

# **Alaska Energy Efficiency Policy**

## **Update of 2008 Report by CCHRC**

**Dr. John N. Davies**

Senior Researcher – Energy Policy  
Cold Climate Housing Research Center

presentation to the

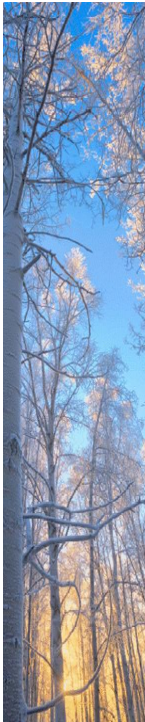
**Alaska Legislature**  
**House CRA and Energy Committees**

April 5, 2011  
Juneau, Alaska



## **Presentation Outline**

- 2008 Study and Report to Legislature
- 2008 Results - SB 289/330
- 2010 Results - HB 306 & SB 220
- Recommendations from Experts  
Working Group of March 2, 2011
- Significance of energy efficiency as a  
resource

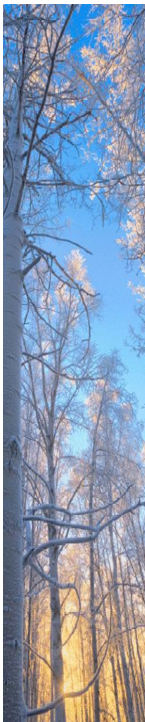


# 2008 Alaska Energy Efficiency Program & Policy Recommendations

Project managed by:  
**Cold Climate Housing Research Center**

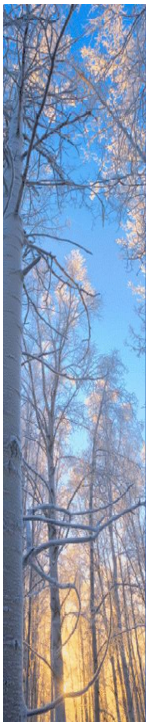
Project funded by:  
**Alaska Energy Authority**  
**Alaska Housing Finance Corporation**

Project staffed by:  
**Information Insights**



## Energy Efficiency Edge

- ✓ We can do it now!
- ✓ Same output for less input:
  - Same heat less fuel
  - Same light less electricity
- ✓ Efficiency relies on advancing *technologies which are becoming more plentiful, rather than fossil fuels which are being depleted*
- ✓ Saving energy *costs less than buying it*
- ✓ Pollution and CO<sub>2</sub> reduction



## 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



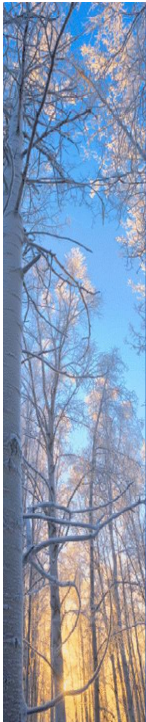
## Senate Bill 287/330 (2008)

### **Expand Weatherization Program**

- Increase eligibility
- Appropriate \$200 million

### **Create Energy Efficiency Rebate Program**

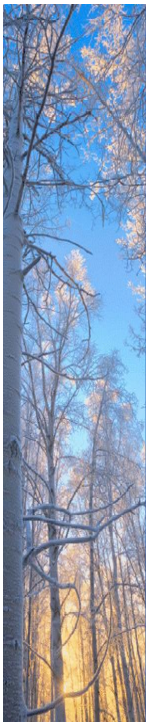
- No income qualification
- Appropriate \$100 million
- Supplemental \$60 million



## **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



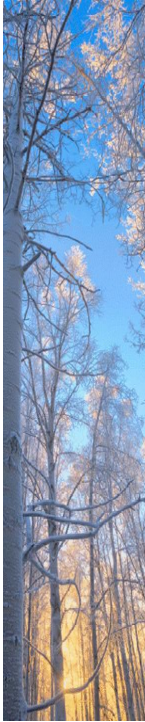
## **House Bill 306 (2010)** **Establishing a State Energy Policy**

### 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

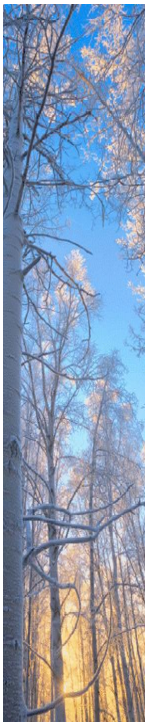
In establishing a state energy policy, the state recognizes the immense diversity of the state's geography, cultures, and resource availability



## 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

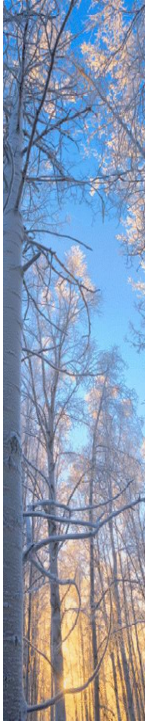


## House Bill 306 (2010) State Energy Policy

### 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

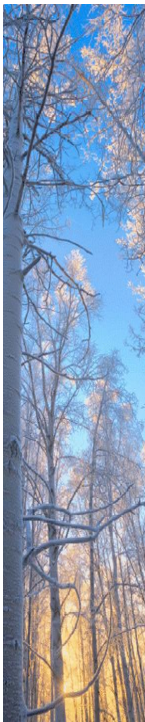




## House Bill 306 (2010) State Energy Policy

### 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.

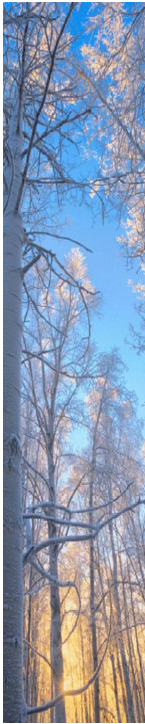


## Senate Bill 220 (2010) Sustainable Energy Act (2 of 3)

**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.



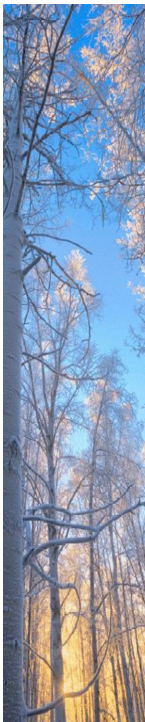
## Senate Bill 220 (2010) Sustainable Energy Act (3 of 3)

**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.

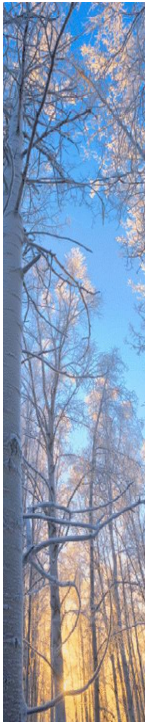
**Municipal Taxes** - A municipality may exempt from taxation residential renewable (non-fossil or nuclear) energy systems.



## Score Sheet for 2008 Report

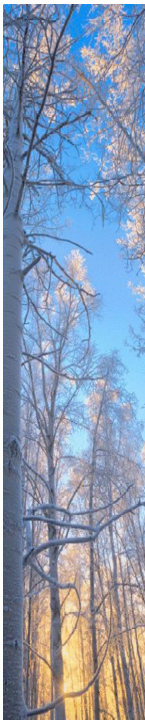
Recommendation	2008	2010	% Done	Goals
<b><u>I. State Leadership</u></b>			<b>60</b>	
A. Governor Vision( HB 306)		i	90	
B. Governor Subcabinet		i	10	G
<b><u>II. Funding Energy Efficiency</u></b>			60	
A. Legislative Appropriation	\$\$\$	FFF	<b>50</b>	\$
B. RCA - system benefit charges		i	10	G
C. Legislative endowment			0	
D. Matching grants to munis			0	
<b><u>III. Public Education and Outreach</u></b>				
A. Legislative approp = \$1 million		i	30	G





## Score Sheet for 2008 Report

Recommendation	2008	2010	% Done	Goals
<b><u>IV. Baseline Data</u></b>			<b>80</b>	
A. Survey of Res & Com Bldgs		AEA	75	\$
B. Public Bldg Database		I	90	
<b><u>V. Existing Residential Buildings</u></b>			<b>80</b>	
A. Increase funds for Weatherization	\$\$\$		100	\$
B. Training Program for EE workers		i	50	G
C. Fund audits and loan for retrofits (rebates)	\$\$\$		100	\$
D. Fund pilot smart meter program			50	\$
<b><u>VI. New Residential Buildings</u></b>			<b>30</b>	
A. BEES statewide energy codes			50	G
B. Statewide building code			0	G



## Score Sheet for 2008 Report

Recommendation	2008	2010	% Done	Goals
<b><u>VII. Existing Commercial Buildings</u></b>			<b>20</b>	
A. AEA audits and loans for retrofits		F	30	\$
B. RCA require utilities to offer PAYS			10	G
<b><u>VIII. New Commercial Buildings</u></b>				
A. AEA develop com. energy code		AHFC	<b>80</b>	\$
<b><u>IX. Public Buildings</u></b>			<b>90</b>	
A. Gov.: 20% reduction by 2020		f	90	
B. BOR: 20% reduction by 2020		f	90	
C. Fund audit for all public schools		f	<b>90</b>	
D. Conservation matching grants K-12			0	
E. Low-int.Loan prog for Public Bldgs		FFF	100	



## Top Five Recommendations from 2011 Working group

1. Statewide Energy Efficiency Code
2. Sustainably fund Wx and Rebate Programs
1. Education – outreach, training, K-U courses
1. Utilities-based End-Use Electrical Efficiency Programs, consider decoupling mechanisms
2. Legislate efficiency as a priority



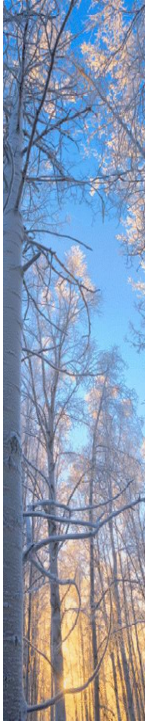
## Policy Recommendations - State Leadership

Implement a statewide energy code for all building types.

Empower RCA to develop end-use energy efficiency programs, including funding mechanisms.

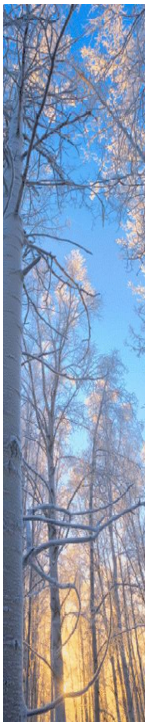
Require an integrated approach to the development of energy systems.

- Treat both electricity and space heating.
- Prioritize the EE resource – always reduce the supply needed by reducing demand first, before developing more capacity.



## Statewide Energy Efficiency Code

- Number One Recommendation of Experts Panel
- Needed by AHFC
- Supported by ASHBA



## Policy Recommendations – Education, Training, & Outreach

Fund schools and universities provide education, research, and training to advance our understanding of energy efficiency and conservation as a resource.

Fund workforce training entities to produce a highly qualified workforce to deliver energy efficiency and conservation services.

Fund state agencies and non-governmental organizations to develop sustained public outreach. The *Energy Efficiency and Conservation Working Group* now lead by AEA is a good example.

Establish a *Green Schools Caucus* in the legislature



## Policy Recommendations – Residential Buildings

Continue to fund the *Home Energy Rebate* and *Weatherization* programs.

Set the bar higher in programs such as the AHFC Five-Star-Plus rebates and mortgage rate reductions.

RCA develop programs to encourage the use of more energy efficient lights, appliances, etc.

RCA develop programs that eliminate the “throughput incentive” by decoupling the amount of energy sold from utility profits.

Develop a home energy-use labeling system to assist homebuyers in finding the best value and to help transform the market place by making transactions more transparent.

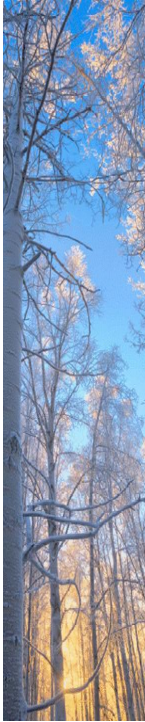


## Policy Recommendations – Commercial Buildings

Establish an energy-use index and labeling system to encourage owners to reduce the amount of energy (both electrical and thermal) consumed by their buildings.

Expand and fund the commercial audit pilot program to include loans and consider rebates as well .

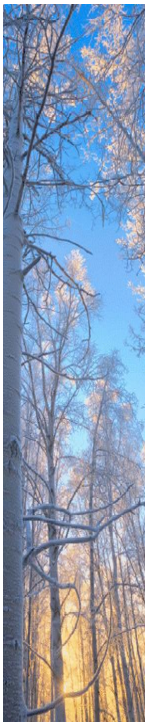
Encourage the use of combined heat and power units and other waste heat recovery wherever feasible.



## Policy Recommendations – Public Buildings

Continue to fund the Village Energy Efficiency Program.

Every public building should get an energy audit and commissioning of its energy systems.

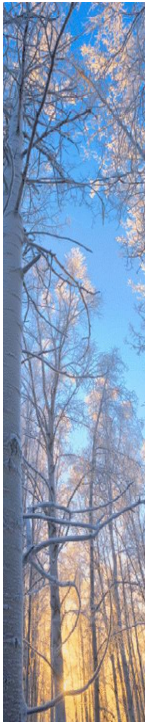


## Policy Recommendations – Community and Regional Planning

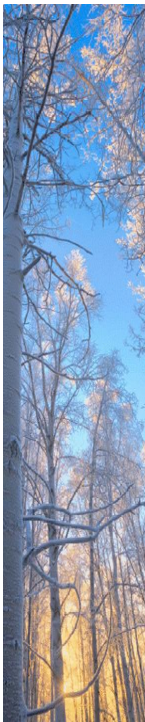
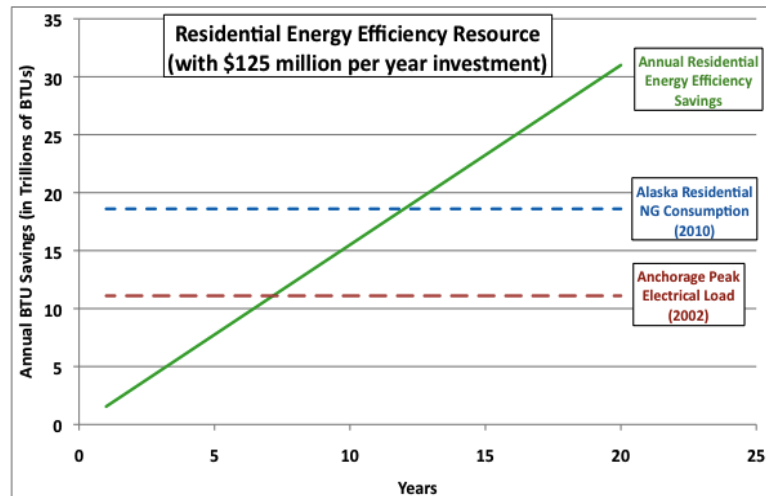
AEA should expand its community and regional planning efforts to assist communities with the development of solid energy planning initiatives and fund energy efficiency and renewable energy projects that make good technical and economic sense.

CCHRC should continue its *Sustainable Northern Communities* program to assist communities in the design of highly energy efficient housing.





## Energy Efficiency as a Resource



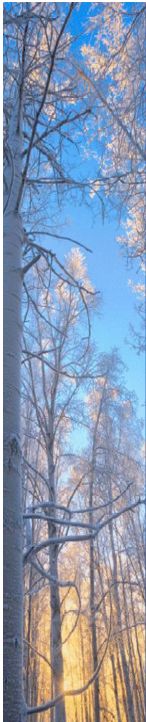
## Conclusions

It is imperative that we use our present wealth to develop an economy that is much less reliant on fossil fuels to assure a healthy and sustainable future.

One of the most cost-effective resources we have is energy efficiency and conservation.

The sustained energy and cost savings to businesses and homeowners from EE will result in reinvestment in Alaska's economy and stimulation of substantial economic growth.

Bottom Line - Sustained investment in EE will foster a more sustainable and vibrant economy.



## Last slide – Questions?

Cold Climate Housing Research Center

<http://www.cchrc.org/>

Alaska Energy Authority

<http://www.akenergy.org>

Alaska Housing Finance Corporation

<http://www.ahfc.state.ak.us/home/index.cfm>

Information Insights Inc.

<http://www.iialaska.com>