



**House Energy Committee
February 18, 2010**

1. Strengths and weaknesses of delivering energy-related services to rural Alaska.

Energy related services are two-fold – electricity and liquid fuels. Nowhere in the modern world are residents of hundreds of communities as economically and situationally disadvantaged as are rural Alaskans. Communities are extremely small (from less than 40 to a few thousand, with more than 200 being smaller than 500) and spread out geographically over a vast and inhospitable terrain.

The generation and distribution of electricity is a complex system, yet such systems are operated on an isolated basis in virtually every location. The state attempts to provide a modest level of technical support for stand-alone communities but such services fall dismally short as a stand-in for competent local operations.

Per capita electricity consumption in rural Alaska is about 50% of that in urban Alaska, reflecting classic price elasticity. The high cost of electricity is compensated for through conservation, leaving little for additional conservation measures.

Petroleum fuels represent 2/3 to ¾ of the energy consumed by Alaskans and drive the enormous cost that energy represents in the average rural Alaskan budget. Again, the miniscule local market necessarily results in very high local fuel costs. There is currently much confusion about implementation of ULSD rules in rural Alaska.

I see very few strengths in the rural Alaska energy situation, however one of those would be virtual immunity to terrorism/cyber-attacks.

The weaknesses are:

- Extremely small markets
- Very high investment per consumer for electric systems
- Modest human capacity for highly technical generation systems – especially alternative/renewable energy systems

- Market isolation resulting in vulnerability to extended outages due to storm and other conditions
- Conservation and efficiency efforts resulting in further compression of already marginal economies of scale
- Oppressed economic development due to high energy costs
- Limited local job opportunities resulting in out-migration of the most talented and capable workforce towards better opportunities

2. Tools the legislature could provide to help in delivering that service.

The legislature needs to adopt and fund an aggressive plan to connect Alaskan communities to a common grid – in some cases physical, in many cases virtual. Consolidation of power generation systems will deliver:

- Lower operating costs as numbers of generation units decrease
- Higher efficiencies as larger generators are typically more efficient
- Better economies of scale to spread fix costs over
- Ability to pay more to attract higher caliber staff
- Higher capacity to incorporate renewable technologies as transmission lines make more prospects viable

The legislature, working with private industry, needs to aggressively assure broadband Internet access across rural Alaska. The lack of true commercial grade service has severely hampered operation of management and control capability for extremely sophisticated control systems necessary to properly integrate renewable/alternative energy technologies in rural Alaska.

The legislature needs to ensure that a comprehensive communication plan is developed to assist rural Alaska in complying with EPA rules regarding conversion to ULSD.