


Energy Efficiency NOW 2017

Alaska, the Eight Star State with Six Star Houses
By: Sandra K. Adomatis, SRA, LEED Green Associate



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Alaska is Energy!



- 70 straight days of sunshine – powering solar & more
- Fairbanks receives more daylight than the “Lower 48”
- Sunshine provides energy to grow vegetables and flowers larger and more brilliant than the “Lower 48”
- Sunshine provides vitamin D to grow and protect our bones
- Sunshine energizes people and improves mental health
- Alaska has the largest field of oil in North America and produces 25% of the U.S. oil



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Where does Alaska's energy consumption per capita rank?



A. 10th highest

B. 5th highest

* C. 4th highest

D. 1st highest

<https://www.eia.gov/state/rankings/>



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Energy Efficiency is a resource too!

Energy savings from customer energy efficiency programs are typically achieved at 1/3 the cost of new generation resources. Efficiency programs can also reduce the need to install, upgrade or replace transmission and distribution equipment.

<http://aceee.org/topics/energy-efficiency-resource>



Building Science is key!

- In 1950, 25% of Americans did not have indoor plumbing
- 630,000 Homes in U.S. do not have indoor plumbing per Census
- Originally it was thought to be
 - Unhealthy
 - Indelicate
 - Ugly





Insulation

Builders began insulating homes in 1920s and 1930s




Result – Peeling Paint



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Insulation - Solution

- Vapor Barriers
- Attic Ventilation
- Became Building Code
Within 5 years



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Heating Systems Indoor



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Heating Systems Indoor



With every addition to the indoors came complications for building science to solve.



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Indoor Lighting



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Indoor Kitchens



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By 1938 Residential Building Science was off to a rocky start!



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New Building Science – Emphasizes

- **Comfort**
- **Health**
- **Lower Cost of Maintenance**
- **Ratings and brand names**



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Energy Efficiency should have been
something these folks discussed
before buying their homes.

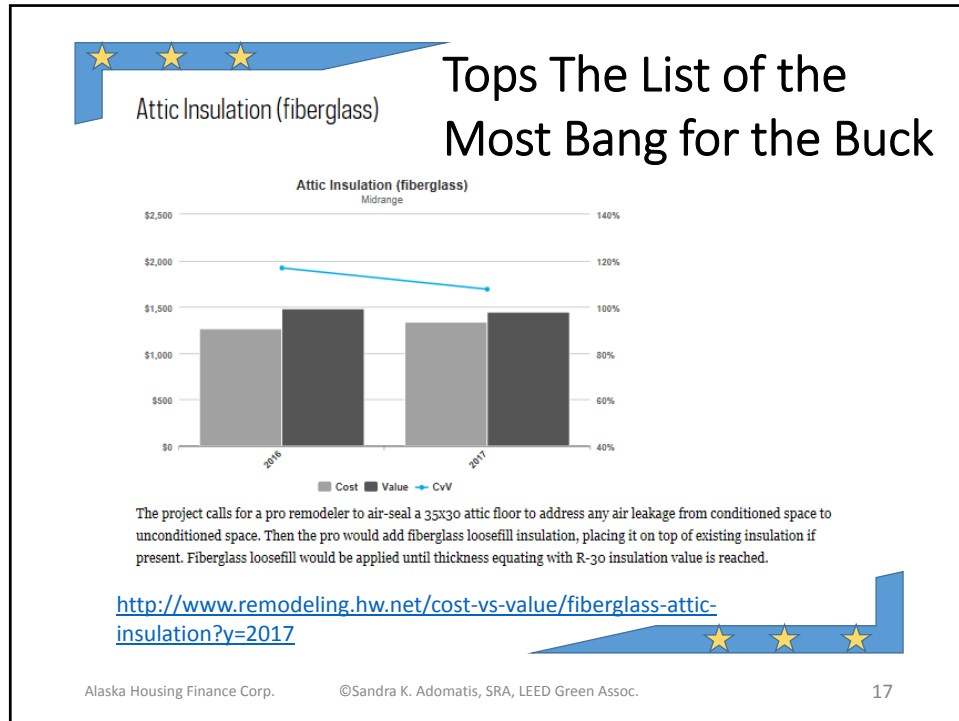
- Single mom with 3 children
- Elderly living on social security
- Family with two children suffering from asthma
- First-time home buyer with marginal income




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Ratings Matter




40,000 Mile Tire


50,000 Mile Tire

75,000 Mile Tire




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If you live in an Eight-Star State
why would you want a Three-
Star House?




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AkWarm© - Simple – Well Established

Score	Stars		Score	Stars
0-39	1		78-82	4
40-49	1+		83-88	4+
50-59	2		89-91	5
60-67	2+		92-94	5+
68-72	3		95	6
73-77	3+			




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Why aren't more listings showing the energy ratings?

- 536 active listings in Anchorage Bowl- Anchorage, Eagle River, Chugiak, Girdwood
- 110 or 21% show energy ratings using number of stars
- 78 homes have 5 stars
- 1 home has 6 stars



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Advertise the Stars

This six-star home offers comfort, lower energy costs, and healthier indoor air quality!

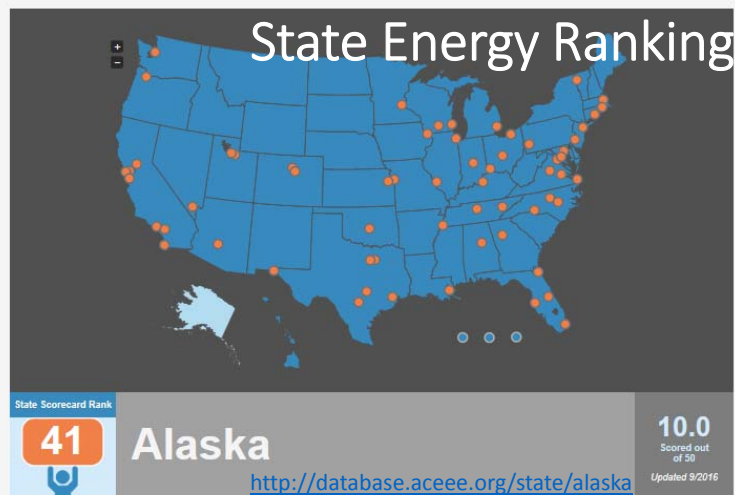


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State Energy Ranking



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Alaska Housing Inventory

- Nearly 1 in 3 households in Alaska are cost-burdened or some 75,000 homes
- Nearly 20,000 homes use large amounts of energy
- Average size house is 1,881 square feet
- 72% of houses were built between 1960 and 1999
- 33% of housing uses fuel oil
- Statewide average energy cost per house is \$4,681
- Highest costs are \$8,000 annually per house in Doyon Region



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Alaska is 1 of 12 States with no Mandatory Building Energy Code that meets 2006 International Energy Conservation Code (IECC)



<http://database.aceee.org/state/alaska>




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“Alaska shall achieve a 15% reduction in the amount of heating fuel and electricity used on a per capita basis in the residential and commercial building sectors, as well as public facilities such as street light and water/sewer facilities, between the base year of 2010 and the year 2020.”





<http://database.aceee.org/state/alaska>



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Alaska has implemented steps that can make a change.

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Alaska has the Building Energy Efficiency Standard (BEES) Program administered by AHFC and the Cold Climate Housing Research Center



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State Government

Alaska is one of the few states to require the release of residential building energy data at the time of sale.

Building Energy Disclosure

- Building type(s) affected: residential

Alaska statute AS 34.70.101 requires the release of utility data for residential buildings at the time of sale.

Last Updated: July 2016

Source: <http://database.aceee.org/state/alaska>

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Energy Efficiency Programs

42,000 Homes
Retrofit – 1/2017

_____ = **17%**

253,000 Occupied
Dwellings



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Residential Financial Assistance Programs

- AHFC Weatherization Program
- AHFC Home Energy Rebate Program
- AHFC Energy Efficiency Interest Rate Reduction Program
- AHFC Second Mortgage Program for Energy Conservation
- Federal Tax Credits for Consumer Energy Efficiency

<http://www.akenergyefficiency.org/residential-financial-assistance-programs/>



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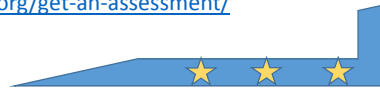
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Alaska Programs

- **Energy Audits – home owners making recommended changes save an average of \$1,347 annually. That's a payback period of 4 years.**

Source: <http://www.akenergyefficiency.org/get-an-assessment/>



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Residential Financial Assistance Programs

- **AHFC database has approximately 1/3 of all existing occupied homes documented.**

<https://www.ahfc.us/efficiency/tools/>



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New construction versus Existing



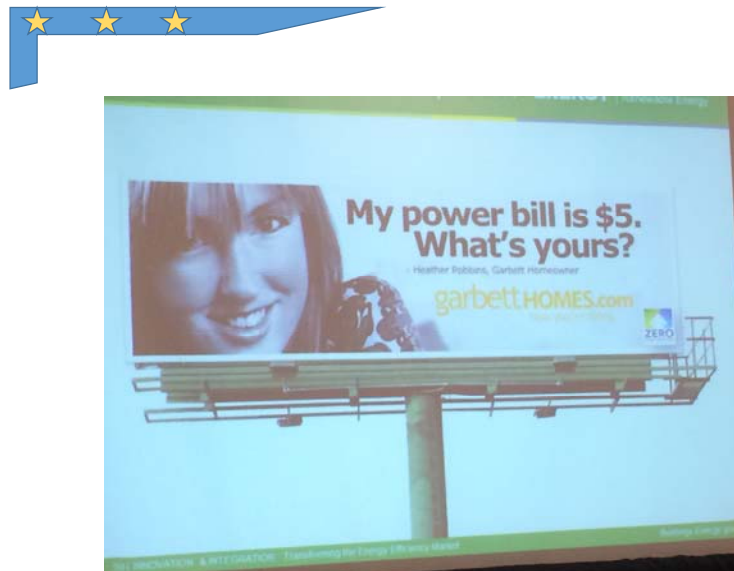
All new construction must meet a high energy efficiency standard compared to houses built just 5 years ago.

SIP Wall Construction – Energy Efficient

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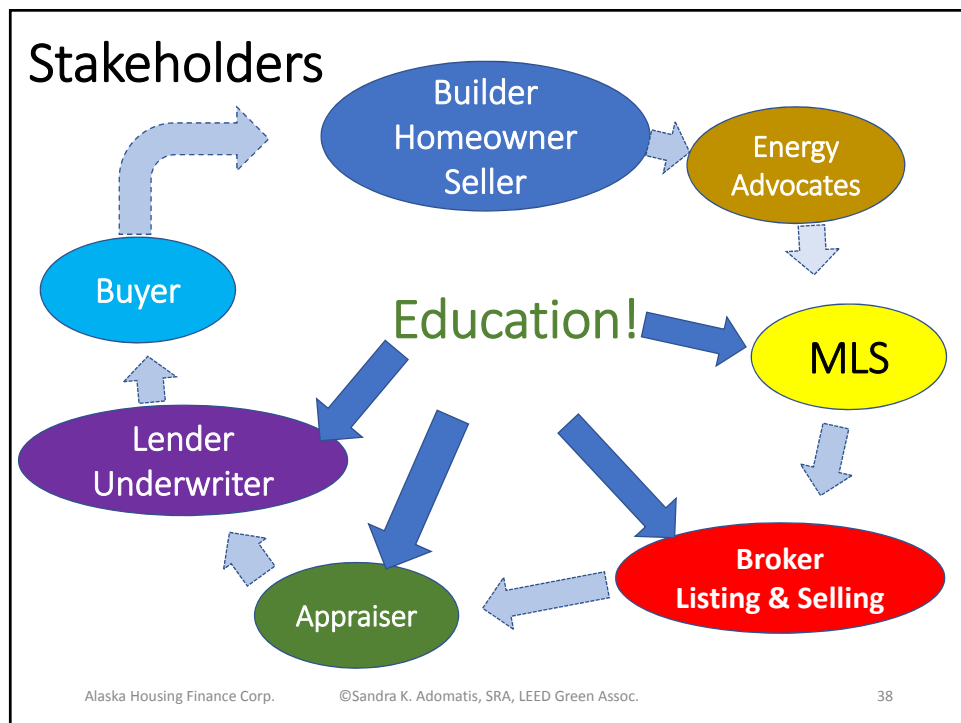
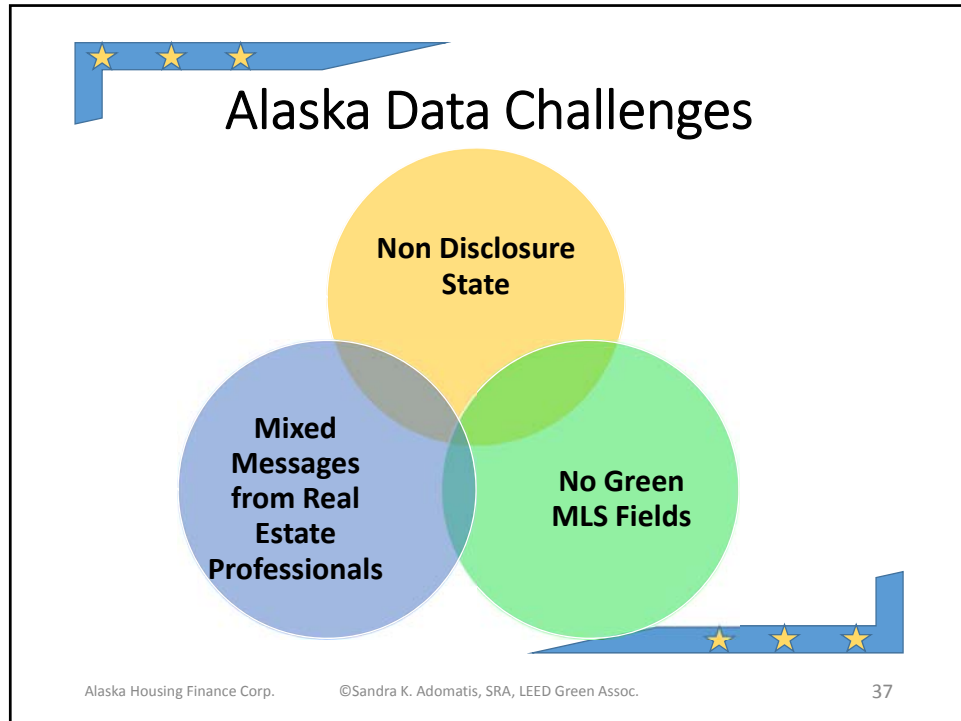
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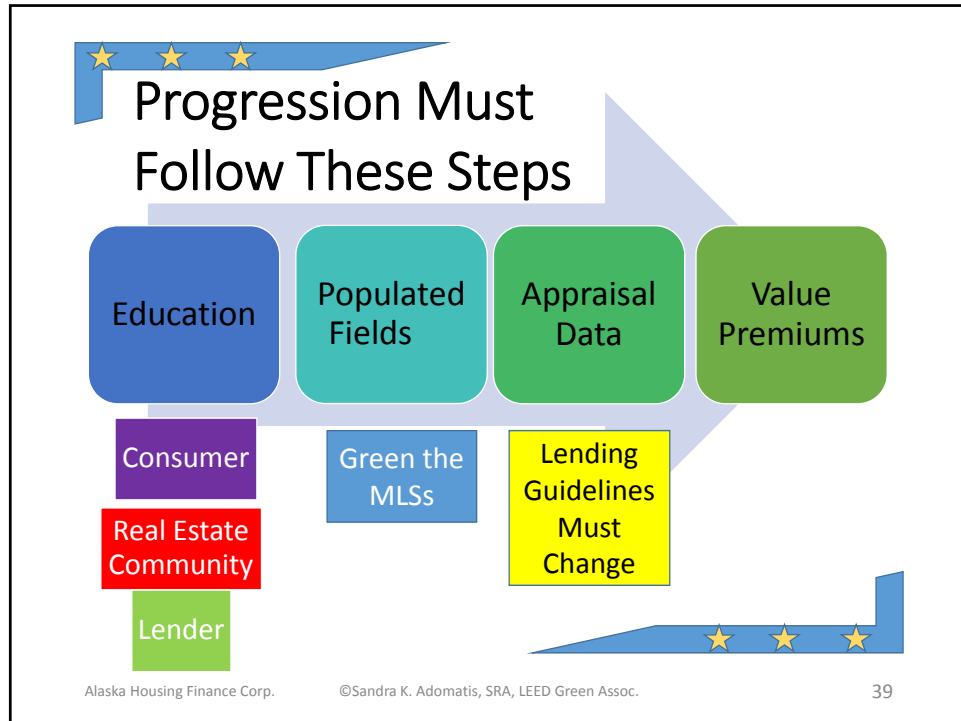


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Thank You!

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