

WINDS OF CHANGE

After nearly three decades of resistance from the thermal coal oligopoly that supplies most of Alberta with the cheapest electricity in North America, wind power has pushed its way into the market

BY FRANK DABBS

Less than a century ago, nine million tin-vane windmills clattered away, atop spindly derricks in North America's farmyards, to generate energy for agricultural operations and homes. Of this vast fleet, rare skeletal artifacts remain on the landscape as a quaint reminder of a sterner lifestyle before rural electrification.

Today, on two sunburned southwestern Alberta ridges, facing the mountains in fealty to the source of ceaseless wind, two missile-shaped towers rise 40 metres above the bucolic fields. Mounted at the top on a nacelle the size of a motorhome, three great blades 44 metres in length swipe steadily at the air. Installed in the autumn of 1997, these stately descendants of the simple rural windmill are again producing power plus



a new value-added product called emissions credits for the customers of Calgary-based Vision Quest Wind-electric Inc.

These obelisk-looking structures represent the transition of Alberta wind energy from a quixotic cause to a competitive business. After nearly three decades of political and commercial resistance from the thermal coal oligopoly that supplies 90 per cent of Alberta demand with the cheapest electricity in North America, wind power has pushed into the market.

Some 90 contemporary wind turbines produce electricity at "wind farms" for private owners and small power producers across southern Alberta, from Trochu to the border. The turbines represent a sliver of the province's electric supply — about 0.03 per cent of generating capacity, providing 0.01 per cent of output. However, like the elephant fleeing the mouse, beginning in the 1970s, private utilities have amassed political and market power to protect the coal

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franchise from the prospect of intrusion. They had a treasury to protect: Alberta's coal deposits contain three times the energy of the oil sands. The utilities had done little to research commercial alternatives to electric production, such as coalbed methane extraction or synthetic fuel liquefaction.

In 1986, then-energy minister Rick Orman carved out a tiny, 125-megawatt slice of the market for independent power. Through the Southwest Alberta Renewable Energy Initiative, he and premier Don Getty funded a research park near Pincher Creek for wind power tests and stimulated solar and hydroelectric development.

The titans of the province's powerful private utilities were enraged, and made their displeasure clear to Orman and Getty. Premier Ralph Klein's first energy minister, the bombastic Patricia Black, dismantled the

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renewable energy initiative and the test site when subsidies and any fiscal instrument that could be accused of being one, were, so to speak, blacklisted.

One of the fatalities of Black's stout defense of the coal franchise was a high-profile 1996 proposal to build a turbine manufacturing plant and wind farm at Pincher Creek. The project was sponsored by Montreal-based York WindPower, with Pincher Creek-based Wind Power Inc. as a local partner and Enercon GmbH of Germany responsible for the turbine plant.

York courted several provinces seeking incentives and misread political resistance here to economic supplements from a government slashing spending and smarting from billions of dollars of losses in economic diversification investments. Other aspects of the deal left the Alberta Energy department uneasy: it thought Enercon GmbH's commitment was shaky, and that a patent infringement law suit in the United States might mean that export market was closed to turbines produced at the plant.

Pincher Creek's economic development board and the town administration, however, embraced the project — the jobs and economic activity that would

be generated were manna for a hungry community being bypassed by Alberta's boom. But the government was intransigent and the project folded.

The bitterness in some Pincher Creek circles against Klein, Black and local MLA Dave Coutts personally, and the Conservative government generally, will be years in the healing. However, the anti wind-power case was easy to make to those who bought into the "subsidies are evil" doctrine and ignored the economic gains (including lush royalty and tax revenues, made from past Alberta-sponsored R&D into new energy technology), for example, the discoveries that have driven oil sands commercialization.

Measured at the coal power plant and wind power farm gates, large prairie thermal plants produce cheaper electricity — for between two and three cents per kilowatt, versus five and a half cents for the same amount of wind power. Project advocates thought that plant gate prices did not reflect economic reality. There is an external cost from the environmental impact of coal-burning emissions that they wanted factored into a tariff for wind power, crediting it for offsetting emissions through alternative green power production.

It was easy for Klein and Black to make the case that the Pincher Creek advocates wanted a subsidy to level the cost of wind power to the price of coal power. Call it what you will, the advocates retorted, green power and emissions reductions are the right and necessary thing to do.

What they never argued effectively was that an independent wind power farm near their town, delivering directly to local customers could actually do so cheaper than the big coal-based utilities. Between the plant gate and the customer's meter, a utility runs up costs that an independent, small-scale, niche power producer doesn't incur and passes them on to the customer. Had its advocates made the low-cost argument, the project might have succeeded because the electric system was being deregulated and large industrial power customers were seeking the right to supply themselves with independent power.

Meanwhile, Vision Quest was traveling a different and, ultimately, successful route. It accepted the terms of deregulation: the price it could get for wind power was the pool price paid for coal power — between two and three cents per kilowatt. The benefit of deregulation was that a wind power producer who took the price couldn't be blocked from the power grid.

To make their wind turbines profitable, Vision Quest would sell emissions reduction credits — for the displacement of carbon dioxide, sulphur dioxide and nitrous oxide effluents produced from the burning of fossil fuels. The credits, which are priced starting at \$50 per tonne, have gained a commodity value from the United Nations Convention on Climate Change and greenhouse gas reduction protocols signed at Rio de Janeiro in 1992 and Kyoto in 1997.

Vision Quest's plans meshed with those of Enmax, the City of Calgary electric utility, which has launched a green power-marketing project. Enmax brokers 13 gigawatt hours of alternative generation — 3.1 GWh from Vision Quest's turbines and the larger Whitecourt Power Limited Partnership, which added 10.75 GWh of capacity to its biomass plant at Whitecourt to support the deal.

The major customer for Vision Quest in this arrangement is Environment Canada, which signed a deal in November to power the nine Alberta buildings it owns or leases from green sources. Vision Quest also sells emissions reductions credits to Suncor, which is buying external offsets to emissions from its oil and gas production facilities in Alberta. Kootenay Power in southeast British Columbia and the Municipal District

of Pincher Creek have also signed contracts for emissions credits. Vision Quest expects to add two turbines to its system this year and projects that, with customer acceptance, the business could grow in significant increments for decades to come.

Vision Quest's success leaves Pincher Creek's wind power proponents bemused and a little bewildered. They think their approach, a premium price for wind power generally and the freedom to develop specific low-cost market niches, is better economics and more responsible politically.

They believe wind power projects could supply three per cent of Canada's electric power and offset 28 per cent of its greenhouse gas emissions before the 2010 deadline Canada agreed to at Kyoto. They argue that will only happen with large-scale projects like the one that the province shot down last year. Vision Quest's approach won't grow the industry fast enough.

The irony of the debate between Vision Quest and its Pincher Creek rivals is that the wind power commercial sector — just a few months ago despised by Alberta's neo-conservative politicians and scorned by the coal utilities as a granola-type crusade — now has genuine internal competition. ✂