

## Slide 1

### Work w SEC- partners in crime

## 2 REAP

**3-SSP** network of existing organizations focused on community resiliency in SE. This allows REAP to provide real, on the ground support in rural communities who are interested in EE and RE. The SSP provides a holistic approach by focusing on energy independence, local food, economic development and natural resources.

-Our partnership includes both regional and community based organizations who collectively support community identified priorities. SSP includes tribal governments in the rural villages of Yakutat, Kake, Hoonah, Sitka, Hydaburg, Klawock and Kasaan.

## 4 Business Profitability and Community Sustainability

- Economic resiliency map –The most frequent response regarding the pending economic crisis was from business leaders preparing to reduce their expenses in order to be resilient through an economic downturn. #2 included support of local businesses.
- Energy concerns are a vital component of the community resilience equation, because energy literally powers powering our communities, and making modern life possible.
  - Photo – Business training workshop in POW by Haa Aani, P2P and SSP
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## 5- “The First Fuel”

- One track mind, business profitability, I think about the building’s energy use
- The Lifecycle of a building – Over 40 years, 50% of the costs will go to Operations and maintenance, 11% construction, 14% financing, 25% alterations - *ASHRAE - American Society for Heating, Refrigeration & Air Conditioning Engineers*
- America’s 120M buildings consume:
- Consume 42% of the nations primary energy and 72% of its electricity

## 6- The First Fuel

EE is almost always cheaper than generation

Reduce Energy bills

Increase comfort

Extend life of equipment

Reduce Carbon Emissions

Spur economic growth

### Before RE

Most commercial buildings in AK have the potential to reduce energy costs 30%.

## 7- vs. Conservation

This isn’t about doing less, sitting in your cold, dark home. Using technology to save energy for you. When I talk about saving energy, what I hope to see is old, incandescent light bulbs

replaced, tightly sealed doors and windows, insulated pipes, a heating system that is correctly sized and meets the needs of the building. Your kids or customers never turn off the light or the tv at night, use a timer that does it for them. Saving money on heating and electricity means more money in your pocket to expand your business or stay open longer, buy new equipment, help keep an employee on

#### 9-Clean Energy *Resources* – *too many words for one slide – Not detail*

- Building Monitoring – An open source building monitoring system that measures real-time energy use and provides a summary of building operating performance.
- Cash Flow Calculator - Allows the user to develop a preliminary analysis of the cost effectiveness of an energy efficiency retrofit by comparing cash flows of various funding scenarios.

#### 10 - Clean Energy Financing *Programs* –

**Haa Aani CDFI** – business mentoring – talking about having an efficiency focus within the program

**USDA** – REAP for rural small business

Grant: 25% of the project costs for EE & RE

Loan: Up to 75% of the project costs for EE & RE

Combination – no more than 75% of the project cost

One of the only grants I know of for private businesses – they want you to use it!

Designated funds for small projects of less than \$80,000 with a streamlined process 50,000 or less

Energy Audit Phase II!

**Now fun part – programs and outreach to encourage business profitability and community sustainability**

#### 11- Traveling Energy Efficiency Team

Robert and I brought experts together to get projects moving. Focus on L1 audit.

I talked about this in April, so not going to spend much time on the first round.

34 audits

Work with local leaders

-Explain components

Five level II audits

Walking audit w SEC– clipboard and taking photos

Follow up with SEC

EE Workshop – Case for EE

Financing Options

Cash flow / cost of delay

Maintenance and reliability

Direct support / first steps

Low turnout in workshops

**Talk about savings**

## 12-Results... - mostly Level 1

**Updated:: \$382,701 Cost / \$173,782 Savings – 2.2 year paybeck – compare to investing?**

Payback for lighting – <2 years

Nearly \$200k that could stay in the communities – support local economy

### **Hoonah –**

1. City of Hoonah lighting upgrade in gym and pool (expected to save \$61k/5yr);

2. City of Hoonah Harbor light upgrade (expected to save over \$16,000/yr);

Still tracking efficiency implementation! Follow up is key!

What are people doing:

Lighting recommendations have been high on the list

High level of energy awareness, especially in Hoonah:

Continued low appetite for loans – want to finance themselves

**Team had so much fun / valuable, we're going for round 2!**

## 13-Energy Audit Program Phase II – Announced in April – now up and going

SEC applied for a USDA grant for Phase II, awarded - subcontract with REAP and EAA

-We cover 75% of the audit Costs – not travel

## 14 - Application

Simple application – building info and energy data collection

Focus on Private Commercial but with funding from AHFC able to include some public facilities

Simple report

Follow up

Cost – audit only – not travel or per diem

Next week – Juneau, Haines and Skagway

## 15-Fishing Vessels – At midsession summit met with Julie Decker – Alaska Fisheries

Development Foundation and Alaska Longline Fishermen's Association -

Floating businesses

--AC and DC loads, refrigeration, hydraulic and general operation.

Now, with the audits, we encourage businesses whether floating or on concrete to seek out financing if they don't have the cash on hand to implement EEMs. The audits will help in that process.

\*Note USDA – propulsion of fishing vessels will not be eligible for REAP

## 16-RACEE

RACEE is a US Department of Energy (DOE) competition – managed by AEA - that challenges rural Alaskan communities to commit to saving 15% energy by 2020 (baseline 2010) which aligns with the State's Energy Efficiency goal. The competition is intended to empower remote Alaskan communities to develop and implement solutions that can

effectively advance the use of reliable, affordable, clean-energy and energy-efficient solutions identified by their community.

In January 2016, 64 communities, including eight Southeast communities, submitted pledges to become energy champions and move to the next phase of the competition. In April, DOE announced that 13 communities would be eligible to apply for up to \$3.4 million in funding to implement the community energy efficiency plans they develop in Phase II of the competition.

### 17- Collaboration

Talk about Klawock – displacing BTUs, not just saving money

Klawock, through its community “Stakeholders”, communicated their needs and priorities through the project lead, KCA.

Phase II – TA

\*Head start – 9 energy audits, including 5 Level II audits from the Energy Audit program last year. Requested TA in the form of project planning and project development.

\*The Klawock City School District is one of the biggest energy users in the community. The energy audit identified major problems with the HVAC controls – Jim Fowler

\*The City has prioritized upgrading the remaining 85 110-watt streetlights from HPS to 53-watt LED, which will reduce energy consumption by 50%. Jim Fowler – EAA

\*Water and Wastewater treatment plant audit - ANTHC

\*Air Source Heat pumps – AEA – economics of incentivizing heat pumps if the community deems that a priority

\*Assessing project finance options – AEA

\*Baseline assessment – AEA

Submitted August 31.

**First year** – some challenges (timeline) with the program, but some things I really appreciated:

Bringing the largest stakeholders together in a community – projects are community driven, focus on EE, encourage coordination- materials and contractors, start outlining a path towards implementation even if they don’t get the grant. Work will not be for naught. Hopefully will hear in October at AFN from DOE...

### 18- Biomass Greenhouse Handbook

Gen Z – Another exciting project

Develops that interdisciplinary work between Natural Resources, Economic Development, Local Food and Energy Independence– and showcasing some of the successes in Southeast. The purpose of this project is to provide an overview and pathway for communities with an emphasis on school districts interested in building and operating biomass heated greenhouses, similar to the USFS Biomass Handbook.

Goal - this book will be organized so that an entity could pick it up and easily know the important steps to plan and implement a greenhouse project.

-Joint funded by USDA FS and AEA

-Awarded to CCHRC in June. REAP, SISD, Grow Southeast, UAF

-Over 500 schools. Currently 10 schools are heated with biomass systems, four of which have operational greenhouses.

-Web-based handbook for schools and communities to look at when thinking about building and managing greenhouses. The main focus is biomass-heated greenhouses, will include identifying a project champions, look at local biomass resources, financing, and human capacity. – Example – **Thorne Bay** – needed a system simple enough for the students to use. -Local heat source and reinvestment in nutrition, health and education: Kids in Thorne Bay do many jobs: Stoke boiler, grow, sell, balance books, work in café, serve lunch – GH is now self sustaining!

-REAP will focus on the curriculum and collecting information in Southeast Alaska, focusing on the working systems as well as other communities that are interested in biomass/greenhouse projects. We've already completed interviews with teachers, parents, students, grant writers in SE. Had relationships through SSP

-Starting with a very broad and inclusive outline, which was presented to the steering committee this month and edited

-Timeline is extremely tight, with the final product due March 31, 2017. We plan to have 50% draft completed by 9.30. Follow up research Sept. 1 – Nov. 30.

## 19-Great Alaska Energy Challenge

### Lead by Example

Excited to be a part of the GAEC, an initiative of the Governor's office that REAP and AEA will be working together on for the next 8 months.

a six-month competition to reduce energy use in State office buildings. This project has several important objectives, chiefly:

\_To save the State money;

\_To demonstrate to Alaskans that State employees are good stewards of public resources;

\_To celebrate our successes and encourage further energy savings; and

\_To empower State workers to "lead by example" in showing the power of collective commitment.

Also hope to inspire local governments, the private sector, and individuals across the state to take similar actions.

-Voluntary.

-Up to 4 winners

The contest will run from October 3 – March 31.

- If you know of a state-owned / operated building... focus on office but will accept others.

-6 month challenge- focus on behavioral efforts, but will also provide the opportunity to explore greater efficiency investments.

**AEA – first to apply?**

**Watch for updates!**