



# CIRI

**Alternative energy solutions for Alaska**

**Stone**  
HORN RIDGE

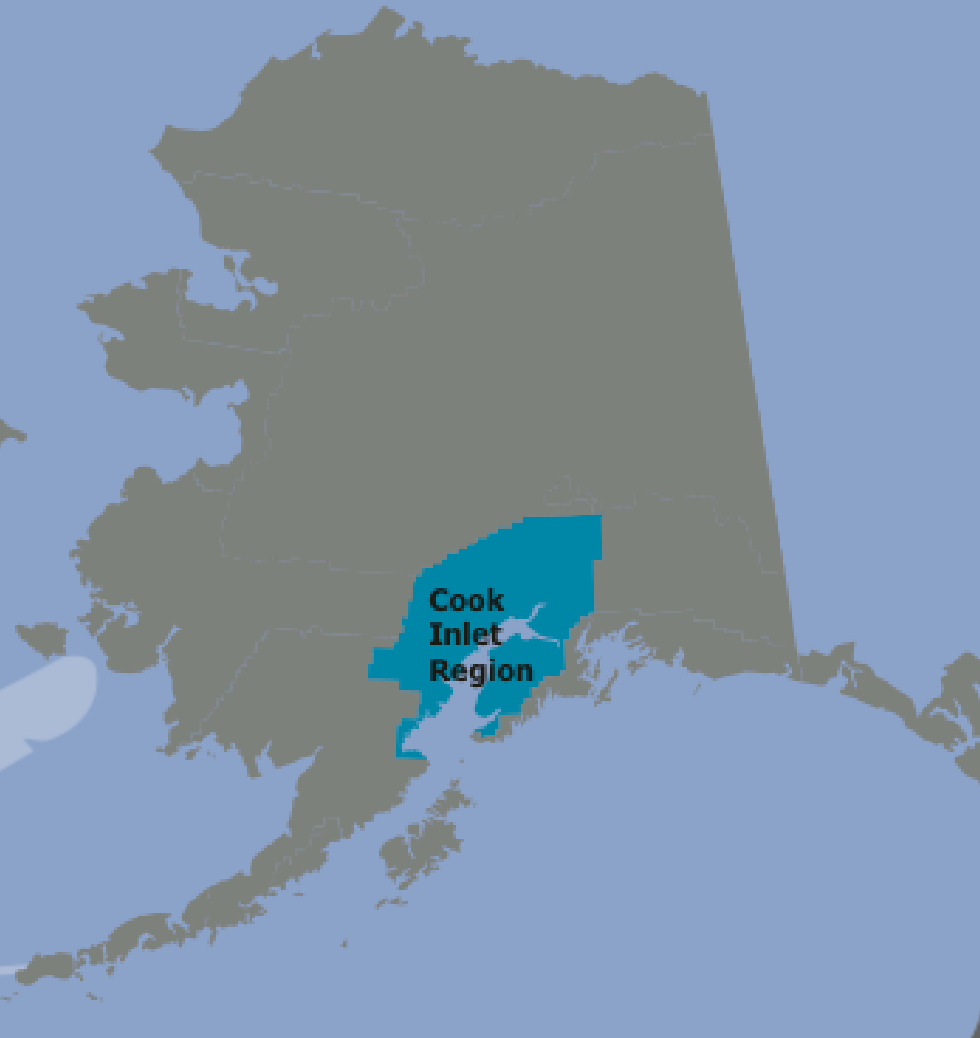




**An Alaska Native corporation with diverse business interests:**

- Energy and resource development
- Oilfield and heavy construction services
- Real estate development and management
- Environmental remediation services
- Tourism and hospitality

CIRI is the **largest private landowner in Southcentral Alaska** with more than 1.3 million acres of surface and subsurface estate available for responsible oil, gas, mineral and alternative energy development



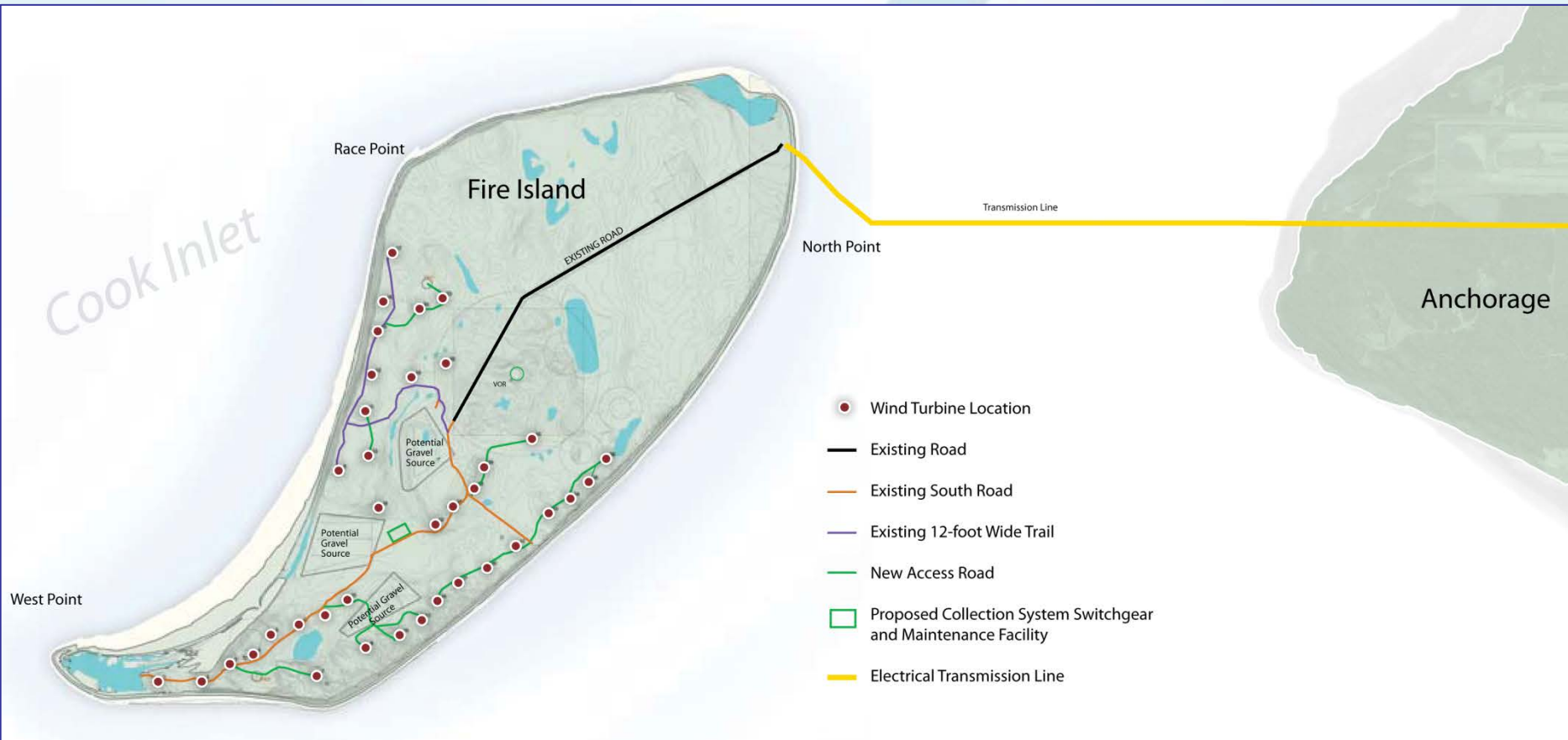
# Fire Island Wind<sup>LLC</sup>

A stylized graphic featuring a light blue wind turbine with three blades. Overlaid on the turbine is a target symbol consisting of concentric blue circles and a blue spiral. Several small dark blue dots are scattered around the target.

Sustainable wind energy  
for Southcentral Alaska

# Fire Island Wind Project

Fire Island Wind LLC (a CIRI subsidiary) is developing Southcentral Alaska's first utility-scale wind project





# Project Overview

- Located on Fire Island, near Railbelt load center, three miles west of Anchorage
- First power fall 2012
- Chugach Electric Association power purchase agreement: 25-year term starts Jan. 1, 2013



## Project description

- 11 General Electric 1.6 MW XLE wind turbines
- 17.6 MW capacity
- 32.8 percent net capacity factor
- ~51,000 MW-hours annually ~ 6,000 households
- Offset ~0.5 bcf natural gas consumption annually
- On-island infra-structure: roads, electrical collection and transmission systems, overnight crew facilities, and operations and maintenance building
- Subsequent phases could include 22 more turbines

# Project Status Report

- Chugach agreed to purchase 100% of Phase I power
- Regulatory Commission of Alaska reviewed and approved cost recovery for Chugach PPA in October
- Contracts executed for major project components
- Project financial closing with CoBank on November 30
- Transmission line construction is underway and on schedule





# Transmission Interconnection

## Your \$25 million State of Alaska investment

- 12.5 mile, 34.5 kV double-circuit transmission line
- Land-based construction: Northern Powerline Constructors, a local company
- Marine construction: Cruz Companies, a local company
- Transmission cable and switchgear
- Chugach to own and maintain line



# Balance of Plant Construction (On-Island Activities)

## Delaney Construction Group

- A Tetra Tech company
- Constructed wind projects nationwide
- Constructed a megawatt-scale wind project in Alaska (Kodiak's Pillar Mountain)
- Significant subcontracts with local contractors



# Project Schedule

## 2011

- Executed commercial contracts
- Closed project financing
- Initiated transmission line construction

## 2012

- Complete on-island civil and electrical construction
- Deliver and erect wind turbines
- Finish transmission interconnection
- Project commissioning and commercial operation



# **Project supports Alaska energy goals, domestic manufacturing and local job creation**

## **Sustainable energy project**

- Private investment
- Locally owned and operated
- Local job creation
- Local contract opportunity
- Energy supply diversification
- Long-term energy price stability
- Environmentally responsible



The logo features the word "Stone" in a large, orange, sans-serif font. Below it, the words "HORN" and "RIDGE" are written in a smaller, dark grey, sans-serif font. To the right of the text is a stylized graphic of a flame or drop shape, with a yellow-to-orange gradient at the base and a grey-to-white gradient at the top.

# Stone HORN RIDGE

An Alaska energy company



# Stone Horn Ridge

- Alaska energy company developing underground coal gasification (UCG) project
- Joint venture of CIRC and Laurus Energy, a Houston-based UCG technology company
- UCG technology provided by license from Ergo Exergy



# UCG: Proven, Clean Technology

- UCG is a proven technology that converts coal “in situ” to produce syngas
- Process occurs below impermeable rock layers isolated from freshwater aquifers
- Eliminates many environmental and safety risks
- More than 50 test and commercial projects completed worldwide
- An emerging energy technology



# Southcentral Alaska Energy

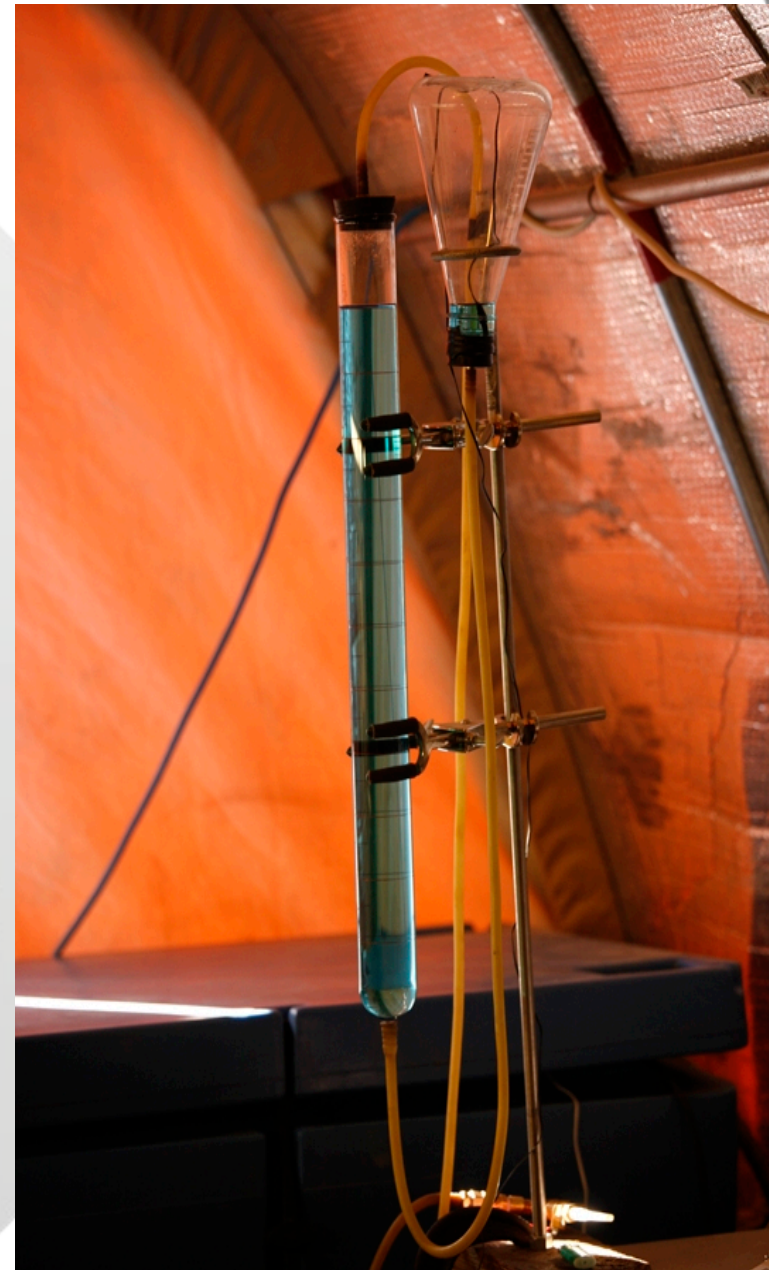
- Produce energy for local use and export
- CIRI core drilling confirmed significant commercial coal reserves
- Favorable geology for UCG development
- Global-scale coal resource
- Tidewater location
- Local energy market need





# Synthesis Gas

- Electrical generation
- Upgrade via methanation into methane ( $\text{CH}_4$  -- a/k/a synthetic natural gas)
- Feedstock to produce
  - clean liquid fuels
  - fertilizer
  - other petrochemical products



# Stone Horn Ridge site





# Project History

- 13-hole core drilling and wire line data program
- Completed concept-level engineering and costing of large scale surface facility
- Completed initial geological, rock mechanics and hydrogeological site model
- Validated large commercial UCG resource and appropriate geology for development
- Completed shallow, high-resolution, 2-D seismic program with project

# Project Update and Next Steps

- Incorporate seismic data to complete model of site geology
- Initiate permitting process for site characterization
- Start baseline environmental data collection
- Design site characterization drilling program
- Pursue commercial operations and syngas production





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