

Agency: Commerce, Community and Economic Development

Project Title:

Alaska Energy Authority: Fire Island Wind Farm Transmission Lines

State Funding Requested: \$ 25,000,000
One-Time Need

House District: Anchorage Areawide (17-32)

Brief Project Description:

Construction of a high voltage transmission line connecting Fire Island to existing electrical infrastructure in Anchorage.

Funding Plan:

Total Cost of Project: \$99,000,000

	<u>Funding Secured</u>		<u>Other Pending Requests</u>		<u>Anticipated Future Need</u>	
	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>
Federal Funds					\$25,000,000	2010
Other	\$99,000,000		\$26,000,000			
Total	\$99,000,000		\$26,000,000		\$25,000,000	

Explanation of Other Funds:

This is a \$150,000,000 project, and \$125,000,000 will be raised from private and other funding sources.

Detailed Project Description and Justification:

The sum of \$25,000,000 is appropriated from the general fund to the Alaska Energy Authority for transmission lines connecting a Fire Island wind farm to existing infrastructure in Anchorage, or for new substations and transmission lines, generation site acquisition, and infrastructure development, or any combination of these.

Fire Island offers a long-term source of clean, flat-priced power that would generate 50 megawatts of energy (enough to power 18,000 homes).

Project Timeline:

Contingent upon additional funding.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Alaska Energy Authority

Grant Recipient Contact Information:

Contact Name: Steve Gilbert
 Phone Number: 907-333-0810
 Address: 2525 C Street, Suite 500, Anchorage, Alaska, 99508
 Email: steveg@enxco.com

Has this project been through a public review process at the local level and is it a community priority? Yes No

For use by Co-chair Staff Only:

The key points of the appropriation would be as follows:

- (1) \$29,000,000 to be appropriated to the Alaska Energy Authority for the purpose of acquiring, owning and controlling a 138kv subsea transmission line between Fire Island and the mainland. The state contribution could be used to attract federal funds which would further offset power costs to the public, but the funding would not require federal funds in order to proceed.

(Total estimated infrastructure costs last updated in 2006: \$43 million – Electrical \$29 million; Roads and Barge Landing \$14 million)

- (2) The money could be spent by the AEA only if:
 - a. The AEA had a firm agreement in place to purchase the line, on a turnkey basis, from the wind farm owners or another private party capable of competently completing the line on schedule with wind farm construction.
 - b. The wind farm owners make a firm agreement, in advance, to commit a minimum of \$90 million to the construction of a wind farm on the island offering service to all railbelt utilities interested in long-term power purchase commitments.

Important points to consider in connection with such appropriation:

- (1) Fire Island is ready to go. We have more than five years of reliable wind data on the island, the land is secured, experienced, world-class wind developers are prepared to commit to build the project, and we have a majority of railbelt utilities that support its development.
- (2) Based upon our early discussions, we believe we can secure long term power purchase agreements for a minimum of 50MW of wind power from the island (we could discuss this in greater detail if necessary).
- (3) Fire Island offers a long term (20-30 year) source of flat-priced power, in an era when commodity prices, including gas, are rising and expected to continue to rise.
- (4) Fire Island diversifies the energy portfolio in the railbelt, adding additional renewable energy to the mix at a time when global warming is a concern both locally and nationally, and the state faces potential renewable power mandates, carbon, caps, etc. at the federal level.
- (5) The project can serve as a high profile “anchor project” for wind and other renewable statewide, providing a source of training, expertise, purchasing power and financing which can be exported from Anchorage and the railbelt to other areas of the state.

Alaska in an energy crisis?

Southcentral's known gas reserves, which residents rely upon to heat their homes and generate more than 90 percent of their electricity, will run out in less than a decade. We need more energy – SOON.

Alaska's Energy Equation

Today:
Energy = oil + gas

Tomorrow:
Energy = oil + gas + renewables
(wind + hydro + geothermal + tidal ...)

Renewables will allow Alaska to stay energy independent. They offer long-term price stability and savings, greater reliability and they won't run out.

Back in the 1970s, Alaska was a world energy superpower, and we had the largest oilfield in North America. But now oil and gas production in the Cook Inlet region, Alaska's economic center, is in steep decline and key reserves are running out. As hard as it is to believe, the state may soon become an energy importer.

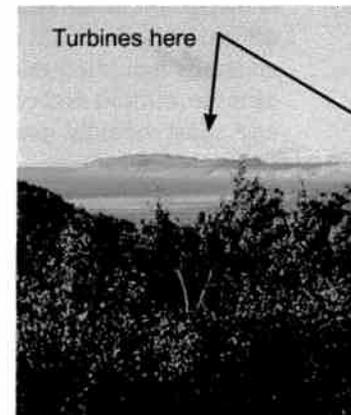
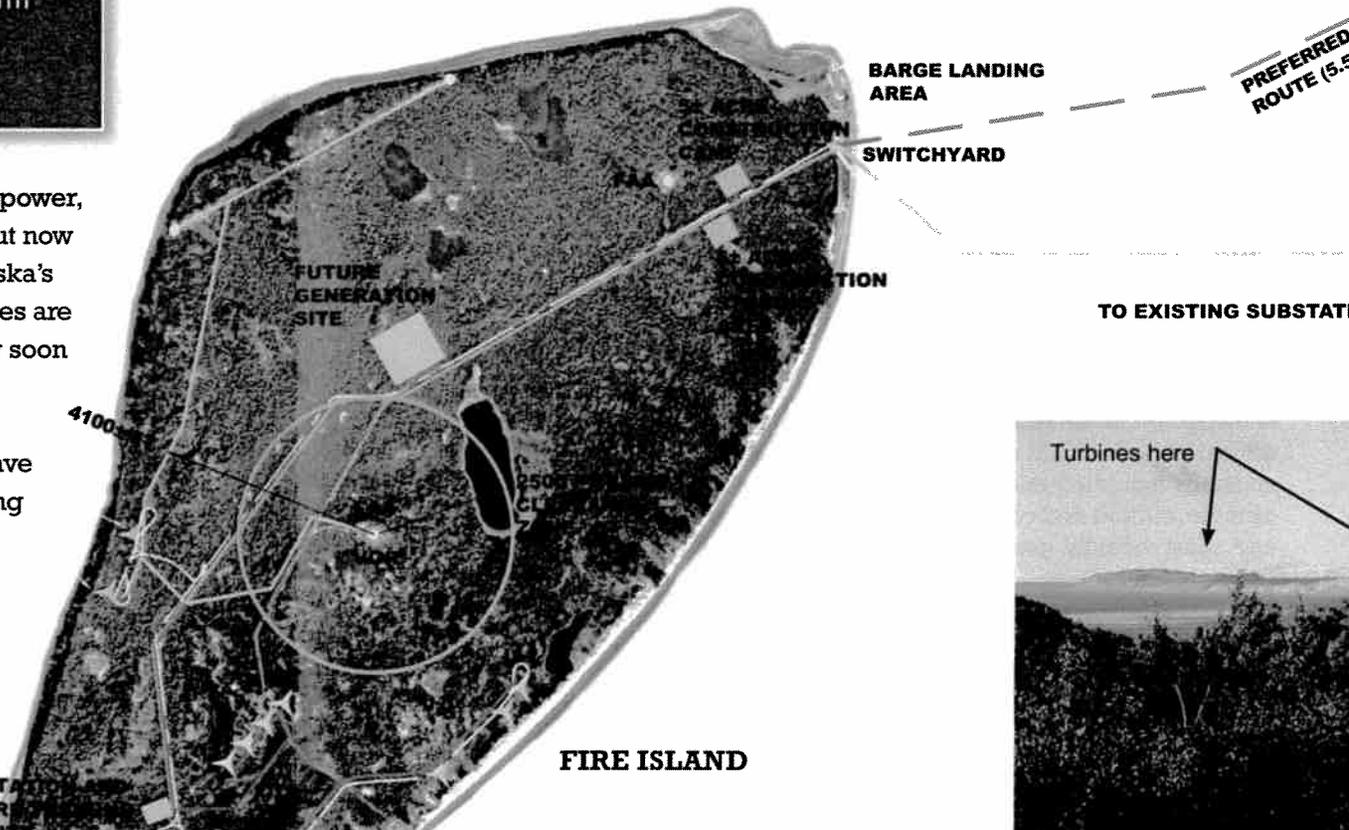
Alaska still has world-class energy resources. We have vast untapped renewable energy resources including wind, hydro, geothermal, tidal and more. These resources could help us regain our position as a world energy leader. Renewables are clean, technically and economically feasible, and they won't run out.

The Fire Island wind project is a good place to start. It could be online in as little as

Fire Island Wind Generation Concept

Courtesy of Chugach Electric Association

- WIND TURBINE
- RURAL/URBAN WORKFORCE DEVELOPMENT WIND TURBINE
- NAV-AIDS
- FIRE ISLAND
- 34.5 KV SERVICE TO LOCAL LOADS (75' ROW)
- 34.5 KV WIND TURBINE COLLECTOR SYSTEM (75' ROW)
- 138 KV OVERHEAD POLE LINE (100' ROW)
- CONSTRUCTION ACCESS ROAD (40' ROW)
- SUBMARINE AND MAINLAND TRANSMISSION LINES
- 138 KV CABLE - WORONZOF 1
- 138 KV CABLE - WORONZOF 2
- 34.5 KV CABLE - RASPBERRY



Why wind?

Alaska is an energy state that is rich in renewable energy resources including wind, hydroelectric, geothermal, tidal and more. State, national and world energy demand and prices are increasing at the same time

Alaska's oil and gas production is in steep decline. Alaska must develop more of its energy resources, especially renewable energy resources, to remain energy independent and keep its economy strong.

It makes both economic and environmental sense to develop wind and other renewable energy resources.

- The long-term cost of wind-generated electricity is less expensive and more predictable than fossil-fuel powered sources.
- Wind is a no-cost fuel that won't run out.
- A single 1.5-megawatt wind turbine can provide electrical power to about 400 Anchorage homes.
- Wind power generation reduces greenhouse gas emissions and other environmental impacts of fossil fuel-based generation.
- The America Wind Energy Association estimates that in 2007, wind power displaced approximately 19 million tons of carbon dioxide.

Why Fire Island?

• Phase 1 of the proposed Fire Island wind project would generate up to 50 megawatts of electricity via 24 turbines, enough to power up to 18,000 homes. The project could later be expanded to generate approximately 100 megawatts of electricity.

• Federal Aviation Administration technical concerns have been resolved.

Wind Turbine Information

Wind turbine towers – 264 feet tall
 Wind turbine blades – 150 feet long
 Turbine rotational speed – 20 RPM
 Turbine foundation – concrete



What can you do?

- Contact your local electric utility to find out its policy on renewable energy and energy-supply diversification.
- Tell your legislators that you support resource development, including wind and other renewable energy options.
- Tell your local utility cooperative officials you want them to support wind and other renewable-energy development.
- Vote for candidates who support development of wind and other renewable energy sources.



Wind Energy Alaska is an Alaska company dedicated to developing and operating commercial-scale wind and other renewable energy projects along the state's Railbelt-energy grid and in other areas of Alaska. It is a 50/50-owned subsidiary of CIRI and enXco, Inc. www.windenergyalaska.com



CIRI is an Alaska Native corporation. The Anchorage-based company is respected for its strategic investments, excellent management and ethical behavior. CIRI and its subsidiaries engage in diverse business activities including energy and resource development, real estate development, oilfield and construction services, tourism, telecommunications and, most recently, government contracting. www.ciri.com



enXco is an EDF Energies Nouvelles Company, develops, constructs, operates, and manages renewable energy projects throughout the



**Anchorage Chamber of Commerce
Board of Directors
Resolution 2005/06-15
In support of the Development of a Wind Power Installation on Fire Island, near
Anchorage**

WHEREAS, the abundant supply of natural gas that South Central Alaska has enjoyed for decades is diminishing quickly, and may result in demand exceeding supply as soon as 2009; and

WHEREAS, the price of natural gas in South Central has been steadily increasing; and

WHEREAS, because natural gas is a finite world commodity its price is likely to continue to rise as more consumers around the world demand it; and

WHEREAS, utilities in the Railbelt generate more than 85 percent of their electricity from natural gas; and

WHEREAS, the timetable for North Slope gas making it to market in South Central Alaska is uncertain; and

WHEREAS, the price of producing electricity with wind has declined dramatically over the last two decades making wind power the fastest growing energy sector in the world today; and

WHEREAS, Chugach Electric Association's years long investigations into wind power resources within its service area have found that Fire Island, just off the coast of Anchorage, has an excellent wind resource; and

WHEREAS, a wind installation on Fire Island could produce up to 100 megawatts of electricity, or more, for the Railbelt; and

WHEREAS, because there is no fuel cost associated with wind power the cost of electricity from a Fire Island wind development would be fixed for the first 20-25 years of the project, and thereafter could actually decrease; and

WHEREAS, the federal production tax credit, an important financial incentive for renewable energy developments, has recently been reauthorized by Congress through December 31, 2007; and

WHEREAS, a wind development on Fire Island will bring commercial power to the FAA and U.S. Coast Guard facilities already located there; and

WHEREAS, a wind development on Fire Island will promote economic activity on the island, which is good for Anchorage and the surrounding areas; and

WHEREAS, a wind development on Fire Island will create approximately 200 short term construction jobs and seven long term maintenance jobs; and

WHEREAS, a wind development on Fire Island will reduce the amount of natural gas burned in the Anchorage area, saving it for other uses; and

WHEREAS, a wind development on Fire Island would greatly enhance the public's knowledge and understanding of producing power from local and inexhaustible resources; and

NOW THEREFORE BE IT RESOLVED THAT, the Anchorage Chamber of Commerce supports the development of a substantial wind development project on Fire Island.

BE IT FURTHER RESOLVED THAT, the Anchorage Chamber of Commerce encourages the state legislature, the Governor, and Alaska's Congressional delegation to support the construction of the infrastructure necessary to develop the Fire Island wind resource in perpetuity, including the construction of a high voltage undersea cable to connect the island to the Anchorage power grid, and a barge dock and roads on the island; and

BE IT FURTHER RESOLVED THAT, copies of this resolution be sent to all members of the Anchorage Chamber of Commerce, Senators Ted Stevens and Lisa Murkowski, Congressman Don Young, Governor Frank Murkowski, the Alaska Legislature, the Mayor of Anchorage and local media.

APPROVED the 3rd day of March 2006



Mary Ann Pease, 2005-2006 Chair



Stacy Schubert, President