 20 years, he has been active in designing, using, and selling equipment for securing energy independence. He has been writing for *Backwoods Home Magazine* about independent energy topics since 1993.

Elliott has incorporated solar electric, wind generators, and energy conservation on his present homestead, as well as his previous farm in western Pennsylvania in the 1970's. The backwoods and rural living have always been a part of Elliott's everyday life. His present business, Solar Tech, is growing steadily and keeps him quite busy.