WIND GENERATION FEASIBILITY STUDY IN BETHEL, ALASKA

Presented to:
U. S. Department of Energy
October 1, 2002

Agenda

- Project Overview
- Project Location
- Project Participants
- Objectives
- Requested Technical support

Project Overview

- Feasibility study for installation of wind turbines in Bethel, Alaska and surrounding Alaska Native communities in YKHC territory.
- Power produced will serve YKHC facilities.
- Energy cost savings resulting from this project would allow the YKHC to direct more money toward its core mission of providing quality health care to the Alaska Native communities in the Yukon-Kuskokwim Delta region

Project Description

- 12 months of wind monitoring at 4 locations.
- Analysis of wind energy feasibility at each of three YKHC facility types (i.e. Regional Hospital, Sub Regional Clinic, and Village Clinics.
- Quantification of financial costs and benefits.
- Research and analysis of non-quantifiable costs and benefits.
- Preliminary design.
- Implementation plan/Business case.

Project Benefits

Economic

- Reduced energy costs
- Short-term and long-term employment opportunities

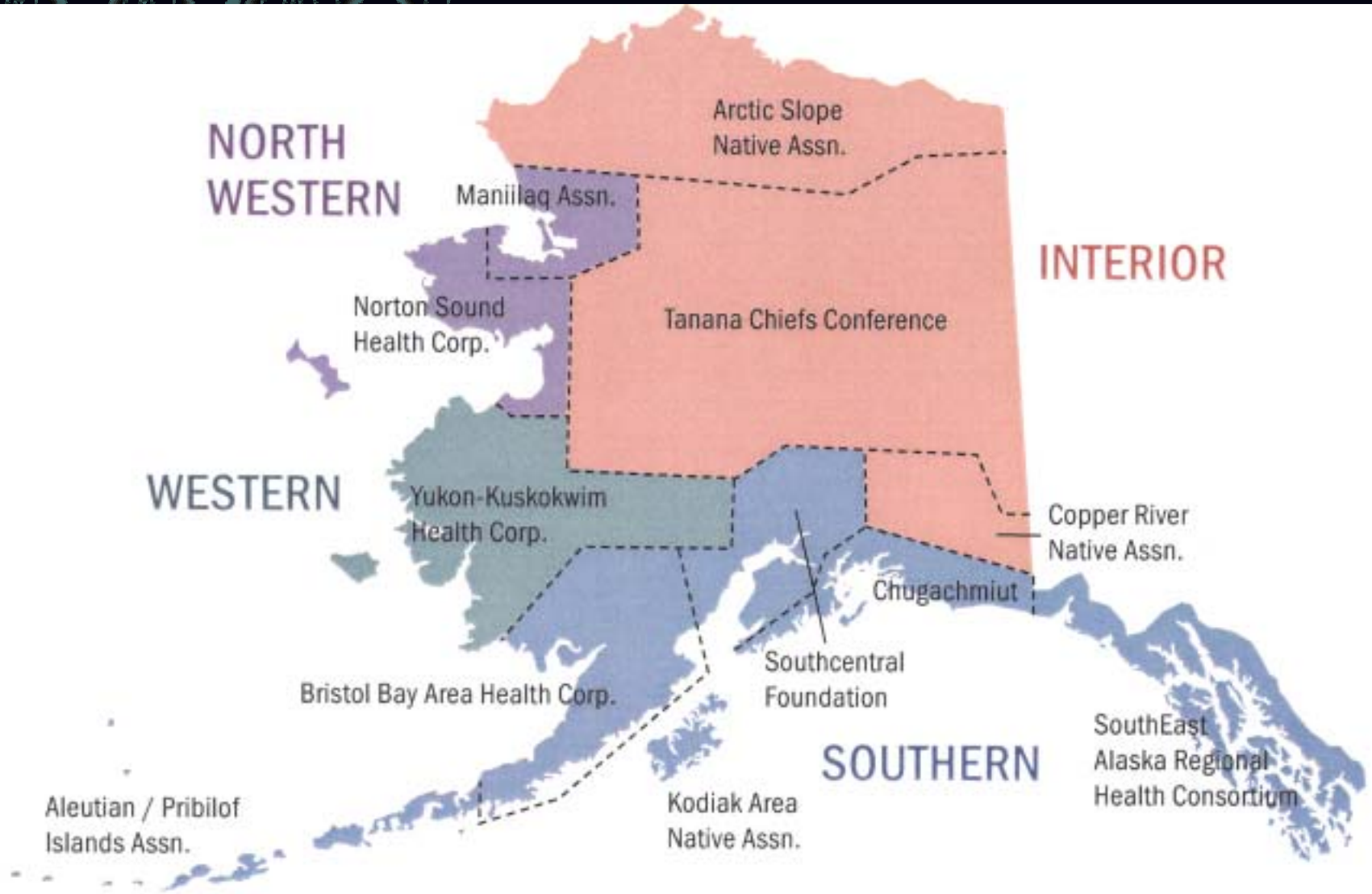
Environmental

- reduced emissions
- reduced fuel handling and transport

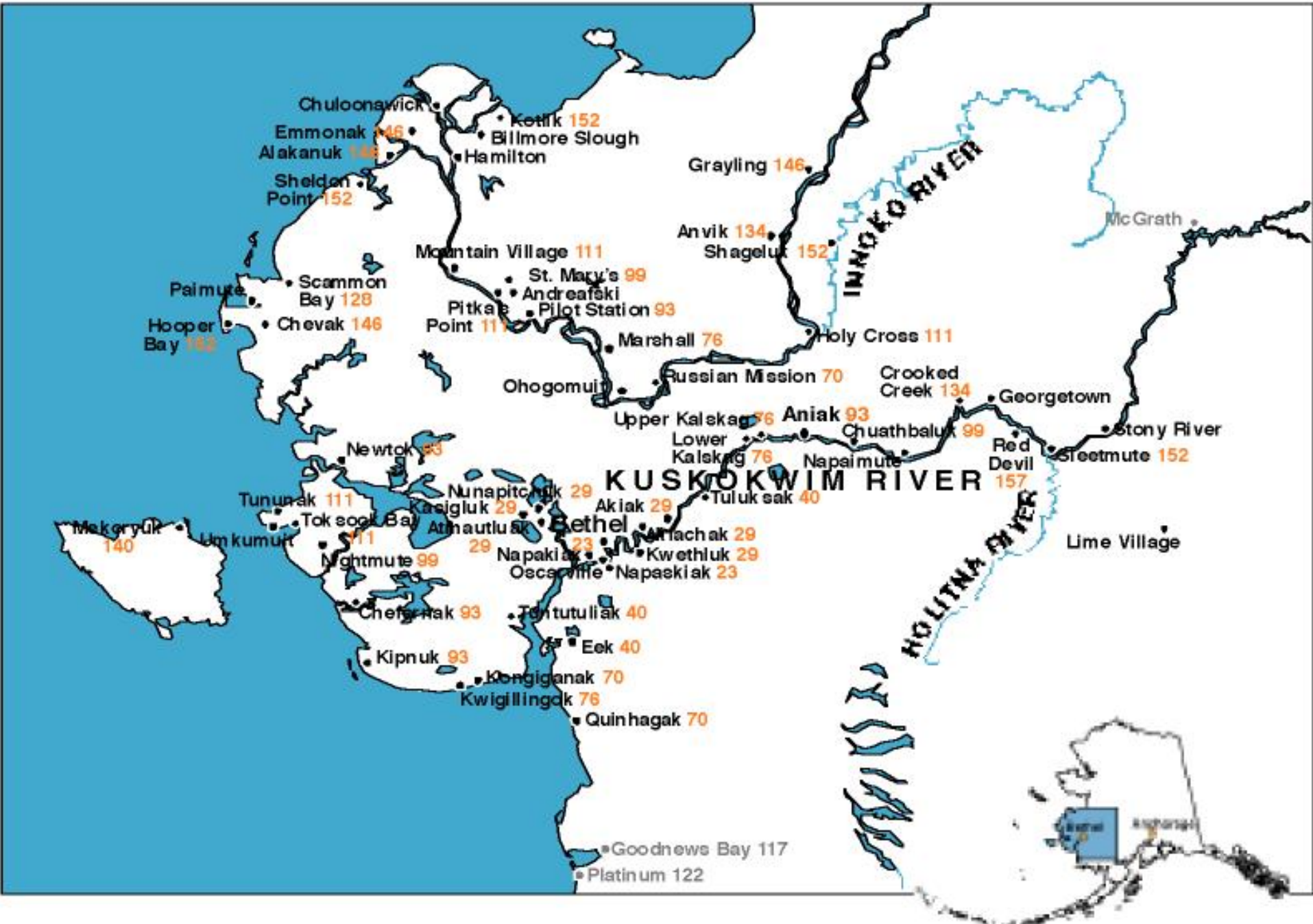
Social and Cultural

- greater self-sufficiency

Project Location


NORTH WESTERN
Arctic Slope Native Assn.
Maniilaq Assn.
INTERIOR
Norton Sound Health Corp.
Tanana Chiefs Conference
WESTERN
Yukon-Kuskokwim Health Corp.
Copper River Native Assn.
Chugachmiut
Southcentral Foundation
Bristol Bay Area Health Corp.
SouthEast Alaska Regional Health Consortium
SOUTHERN
Aleutian / Pribilof Islands Assn.
Kodiak Area Native Assn.

Air Miles from Bethel



Project Participants

- Yukon – Kuskokwim Health Corporation
- Alaska Native Tribal Health Consortium
- Newcomb Anderson Associates

Yukon-Kuskokwim Health Corporation

YKHC administers a comprehensive health care delivery system for 58 rural communities in southwest Alaska. The system includes community clinics, sub-regional clinics, a regional hospital, dental services, behavioral health services including substance abuse counseling and treatment, health promotion and disease prevention programs, and environmental health services.

Yukon-Kuskokwim Health Corporation

Yukon-Kuskokwim Health Corporation

YKHC is a tribal organization. Each of the 58 communities is its service area is a federally recognized Tribe. Each Tribe's governing council has authorized YKHC to act in it's behalf in negotiating with the Federal Indian Health Service to provide health care services under Title III of the Indian Self-Determination and Education Assistance Act of 1975.

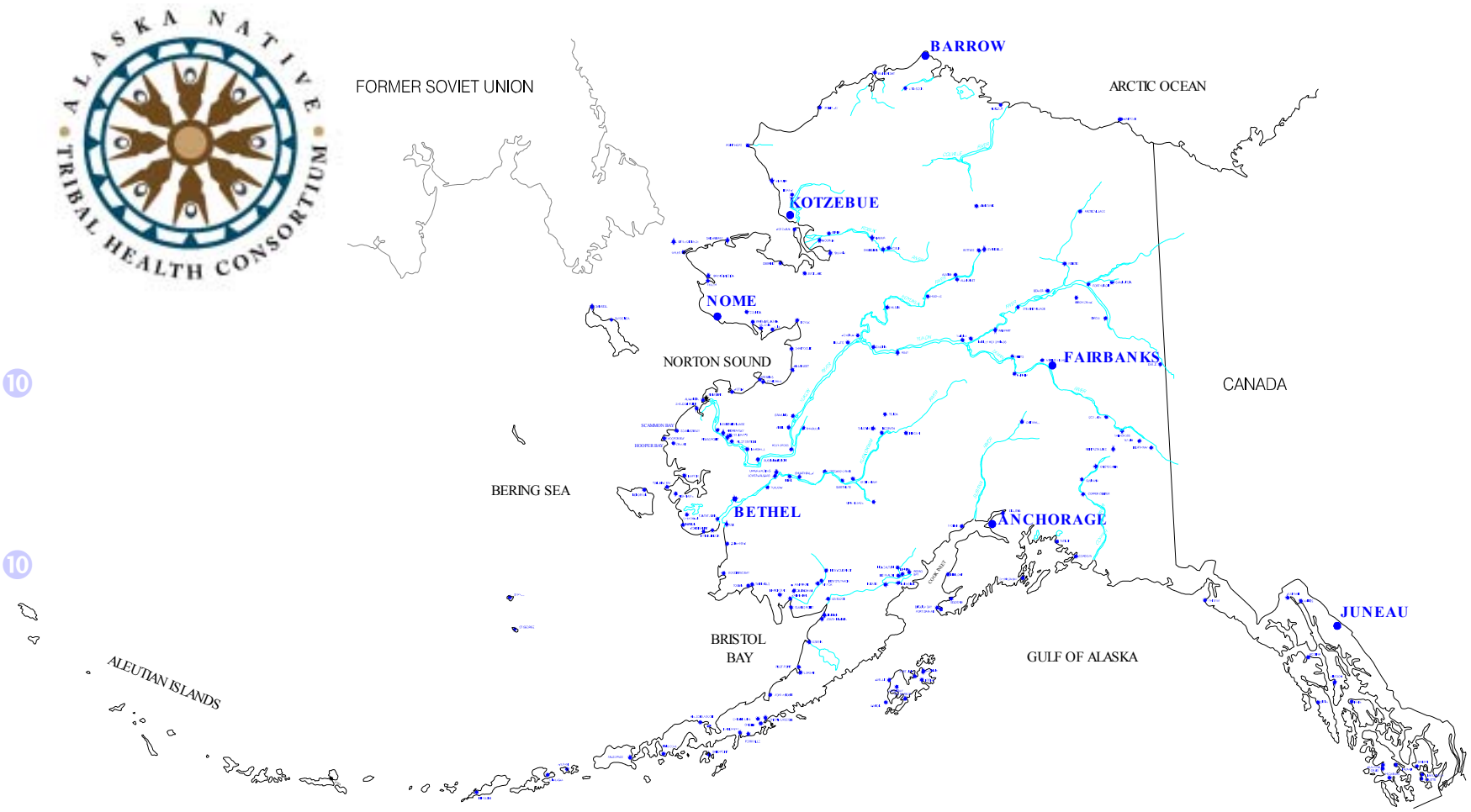
Yukon-Kuskokwim Health Corporation

<-Nightmute Clinic

McCann Center ->
(Inhalant Treatment

Yukon-Kuskokwim Health Corporation

YKHC, along with 12 other Tribal Organizations, is a co-signer to the Alaska Tribal Health Compact, a consortium which negotiates annual funding agreements with the federal government to provide health care services to Alaska Natives and Native Americans throughout the state.


ALASKA NATIVE TRIBAL HEALTH CONSORTIUM
FORMER SOVIET UNION
BARROW
ARCTIC OCEAN
KOTZEBUE
NOME
NORTON SOUND
FAIRBANKS
CANADA
BERING SEA
BETHEL
ANCHORAGE
JUNEAU
BRISTOL BAY
GULF OF ALASKA
ALEUTIAN ISLANDS

Department of Environmental Health & Engineering (DEHE)

Sustained Operations	Environmnetal Health Services	Central Engineering Services	Regional Facilities Programs
O&M Central Supply RUC	Institutional Environ Consult Injury Prevention Safety Fluoridation	Statewide Standards & Processes Advisory Committees	Sanitation Projects M&I Projects Clinic Projects

In partnership with the Native communities we serve, DEHE:

- Promotes sustainable economies
- Develop community infrastructure
- Promotes health lifestyles

Wind Project Initiation and Planning

- Project Planning
  - Technical request and / or data gathering & monitoring
- Project Analysis
  - Initial community visit
  - Data Collection
  - Field Evaluation
  - Project Meetings

Project Design and Construction

- **Design**
  - **Location w/ wind resource data/history**
  - **Sub-Arctic Design & Construction Expertise**
  - **Field Evaluation/ Application/Selection**
  - **Optimize Design Options**
- **Construction**
  - **Identify funding**
  - **Select Qualified Installer**
  - **Manage Installation**
  - **Operate & Monitor & Mitigate high energy costs**

Newcomb Anderson Associates

- Newcomb Anderson Associates has been a leader in energy engineering and consulting, program development, full service implementation, follow-up services and specialty products since 1983
- The firm offers a full array of energy engineering, consulting, program development and implementation products and services
- Performed thousands of energy audits for utilities, local, state and federal governments, and private sector clients
- Instrumental in helping ANTHC identify over $560,000 in annual energy savings at three sites.

NEWCOMB ANDERSON ASSOCIATES

Project Objectives

- Analyze/verify the economic, environmental, social and cultural benefits of initiating a market shift to the development of renewable/sustainable energy generation on Tribal Lands
- Develop a road map for the successful implementation of a wind generation project if the results of the feasibility study so warrant

Requested Technical Support

- Use of one anemometer through NREL's Native American Anemometer Loan Program.
- Technical expertise in purchase and installation of three additional anemometers.
- Access to other wind data in the region.