# Calista Energy Management
## Assistance Initiative

## US Dept. Of Energy
### Office of Indian Energy

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# Community Sustainability

## 1. Transportation Access

- Access In & Out
- Airports, ferries, railroad, ports, roads, trails
  - Federal Land restrictions isolate our communities and resources today

## 2. Affordable Energy

- Dependable Power
- Affordable Energy
  - Diesel used for heat and electricity is largely imported
  - Few Transmission Grids



Pilcher Mtn. at Marshall, AK

## Economy

- Economy (jobs) means access to our God Given Resources:
  - Minerals
  - Oil and Gas
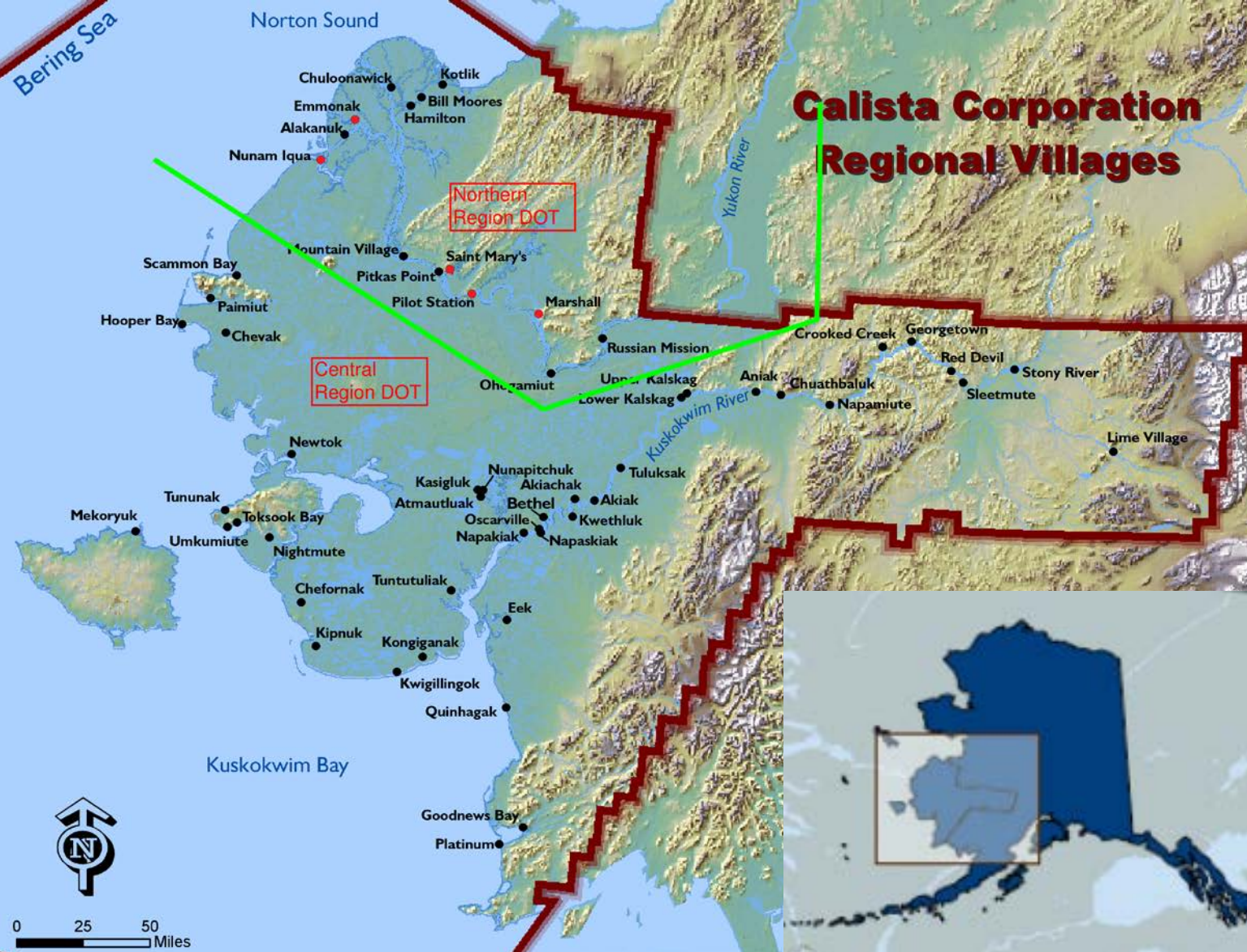  - Forests
  - Mammals
  - Fisheries
  - People!



Barge docked at Emmonak, AK

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**Calista Corporation Regional Villages**

## 57,000 sq. m. vs. IL 56,343 sq. m. #24 in US

| Demographics | Calista Region | Alaska |
|---|---|---|
| Population | 25,735 | 737,259 |
| Median income | 45,933 | 70,760 |
| High school education | 78.1% | 91.6% |
| Bachelor's + | 8.6% | 27.5% |
| Persons below poverty | 27.1% | 9.9% |
| Persons under 18 years | 39.1% | 25.6% |
| Unemployment Rate | 17.6% | 6.3% |

Source: US Census

| January 2015 | Y-K Delta | On-Road | Statewide |
|---|---|---|---|
| Heating Fuel | $6.38 | $3.41 | $5.10 |
| Gasoline | $6.90 | $3.42 | $5.80 |

| 2012 Fish & Game Subsistence | Households Harvesting-Sharing | Est. Harvest/lbs All Resources |
|---|---|---|
| Bethel Hub | 85.1% - 70.1% | 954,525 |

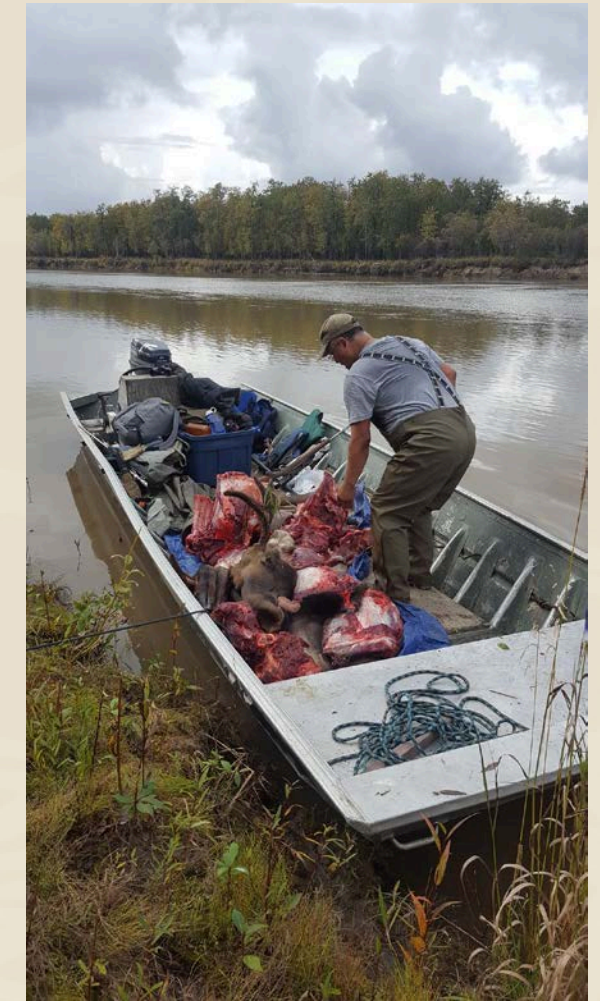CALISTA CORPORATION
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# Calista Energy Management Assistance Initiative

- Aims to provide technical assistance to the 56 tribal communities

- Reduce costs of electricity and heating

- Improve operational efficiency

- Enhance human capacity & job opportunities

- Integrate energy plans, i.e. AVCP Inc. , system maintenance & development efforts across communities

- CEMAI will create a regional roadmap, increase economies of scale and foster resilient service delivery

- CEMAI will measure and benchmark energy performance outcomes/costs across communities

- Assist with Rate Setting and Financial Planning

- Provide access to experts across region, state and nation

- Facilitate intra-regional communication, education and outreach

- Aggregate needs and opportunities through an IT platform

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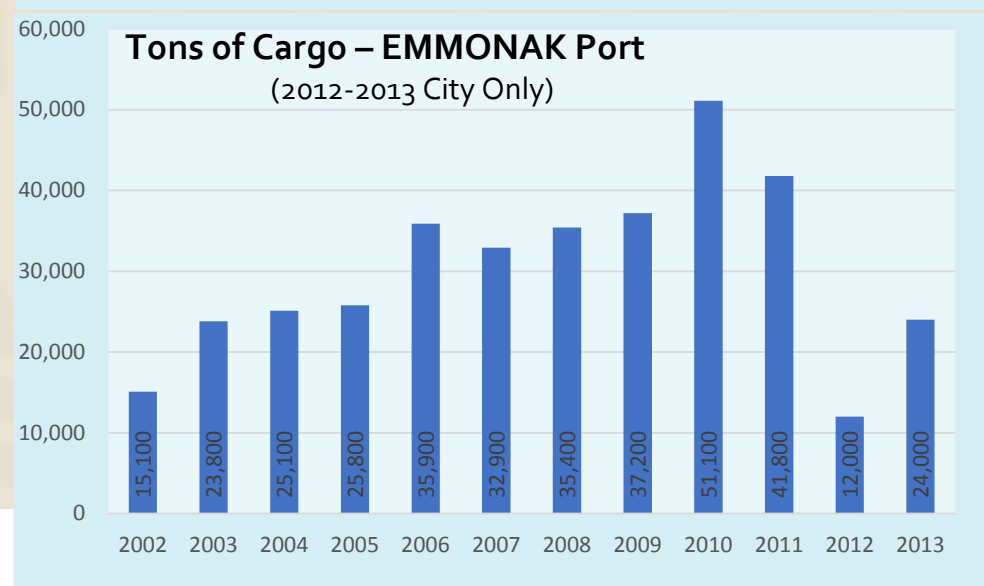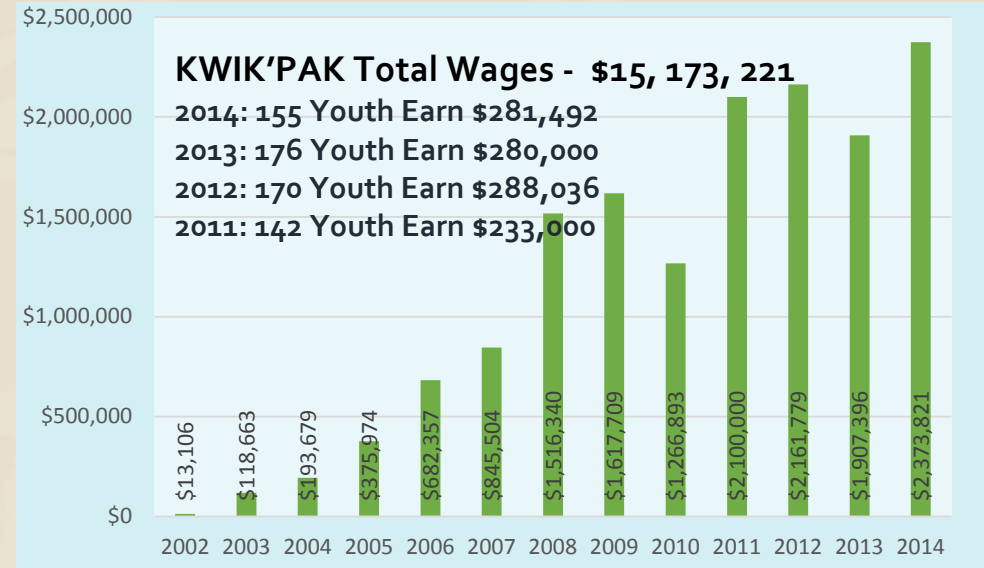
# Reduce energy costs to facilitate subsistence

- Replace Old Refrigerators
- Install LED lights
- Energy Efficiency Assessments of Homes
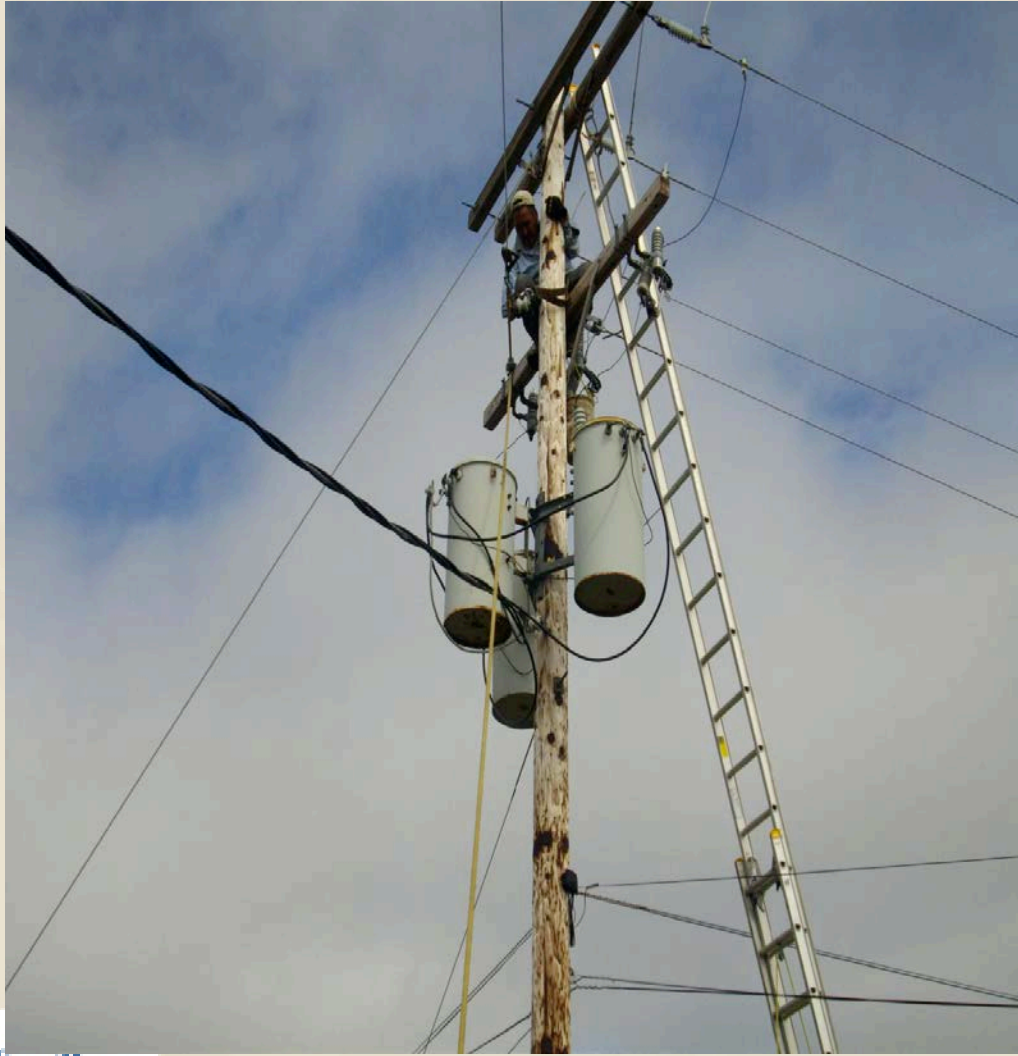- using thermal imaging cameras
- blower door tests

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# Capacity Building: Reduce cost of energy for Industry



**Skiff Manufacturing/Repair**
243 Skiffs built since '99
2014 9 employees Earn $298,405

**KWIK'PAK Total Wages - $15, 173, 221**
2014: 155 Youth Earn $281,492
2013: 176 Youth Earn $280,000
2012: 170 Youth Earn $288,036
2011: 142 Youth Earn $233,000

| Year | Wages |
|------|-------|
| 2002 | $13,106 |
| 2003 | $118,663 |
| 2004 | $193,679 |
| 2005 | $375,974 |
| 2006 | $682,357 |
| 2007 | $845,504 |
| 2008 | $1,516,340 |
| 2009 | $1,617,709 |
| 2010 | $1,266,893 |
| 2011 | $2,100,000 |
| 2012 | $2,161,779 |
| 2013 | $1,907,396 |
| 2014 | $2,373,821 |

**Tons of Cargo – EMMONAK Port**
(2012-2013 City Only)

| Year | Tons |
|------|------|
| 2002 | 15,100 |
| 2003 | 23,800 |
| 2004 | 25,100 |
| 2005 | 25,800 |
| 2006 | 35,900 |
| 2007 | 32,900 |
| 2008 | 35,400 |
| 2009 | 37,200 |
| 2010 | 51,100 |
| 2011 | 41,800 |
| 2012 | 12,000 |
| 2013 | 24,000 |

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# Capacity Building and Training
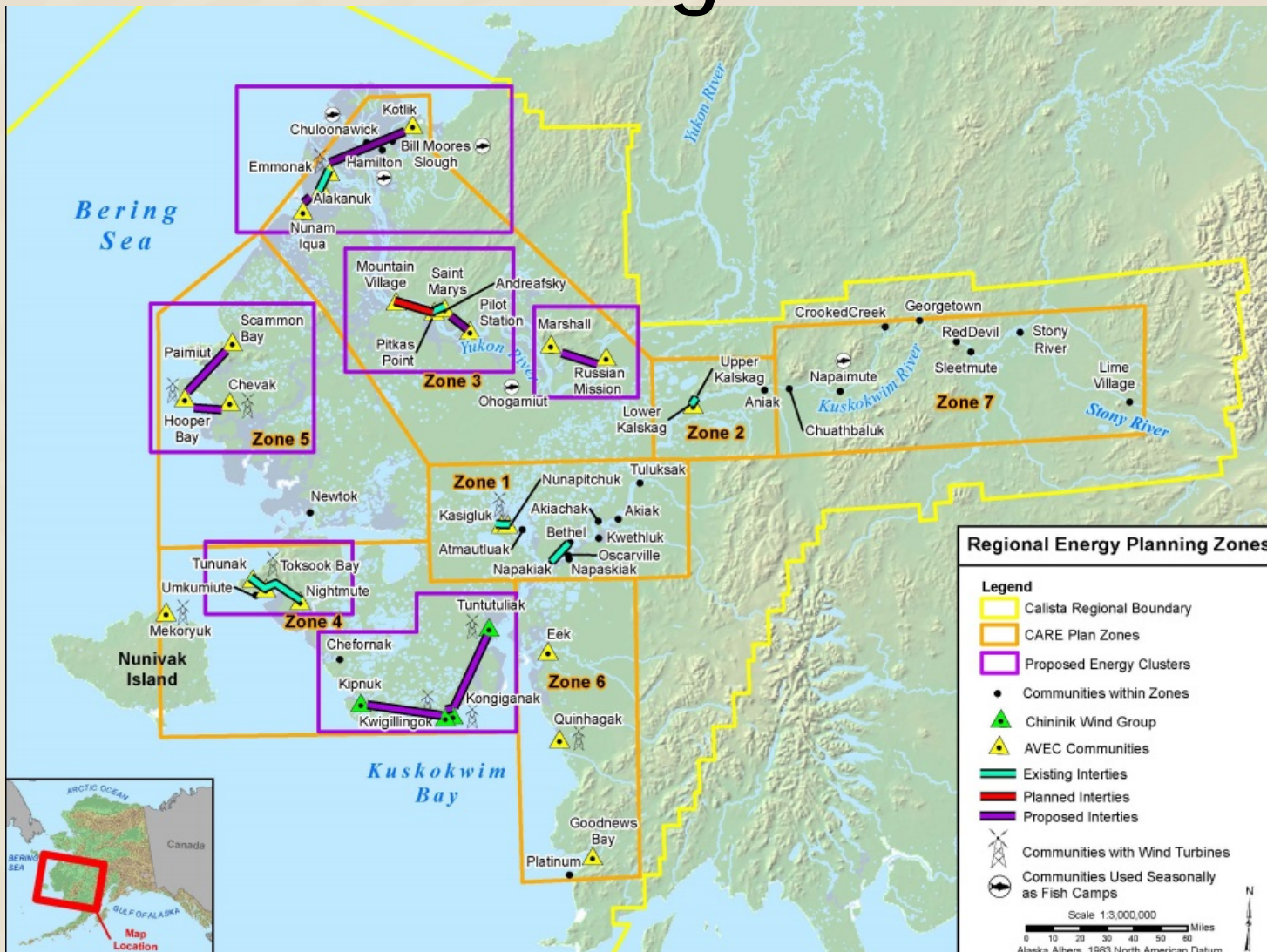
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# Solution: Village Cluster Consolidated Services



## High Cost of Energy Threatens Sustainability

| AVEC, Inc. | No PCE | PCE | Anchorage | Alaska |
|---|---|---|---|---|
| Cents/KwH | 59.17 | 39.55 | 13.48 | 17.88 |

1. **Access:** commit to link villages by road

2. **Energy:** commit to transmission lines

3. **Coordination:** of the shared public services, infrastructure, Maint. & Ops.
   - Power Plants
   - Schools-institute regional high schools
   - Airports
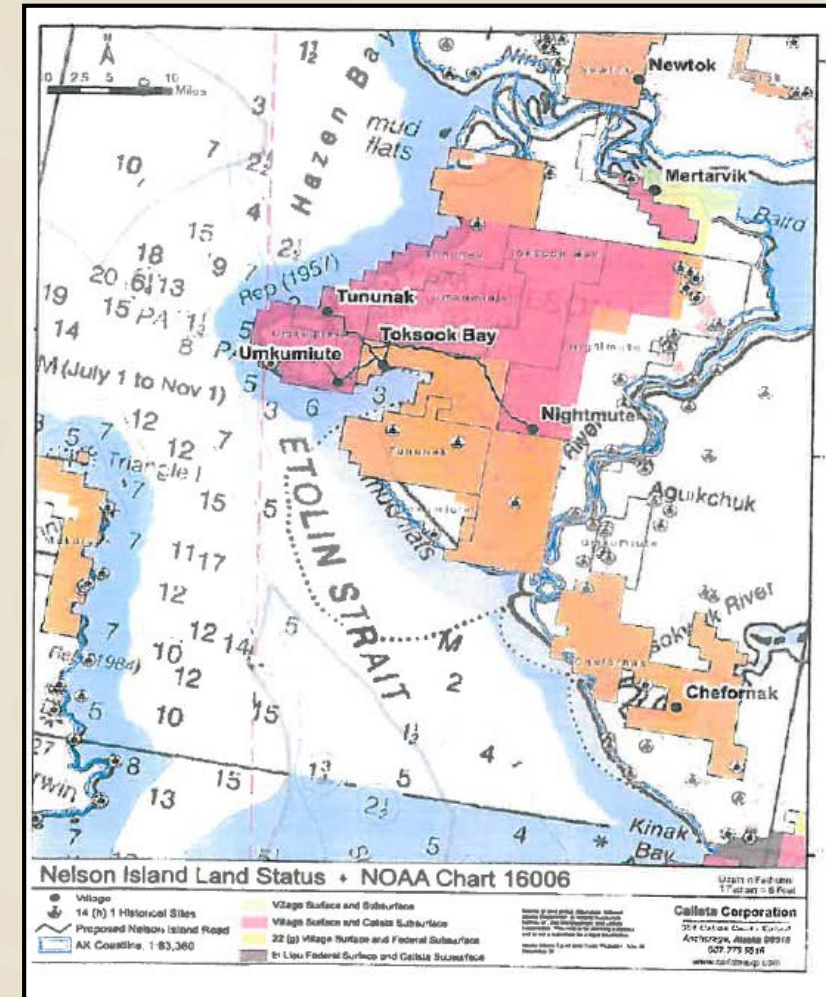   - Sub-regional Clinics already implemented

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# Village Cluster Consolidated Services

**State Benefits:**

- Reduce Duplication
- Economies of Scale
- Coordinated State Agency Master Plans
- Sharing of Resources
- Centralized, Better Schools
- Leverage Limited State Capital & Operating Funds

**Local Benefits:**

- Linked Communities
- More Reliable Power
- Cheaper Energy and Transportation Costs
- Higher Quality Services
- Improved Education for Rural Students
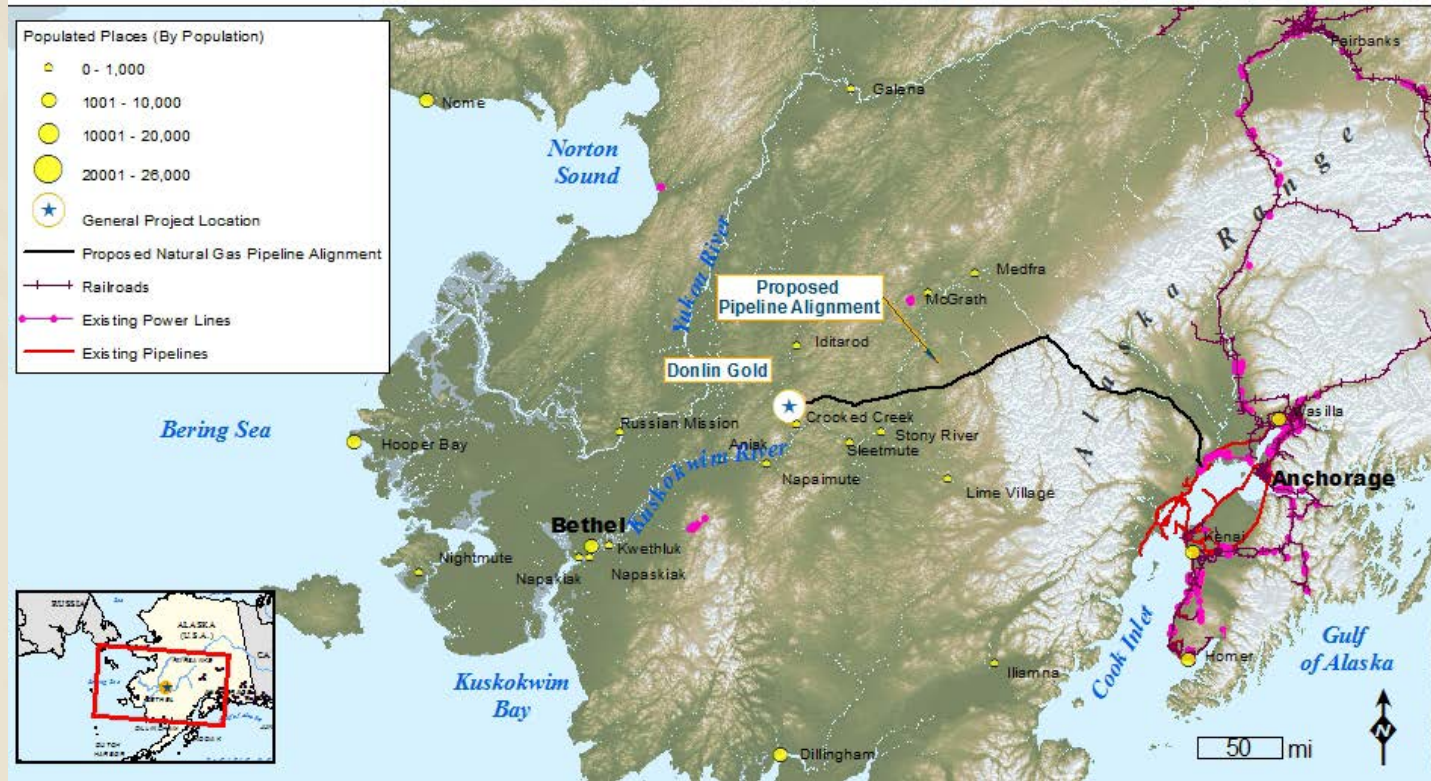- Improved emergency services and resources



Toksook Bay Cluster Communities

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# Donlin Creek Mine Proposes Affordable Energy



**$1 Billion pipeline privately financed**

- Provides dependable power
- 315 mile buried 14" natural gas pipeline
- Capacity to transmit < 5% of the proposed Alaska LNG project
- **Affordable energy** for the region
- Potential to expand into an energy grid for the planned cluster community electric interties

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# Quyana - Thank You!
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