Alaska Power Association

2008 Annual Meeting

Barrow, Alaska

August 13-15, 2008

APA/Steve Pratt
Alaska Energy Plan Development
Issues (and Answers?)

October 2007

- APA determined it should engage in comprehensive energy planning and policy development for Alaska
  - APA is uniquely situated to facilitate and convene on power issues
  - APA has a membership full of unique energy expertise
- April 2008 contracted with Steve Pratt to provide qualitative and quantitative assistance in the effort

Working With Stakeholders

- Meetings/discussions with
  - Alaska Energy Authority
  - Bristol Bay Native Corp. – BB Energy Planning Efforts
  - Nana Pacific LLC – NANA Region Energy Planning Efforts
  - Alaska Housing Finance Corp - Energy Programs
  - ISER at UAA – Hired by AEA to compile energy data
- APA Submitted comments/testimony in recent special session
- Objectives
  - Add value & expertise to energy planning efforts
  - Focus on Power while cognizant of other energy needs
  - Review, propose, comment on policy choices
  - Develop and Leverage Consensus Where (if??) it exists

Alaska Energy Authority
State Energy Plan

- In December, AEA expects to finalize overall long-term energy plan designed to lower the cost of energy in Alaska
  - Focus on best energy sources for each community
  - Power, Heating/Cooking, Transportation
- Projects will likely need to be consistent with adopted plan if state support is requested
- Next legislature meets Jan. 20 - **159** days from today – state budget surplus will be significant
- Power is important, but not primary energy consideration for AEA – APA can keep it moving

What Issues Are Important? Can we agree?

Attachment A

	Electric Power Systems in Alaska: Different Communities Within the State Have Different Short and Long Term Issues				
	Anchorage Issue	Railbelt Issue	Rural Issue	Statewide Issue	Regional Issue
High Costs		✓	✓		✓
Environmental Concerns	✓	✓	✓	✓	✓
Need to Use Energy Wisely	✓	✓	✓	✓	✓
Weak Transmission System	✓	✓			✓
Reduced Availability of Historical Fuel Source	✓				

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Supply-Side Response
Demand-Side Response

- Supply side options
  - New/different production or delivery technologies
  - New/different sources of fuel
- Demand side options (Easiest to implement)
  - More efficient use (e.g. replace old frig.)
  - Substitution/elimination of use (Turn off lights)
- What issues are we trying to solve?
  - Can we agree on policy goals?
  - Can we agree on policy solutions?

Attachment B

	Policy Goals - What Do We Agree On?							
	Energy Equality Throughout Region/State	Economically Sustainable w/o long-term subsidies	Environmentally Progressive	Encourage the Wise Use of Energy	End User Price Stability	Local Indiginous Energy Supplies	Energy Self-Sufficiency	Lowest Long Term Cost
Electricity								✓
Heating/Cooking								✓
Transportation								✓
Residential								✓
Commercial								✓
Community								✓
Anchorage								✓
Railbelt								✓
SouthCentral								✓
Non-Railbelt								✓

Short, Medium, Long Term Solutions Examples

Attachment C

	Potential Policy Solutions								
	Alleviate Short-Term Unforseen Problems	Fuel Cost Hedging Strategies	Encourage Energy Conservation	Electric Intertie System Development	Distributed Energy vs Statewide Grid	Gas Pipeline From North Slope	Large Renewable Energy Projects	Royalty Hydrocarbon Set-Asides f/In-State Use	Electric/Nat. Gas Vehicles
Electricity	PCE Cap Adjusted with Energy Cost Index	State Finance Wizards Implement Hedging	Implement Grimason Report & AHFC Plans	Regional Intertie Systems Enhancement		Mainline Offtakes - Bullet Line or Spur Line	Hydro/Wind/ Geothermal?	State Sells at Less Than Highest Monetary Value	
Cooking	Subsidized Fuel	State Finance Wizards Implement Hedging				Mainline Offtakes - Bullet Line or Spur Line	Biomass Hydro Geothermal	State Sells at Less Than Highest Monetary Value	
Heating	Subsidized Fuel	State Finance Wizards Implement Hedging	AHFC Plans			Mainline Offtakes - Bullet Line or Spur Line	Biomass Hydro Geothermal	State Sells at Less Than Highest Monetary Value	
Transportation	Subsidized Fuel		Market Forces					State Sells at Less Than Highest Monetary Value	Refueling Infrastructure
Residential	✓		✓		✓	✓	✓	✓	
Commercial	✓		✓		✓	✓	✓	✓	
Community	✓		✓		✓	✓	✓	✓	
Anchorage		✓	✓	✓	✓	✓	✓		✓
Railbelt		✓	✓	✓	✓	✓	✓	✓	✓
Non-Railbelt	✓	✓	✓	✓	✓	?	?	✓	

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Scale Economies Exist But Collaboration Is Critical

- Railbelt Electrical Grid Authority
  - Are State Authorities the answer?
  - How many does the state need?
- Chugach/ML&P Joint Operations
  - Working towards first joint generation project
- Native Corps looking at regional organizations
- Rural Intertie projects – micro-grids make sense
- Major Cross-state interconnections?
- **We need consensus on long-term vision**

Energy Vision Requires Investment

- Large scale physical infrastructure investment – bigger than individual company abilities
- Large scale human infrastructure investment – educational institutions and programs
- Significant investment in incentives to encourage correct supply side and demand side responses
- Collaboration and consensus are keys to unlocking means to address challenges

Low Hanging Fruit

- Demand Side Response
  - Dramatic reduction in vehicle use once gasoline prices approached $5/gallon in U.S.
  - Huge response to AHFC Weatherization and Rebate programs
- Can we do more?
  - AHFC Energy audit program excludes home electric use audits
  - Since energy raters going to homes anyway, why not include an electric appliance audit?

Impact of $1,200 Rebate?

July 15, 2008 in Environment | 2 comments | Post a comment

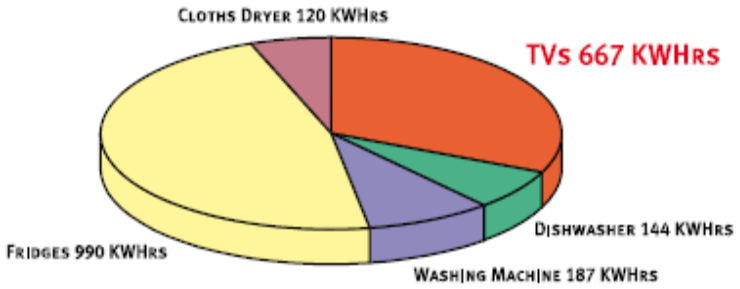
Choosing an Energy-Efficient TV

Which of the latest models are the greenest?

Digg submit

GREEN TV: Some flat screen TVs draw more power than a large refrigerator. Beginning in November 2008, "Energy Star" labels will begin appearing on televisions to help consumers identify greener choices.
Getty Images

Annual Power Consumption of Household Appliances by Appliances per Household



APPLIANCE TYPE PER HOUSEHOLD	
Fridge Freezer	1.8
Televisions	2.4
Dishwasher	0.6
Washing Machine	1.1
Cloths Dryer	0.5

Figure 3 - Comparative Power Consumption of Selected Household Appliances.

Television now ranks behind three already regulated product types: domestic refrigeration; space heating & cooling, together with water heating, as major contributors to greenhouse gas emissions from the stationary household sector.

Smith recommends green consumers consider the Liquid Crystal Display (LCD) models, which typically uses less energy than comparable plasma sets. According to the U.S. Environmental Protection Agency (EPA), a 28-inch conventional cathode-ray tube (CRT) set uses about 100 watts of electricity. A 42-inch LCD set might consume twice that amount, while plasma could use five times as much, depending on the model and the programming. For the largest

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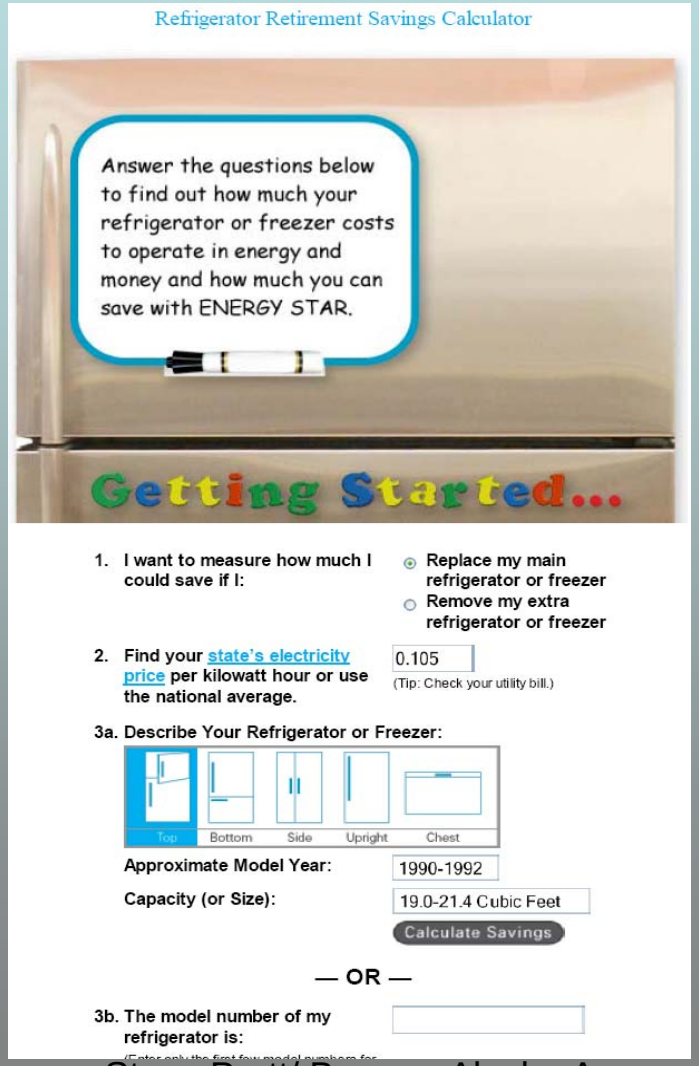
Pratt Audits His Home



Note: This calculator is available online.

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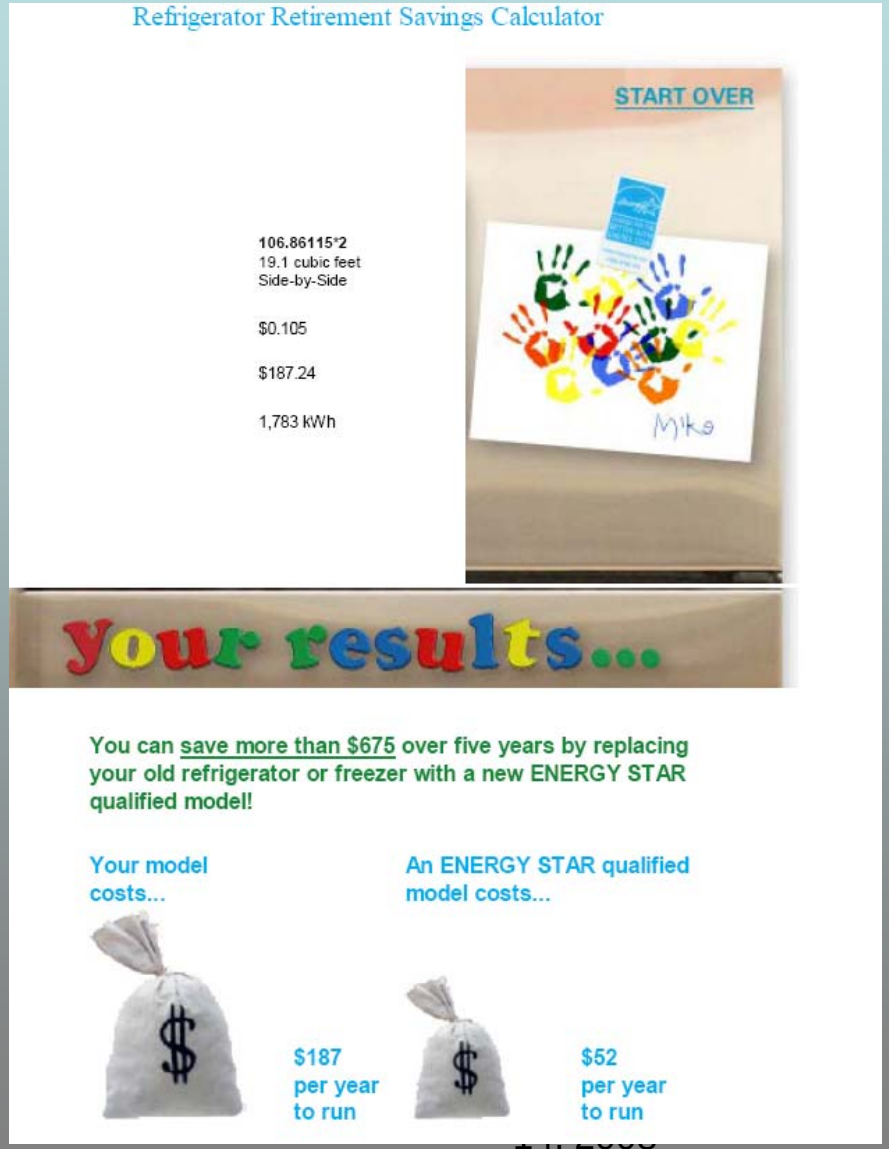
Pratt's an Energy Pig



Note: Pratt's old frig. is using 1,200 KWH/yr. more than a new one would.

APA Collaboration with AHFC?

- Can the electric utility industry leverage AHFC's energy audit program to "audit" the impact of electric appliance replacement?
- As long as energy raters are going to homes, how can we get homeowners to do an "appliance audit" without further burdening the raters?
- Can APA and AHFC figure out how this might work in conjunction with successful utility energy audit programs a la GVEA or ML&P?

Alaska and The World Face The Same Energy Facts

- Alaska is blessed with incredibly enormous potential energy resources
- Collaboration and consensus are the keys to success
- Working together we can achieve short term savings and long term goals – IF we agree on what those goals are.

Thank You

Contact Info.

Marilyn Leland
Executive Director
Alaska Power Association
Phone: 907-771-5703
E-mail: mleland@alaskapower.org

Steve Pratt
Steve Pratt Enterprises
Phone: 907-440-4752
E-mail: steve.pratt@acsalaska.net