

# Winds of change blow from Arrowsic man to the Galapagos Islands

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03/17/2008

ARROWSIC — Jim Tolan won't be at his usual perch this week at the Cafe Creme or Patten Free Library, where he has set up his mobile office for years in order to connect with his global team working on providing electricity for the Galapagos Islands, a tiny dot in the Pacific Ocean, 600 miles off the coast of Ecuador.

The irony doesn't escape him that through the miracle of technology he can communicate with his colleagues around the globe, only not from his home in Arrowsic which, like many rural areas of the state, does not enjoy broadband Internet access.

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Tuesday is the final dedication for the project that has received worldwide attention and made for Tolan's 15 minutes (at least) of fame. Interviewed on public radio's "The World," written about in widely distributed trade journals, Tolan and his team have brought wind turbines to the United Nations-designated World Historic Site. Wind-powered generation of electricity will save almost a million liters of diesel fuel having to be delivered by ship to the islands.

A marine engineer by trade, Tolan found himself wearing many hats for a project that, because of the special nature of the site, would gain the attention of environmentalists and energy experts all over the world.

"Given that Ecuador, which owns the Galapagos, is not the most stable country in the world," he said. "I found it took a lot of patience."

One example of that patience occurred when Tolan attended a meeting with a government official in Quito, Ecuador's capital, during the early stages of the project.

"We had this meeting in the morning and it went smoothly with the

government official at the end saying, 'good luck with your project.' An hour later I heard on the radio that that particular government em-ployee had been fired."

### **Environmental disaster**

The impetus for making the Galapagos independent of fossil fuel occurred in January 2001, when the Ecuadoran tanker Jessica, loaded with 150,000 gallons of diesel fuel, ran into a reef and began breaking apart, spilling oil into the harbor of San Cristobal, one of five inhabited islands that make up the province of Galapagos.

A tragedy was narrowly averted by the dispensation of the tidal currents and winds, which pushed the oil away from the island.

The Galapagos are famous as the site where Charles Darwin observed its flora and fauna and devised the theory of evolution. It remains one of the most fragile ecosystems on Earth. The sight of thousands of gallons of fuel pouring into the ocean triggered a determined international initiative to reduce such a risk in the future by ridding the use of fossil fuels on the islands by 2015.

Such a move would also reduce air pollution and contribute to the conservation of the rare life forms on the islands.

This is where Tolan entered the picture. At the time, he was project manager for Industry and Energy Associates, out of Portland. He got a call from Paul Loeffelman, director of environmental public policy at American Electric Power, a member of the E8 consortium, which Tolan says is similar to the G8 consortium only this one is concerned with energy rather than economics.

"It sounded challenging, and it was," Tolan recalled.

There were four aspects of the project he supervised: the institutional, financial, environmental and technical. The last two would fit in with an engineering background, but the first two presented unique problems.

"There was me and my Ecuadoran associate," Tolan said. "Plus other team members in Quebec, France, Germany, who I could only access with my laptop."

Thus he set up his mobile office at whatever table is available.

"It is ironic," he said. "On the other hand, as a virtual team we were able to operate well."

Because of the interest in the project, Tolan's team was able to raise funding for the project — \$10 million — and maintain a high level of transparency.

Tolan's project, the San Cristobal Wind Project, is the first stage of a program that will see all five islands independent of fossil fuel for their energy needs. Currently, San Cristobal uses three 650-kilowatt diesel generators to produce electricity. The wind turbines that now sit on the highest point on the island are expected to halve the amount of diesel fuel needing to be imported to the island.

"Compared to a lot of other projects that depend on cooperation, we've done very well," Tolan said. "Except for the minor bumps in dealing with bureaucracies, the way was clear for the wind turbines."

The biggest industry on the islands is tourism. People flock to the site where Darwin researched his book, "The Origin of Species," to see the unique wildlife that have made it home. To feed and shelter those thousands of tourists takes electricity, manufactured by way of about 5 million liters of diesel fuel in 2007 alone.

Ecuador and the United Nations Development Program plan to eventually use zero fossil fuels by 2015 by means of renewable electricity using hybrid wind-diesel and some photovoltaic (solar panels) to supply the 30,000 people who live on the five islands.

The turbines have been producing clean power since October. The dedication ceremony Tolan will be attending Tuesday will have in the audience representatives from the international utility companies who funded the project, from the United Nations Development Program and ambassadors from all over the world, including one from Arrowsic.