

Project Overview

Alaska Energy Plan
Alaska Energy Authority

Project Goals

- **Reduce the cost of energy to Alaska**
- **Rapidly identify and deploy solutions**
- **Complete analysis by December 2008**

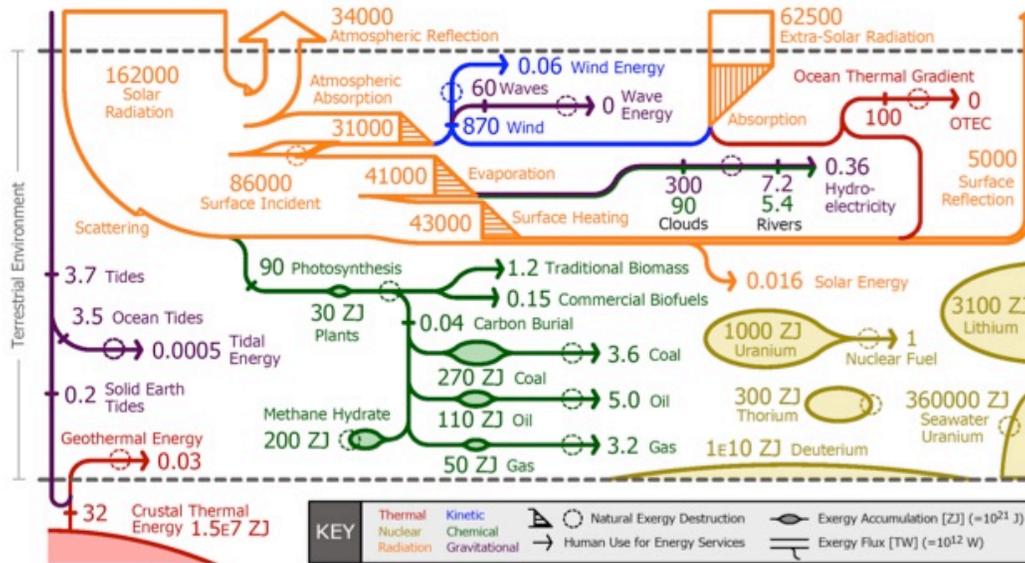
Deploy solutions as soon as identified.

Project Results

- **Identify and deploy energy sources that are vertically integrated, economic, long-term stable priced, and sustainable.**

Guiding Principals

- **Provide energy in a form that can be used in existing infrastructure.**
- **Evaluate costs on a delivered basis.**
- **Use low-profit business structure.**
- **Minimize risk of technology failure.**
- **Engage Alaskans in the solution.**
- **Seek the lowest cost energy to each community.**



Exergy is the useful portion of energy that allows us to do work and perform energy services. We gather exergy from energy-carrying substances in the natural world we call energy resources. While energy is conserved, the exergetic portion can be destroyed when it undergoes an energy conversion. This diagram summarizes the exergy reservoirs and flows in our sphere of influence including their interconnections, conversions, and eventual natural or anthropogenic destruction. Because the choice of energy resource and the method of resource utilization have environmental consequences, knowing the full range of energy options available to our growing world population and economy may assist in efforts to decouple energy use from environmental damage.

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Regions- Regional Educational Attendance Areas

- Anchorage: June 4
- Aniak: May 7
- Barrow: June 2
- Bethel: May 6
- Craig: May 29
- Dillingham: May 15
- Fairbanks: April 30
- Ft Yukon: May 1
- Galena: May 1
- Glenallen: June 3
- Juneau: May 27
- Kake: May 29
- Ketchikan: May 28
- Kodiak: May 22

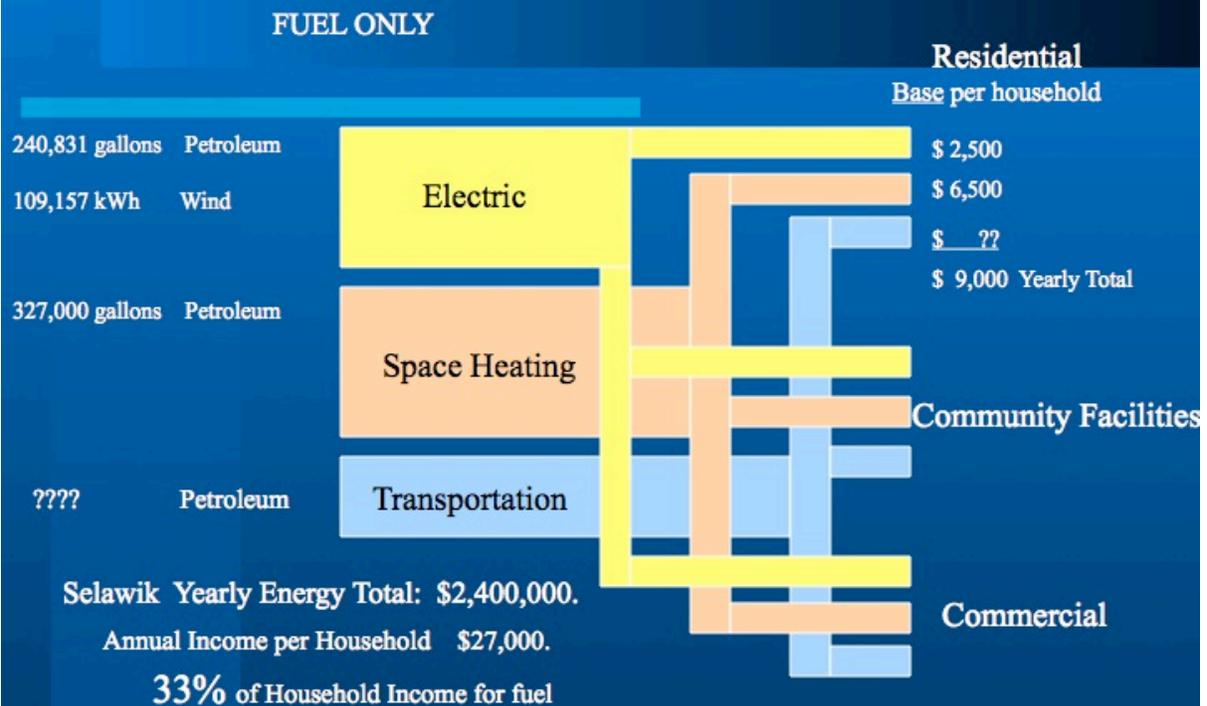
- Kotzebue: May 8
- McGrath: May 14
- Naknek: May 14
- Nome: May 8
- Palmer: April 28
- Sand Point: May 20
- Soldotna: April 29
- Tok: May 1
- Unalaska: May 20
- Valdez: May 12
- Wrangell: May 28



Identify the current fuel usage and costs

- **Initial Usage estimates**
 - Bulk Fuel Loan data
 - Tank Sizing estimate: 1,000 gallons per year per person.
 - PCE participation
 - Crowley and Yukon Western deliveries
 - Enstar
- **Determine the current cost of fuel**

Selawik- Energy Flow Model



Technology Evaluation

- **Technology Assessment**
- **General Cost Estimates**
 - **Capital Costs**
 - **Operations and Maintenance Costs**

Potential Technologies and Fuels

- **Hydroelectric**
- **Wind**
- **Solar**
- **Tidal**
- **Wave**
- **Biomass**
- **Geothermal**
- **Municipal Waste**
- **Conservation**
- **Natural Gas**
- **Propane**
- **Coal**
- **Diesel**
- **Coal Bed Methane**
- **Nuclear**
- **Gasification**
- **Fischer-Tropsch**

Locally Available Fuel Supplies

- Visits to each sub-region to listen to locals on available energy sources.
- Size for the local need
- Determine energy delivery method.
- Develop energy production costs
- Develop energy delivery method and costs.

Financial Model- Template



Rapid Option Selection

- **Determine the technology option which will deliver a usable fuel that meets the local needs at the lowest cost.**

Rapid Deployment for Economic Development

- **Identify new or existing local companies that can provide deployment or support.**
- **Support Power Sales agreements where appropriate**
- **Identify and develop financial institution relationships**
 - **State**
 - **Private**
 - **Public**

Stakeholders

- **Local Input**
 - Elders
 - Thought Leaders
 - The passionate
 - Native Entities
- **News Media**
- **Utilities**
 - APA
 - Electric
 - Transportation
- **State of Alaska**
 - Governor's office
 - Legislature
 - AEA
 - DNR
 - DEC
 - DCCED
 - RCA
 - AHFC

Resources

- **Engage both public and private sectors in identifying a solution**
 - AEA Team
 - Travel to each sub-region
 - Term contractors
 - Entrepreneurial Business training
 - Financial Institutions
 - State of Alaska financial support

Schedule: Alaska Energy Plan



Current Status

- **Identifying local fuel needs**
- **Evaluating technology**
- **Planning regional trips to 24 communities complete by May 30th.**
- **3 – 5 teams to cover communities**
- **Letters: To communities to participate**
To utilities for usage and costs
To State Agencies to participate
- **PowerPoint on the AEA website**
- **Developing the technology matrix.**

Questions ???

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