

2/10/11

Presentation by

Cold Climate

Housing Research

Center: Alaska

Energy

Efficiency

Policy


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Alaska Energy Efficiency Policy

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presentation to the

House Special Committee on Energy
February 10, 2011
Alaska State Capitol



Presentation Outline





- 2008 Study and Report to Legislature
- 2008 Results - SB 289/330
- 2010 Results - HB 306 & SB 220
- Current Recommendations


Alaska Energy Efficiency Program & Policy Recommendations

Project managed by:
Cold Climate Housing Research Center

Project funded by:
Alaska Energy Authority
Alaska Housing Finance Corporation

Project staffed by:
Information Insights



Energy Efficiency Edge

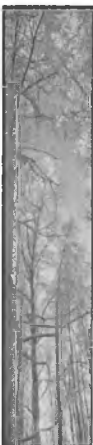
We can do it now!

Same output for less input

Efficiency relies on advancing *technologies, which are becoming more plentiful, rather than fossil fuels, which are being depleted*

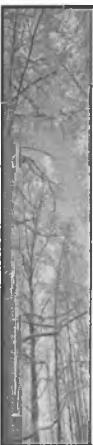
Saving energy usually *costs less than buying it*

Pollution and CO₂ reduction



The 2008 Project

- Literature review: Alaska energy programs (current and past)
- Key informant interviews: Alaska energy programs (expert perspectives)
- Literature review: best practices (US, Canada, other northern counties – Rocky Mountain Institute)
- Energy efficiency work session (January 16, 2008, about 30 professionals)



The 2008 Project

- Data collection and cleaning
- Interim recommendations for adoption 2008 legislative session
- Extensive feedback from 20+ energy and policy professionals
- Final recommendations

Best practices – policy mandates

	Policy Description	States
Building energy codes	Require a minimum level of efficiency from new construction of residential and commercial buildings. Build a trigger into the code so that it is frequently updated.	39 states
Appliance standards	Minimum efficiency standards for certain appliances. Federal appliance standards preempt state standard, but states may petition the feds for exemption.	12 states so far
EE Funding	There are a few kinds of efficiency funding including public benefits funds and mandatory utility spending on efficiency	Majority of states spend more than \$0.50/person
EE in State facilities	Building, transportation or other energy standards set for public vehicles, buildings and other purchasing habits.	36 states

Best practices – finance & incentives

	Policy Description	States
Tax Incentives	Tax credits, reductions on property or sales tax for purchase of specific equipment, tax deductions, etc.	Many states
PAYS	A third party, or utility, purchases efficient or distributed renewable energy property upfront and customers finance cost with on-bill payments using the energy savings.	Many states
Revolving loan fund	A fund that provides money for a specified purpose, here, energy efficiency. The fund is generally capitalized with dollars that do not need to be repaid. Loan repayment creates funds for additional projects.	AR, CT, ME, MD, MN, MS, OK, AL
Incentives	Fast track permitting, building envelope incentives, allowing agencies to keep money saved from reducing energy bills,	Hawaii has best program

Best practices – utility regulation

	Policy Description	States
Acquisition of cost-effective EE	Using the total resource cost test, utilities acquire all cost-effective energy efficiency	At least 25 states
Align utility incentives equally	Often, utility incentive programs do not align the utility's profits equally with supply and demand resources. Examples of this includes, decoupling, lost revenues, and performance incentives.	At least nine states
Align rate payers with efficiency	Create a rate structure that rewards efficiency, such as a tiered rate system with a lower rate for less consumption. I.e. critical peak pricing and time-of-use pricing	AZ, CA, CT, VT
Systems benefit fund	A non by-passable charge on a electric or gas utility bill that is used placed into a fund to be used for energy efficiency initiatives.	At least 20 states

Best practices – education opportunities

	Policy Description	States
Consumer education	Ongoing consumer education about energy efficiency and/or renewable energy	Many states and utilities
Contractor, architect, engineer education	Education for contractors, architects, and engineers to promote energy efficient building techniques.	Green advantage nationwide
School curriculum	Including curriculum in schools that informs students about the value of energy efficiency.	At least eight schools Utility: GRU, BPA, PGE DoE has lesson plans

2008 Recommendations Presented in Nine Categories:

- State Leadership
- Funding Energy Efficiency
- Public Education and Outreach
- Baseline Data
- Existing Residential Buildings
- New Residential Construction
- Existing Commercial Buildings
- New Commercial Construction
- Public Buildings

State Leadership

1. The Governor should articulate an energy efficiency vision for Alaska.
2. The Governor should designate a sub-cabinet for State end-use efficiency programs.



Funding Energy Efficiency

1. The state should fund energy efficiency programs through legislative appropriation.
2. The RCA should implement a System Benefit Charge to support end-use efficiency programs,
3. The state should capitalize an end-use efficiency endowment to support end-use efficiency programs.
4. The state should offer matching grants to local governments interested in creating a local energy plan that incorporates energy efficiency and conservation.



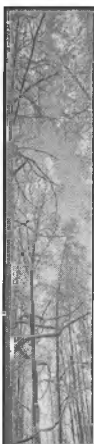
Public Education and Outreach

1. The Legislature should fund a comprehensive public awareness campaign with at least \$1,000,000 per year.




Baseline Data

1. The Alaska Housing Finance Corporation and Alaska Energy Authority should conduct an end-use survey of residential and commercial energy consumers.
2. The Alaska Energy Authority should establish and report an Energy Use Index (EUI) for all public buildings.




Existing Residential Buildings

1. The Legislature should significantly increase funding for Low-income Weatherization.
2. AHFC should create a certification and training program for energy retrofit and energy efficient new construction.
3. AHFC should subsidize up to 100 percent of costs for home energy audits for households not eligible for low-income weatherization, and offer low-interest loans for energy conservation improvements.
4. The Legislature should fund a pilot Smart Meter program through AHFC/AEA.



New Residential Construction

1. The Legislature should adopt BEES as the new state residential energy efficiency building code.
2. The State Division of Corporations, Businesses, and Professional Licensing should enforce regulations on building codes and contractor licensing to ensure quality and energy efficiency.



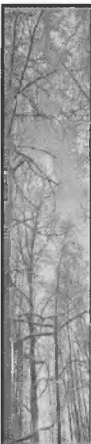
Existing Commercial Buildings

1. The AEA should subsidize energy audits for commercial facilities and offer loans for energy efficiency improvements.
2. The RCA should require utilities to implement Pay As You Save loan programs.



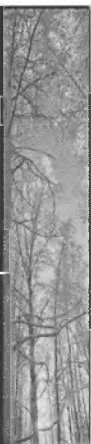
New Commercial Construction

1. AEA should contract for a stakeholder process to develop a commercial energy efficiency building code.



Public Buildings

1. The Governor should direct each state agency to reduce energy consumption in its facilities by 20 percent from 2000 levels by 2020.
2. The Board of Regents should direct the university to reduce energy consumption in its facilities by 20 percent from 2000 levels by 2020.
3. The Legislature should fund an energy audit for every school in the state.
4. The state should fund AEA to revive the Institutional Conservation Program to offer public K-12 schools energy conservation matching grants.
5. The Alaska Energy Authority should establish a low-interest loan program for public facilities to make energy efficiency improvements, with payments geared to projected savings.



Status in 2009

Legislative funding


- Weatherization - \$200 million
- Rebate - \$160 million
- RE - \$100 million

Market driven conservation in rural AK

Broad awareness of energy issues


Supply side solutions dominate

Stimulus Bill had been signed




2009 Recommendations

- Adopt Statewide Building Code with energy conservation code
- Adopt Public Buildings Energy Standard and retrofit programs, including schools and UA
- Create R&D fund for renewables
- Sustainable Northern Communities



Statewide Building Code (Energy Conservation Code)

- Number One Recommendation of Experts Panel
- Needed by AHFC
- Supported by ASHBA
- "Required" by Stimulus bill for SEP grants (Section 410: states must plan to have 90% of new construction meet IECC 2009 by 2017)



SEP Grant Requirements

Governor letter to Sec. of Energy:

- Utility Consumer Energy Efficiency Policy
- Adopt Residential & Commercial Energy Conservation Codes/Standards
- Prioritize SEP grants to EE and RE programs



Sustainable Northern Communities

A Program to:

- Use current oil wealth to transition to an economy based on renewable energy
- Use "Integrated Design Process" to develop plan for each community
- "Whole Village Retrofit" – plan energy efficiency and supply together
- Include food production as part of energy plan (green houses to use "waste heat")



House Bill 306 (2010) Establishing a State Energy Policy

Legislative Intent for Alaska State

- 15% increase in EE (per capita) between 2010 and 2020
- 50% of electric generation from RE and AE sources by 2025
- Reliable in-state gas supply
- Power Project Fund for energy projects
- Continue petroleum and natural gas production
- Become a leader in RE and AE development




House Bill 306 (2010) Establishing a State Energy Policy

Policy Preamble

Prosperity dependent on available, reliable, and affordable energy

Supply and demand for fossil fuels and concerns about climate change will affect the price of fossil fuels in Alaska and exported from the state to other markets


In establishing a state energy policy, the state recognizes the immense diversity of the state's geography, cultures, and resource availability



**House Bill 306 (2010)
State Energy Policy**

I. Support energy efficiency and conservation by


- (A) Encouraging statewide energy efficiency codes
- (B) Decreasing public building energy consumption
- (C) Supporting a public education program on EE and RE



**House Bill 306 (2010)
State Energy Policy**

II. Encourage economic development by

- (A) Developing RE and AE resources - geothermal, wind, solar, hydrokinetic, tidal, & biomass
- (B) Efficient use of non-RE and AE resources - natural gas, coal, oil, gas hydrates, heavy oil, and nuclear energy
- (C) Working with communities to identify and assist with development of the most cost-effective, long-term sources of energy
- (D) Maintaining a fiscal regime and regulatory climate that encourage private-sector development of the state's energy resources
- (E) Promoting the efficient use of energy for transportation



**House Bill 306 (2010)
State Energy Policy**

III. Support energy research, education, and workforce development through

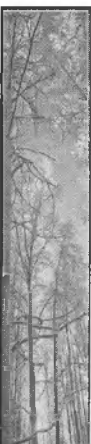
- (A) Training and education programs that address energy conservation, efficiency, and availability
- (B) Applied energy research and development of alternative and emerging technologies, including university programs



House Bill 306 (2010) State Energy Policy

IV. Coordinate governmental functions by

- (A) Reviewing and streamlining regulatory processes while protecting the public interest
- (B) Using one office to manage energy-related functions to avoid fragmentation and to increase effectiveness
- (C) Collaborating with federal agencies to achieve the state's energy and emissions goals



Senate Bill 220 (2010) Sustainable Energy Act (1 of 3)

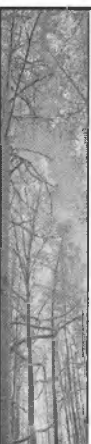
Alaska Energy Efficiency Revolving Loan Fund – energy efficiency improvements to public buildings

The Southeast Energy Fund – grants for energy projects

Emerging Energy Technology Fund – grants for demonstration projects

Alternative Energy Conservation Revolving Loan Fund – Alternative energy development and energy conservation improvements in public buildings

Alaska Affordable Heating Program – The *Alaska Heating Assistance Program* is renamed and the relationship to LIHEAP and new limits up to 225 and 250% of the federal poverty level are established.



Senate Bill 220 (2010) Sustainable Energy Act (2 of 3)

Public Facilities & Building Energy Use Database – ADOT/PF shall retrofit 25% of all public facilities. Retrofits and new construction shall meet ASHRAE 90.1. OMB shall develop methodology to collect building energy data.

Public Vehicles – The ADOT/PF shall convert vehicles to use alternative fuels or purchase energy efficient vehicles whenever practicable.

Nuclear Power may be considered as "alternative power." US & DEC licenses or permits are required. DEC may not issue a permit until the municipality with jurisdiction approves. Legislature designates site for facility, and shall act to protect the public health and safety.



Senate Bill 220 (2010) Sustainable Energy Act (3 of 3)

Public Education - AEA to promote EE & AE through training and public education.

State Land Leases - The cost of a state land lease with an electric utility may not be based on the amount of renewable energy produced by the utility.

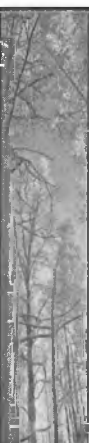
Energy Codes and Standards - AHFC may provide technical assistance to municipalities related to residential and commercial building energy codes and energy efficiency standards.

Municipal Taxes - A municipality may exempt from taxation residential renewable (non-fossil or nuclear) energy systems.



Goals for 2011

- Statewide Building/Energy Conservation Code
- Utilities-based End-Use Electrical Efficiency Programs
- Statewide Transportation Energy Reduction
- Continued Workforce Development for EE, RE, and AE



Last slide

Cold Climate Housing Research Center
<http://www.cchrc.org/>

Alaska Housing Finance Corporation
<http://www.ahfc.state.ak.us/home/index.cfm>

Alaska Energy Authority
<http://www.akenergy.org>

Information Insights Inc.
<http://www.iiialaska.com>
