

The Development of a Statewide Energy Distribution System Anchored by Economic Value Hubs

Laws alone cannot secure freedom of expression; in order that every man present his views without penalty there must be spirit of tolerance in the entire population.

Goals and Outcomes

In 50 years energy poverty will be a thing of the past, each region of the state will enjoy a cost of power consistent with the rest of the United States. Resources in the region will have been developed in a sustainable way supported by the necessary energy distribution grid and infrastructure. Alaska will be a global energy province exporting products resulting from the abundance of energy sources in the state that will benefit the communities of the region.

Investments in energy distribution infrastructure will be set at a state level, with investments being linked to energy cost savings, the number of energy products available to the region, economic development and job growth and regional priorities.

Policy Statement

It is the states policy to encourage the development of jobs and economic growth in conjunction with lowering local energy costs. This will be accomplished through the creation of an energy distribution infrastructure organized around economic value hubs. The state will develop an investment plan through an open and transparent process taking into consideration energy cost savings, new job creation and export opportunities.

Challenges and Opportunities

High energy costs combined with inadequate infrastructure has combined to restrict economic development in the State, the subsequent lack of economic scale with the loss of infrastructure has conspired to keep energy costs high in Alaska and especially in rural Alaska. Even when low energy costs exist (Southeast) the lack of infrastructure restricts the full development of the resource.

The development of economic value hubs in conjunction with state owned energy infrastructure could result in significant lowering of energy costs in all sectors (heat, power, transportation) in combination with new jobs/businesses.

Examples of these combinations include the development of northwest arctic coal in conjunction with power to Red Dog mine, regional communities and the production of a Fischer-Tropsch fuel for regional use. Long-term development could include the production of urea for export. Bristol Bay gas could be distributed locally through CNG or Propane tankers. The resultant gas could then be used for power generation, home heat and a GTL product. Power transmission to Donlin Creek lowering energy costs would result in the development of the mine and creation of jobs. The mine would provide the anchor load for the line; power could be delivered to all communities along that alignment. Integration of the various hydro projects in

Southeast would provide for system reliability and cost stabilization anchoring this distribution grid would be large power exports to Canada.

Infrastructure that would make up an energy distribution system need not be limited to electrical interties but would also include pipelines, roads and ports.

Issue

It is proposed that an energy distribution system/grid be developed by the state as a vehicle of economic development, organized around economic value hubs. The creation of a series of key energy distribution grids and infrastructure will result in a more diverse statewide energy portfolio stabilizing and lowering energy costs at the same time addressing the need for economic development and job growth in the State.

Action

Near term goals will include the identification of the variety and size of energy resources and possible development opportunities to provide a first cut review of energy distribution needs along with the creation of meaningful infrastructure costs.

1. Identification of statewide energy resources including wind, hydro, natural gas, coal, oil, unconventional natural gas (coal bed methane, methane gas hydro), biomass and geothermal
2. Identification of energy products from energy resources such as the use of electricity (electron transformation) for a variety of applications; local use (power, heat), industrial use (smelting), charging of batteries, creation of hydrogen, bulk storage including compressed air and pumped storage, steam, hot water, gas, liquid fuel, and chemicals.
3. Identification of potential economic value hubs (AIDEA, ARDOR)
4. Creation of a review and analysis process
5. Creation of evaluation metrics
6. Development of potential infrastructure synergies

Alignment:

The development of an energy distribution grid at first look may seem to be the responsibility of either the Alaska Energy Authority or one of the state's energy utilities. A case could be made that the development of such a grid is a tool for economic development. In order to gain the economies of scale to provide lower cost power it is necessary that these grids be anchored by some kind of economic development. To put in place these grids an appropriate driver must be put in place. This will require the alignment and cooperation of the Alaska Industrial Development and Export Authority (AIDEA) and the Alaska Regional Development Organizations (ARDORS).