Professor, Windmills–

Harness Winds for Village Power

FAIRBANKS – A University of Alaska physics professor, Dr. Tunis Wentink Jr., wants to harness energy from the winds to provide power to Alaskan villages.

How? With windmills, that same old formula used by the Dutch hundreds of years ago to regain their land from the sea.

The idea is still in the early study stages, but Wentink, who is highly enthusiastic about the projects, concludes it could have some far reaching results.

The scientific explanation behind the windmill is simple. As long as the wind blows you can produce energy from the windmill generator, use a portion of it and store up the rest, by breaking it down into chemical gases.

When more energy is needed, the gases are pushed into a fuel cell, produce electricity and water.

The water produced is a delightful sidelight in itself, said Wentink, who is also director of the Institute of Arctic Environmental Engineering. That water is very pure and quite drinkable.

To get the project rolling, Wentink is studying simply where the winds are, their force and how steady they sweep certain portions of Alaska.

For the past six months, he has directed particular interest

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to the Aleutian Chain and the coastal portions of Western Alaska. "Our objective is two-fold," he said. "We know the power is there. The question is, is it useable only in Alaska or can it be packaged?"

So far, Wentink is proceeding just from seed money from the state of Alaska, but in June, he goes to the National Science Foundation in Washington D.C. to try for further funds, to determine whether to go big scale with wind driven electric generators.

In Holland, back as early as 1500, windmills were used for pumping water off the land, but mostly now they are show pieces, said Wentink. The modern windmills he is interested in using in Alaska don't look much like their forebearers. They are streamlined and may have only two arms, rather than four.

But they can produce energy, make it readily available and make it relatively cheap. "The crisis right now is not in energy. It's in cheap energy," Wentink said.

"We have to look at this project from the viewpoint of national interest, but we must also look on the effect it will have on the Native villages," Wentink said. Many villages spend thousands of dollars annually simply heating schoolhouses, not to mention homes.

"But in Alaska of all places we have the winds. How much wind can we get and what can we do with it?" Wentink asked.

"Windmills will never be the total answer," but they can be part of it, he said.

If windmills prove a feasible idea, they will have to be designed and built for the larger villages. Wentink says there is no place in the United States now which makes the type needed.

The type of windmill needed would possibly vary from village to village, depending on wind velocity and dependability.

Then a pilot program could be set up, in villages with suitable winds, if there is clear cut evidence that the village residents would welcome and assist in the project, Wentink said.

Once the pilot program is run successfully in one community, it would not be hard to sell it to the rest, Wentink figures.

Wentink, who is of Dutch ancestry, admits that his Dutch ancestry may have been the factor interesting him in windmills originally, but his studies now have him fairly sure of his work.

Recently Wentink has been seeing an oil firm televison commercial which zeros in on a windmill and asks, "What do we do when the winds stop?"

What indeed! "Harness the wind," Wentink says.

The wind can provide good clean energy for village people in Alaska and perhaps far beyond the 50th state.