01/27/14 Presentation: Institute of the North

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Alaska Legislature
House Special Committee on Energy

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AGENDA

Monday, January 27, 2014 8:00 a.m. – 10:00 a.m.
Barnes 124

Institute of the North
Presenter – *Nils Andreassen, Executive Director*

2013 Arctic Energy Summit, Akureyri, Iceland
2013 Arctic Energy Summit, Seward, Alaska

If you or your staff has any questions please contact Katherine Eldemar at (907) 465-4527 (katherine.eldemar@akleg.gov) or Jeff Turner at (907) 465-6588 (jeff.turner@akleg.gov).

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Representative Doug Isaacson
Alaska State Legislature

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MEMORANDUM January 27, 2014

SUBJECT: Committee Focus

TO: Members, House Special Committee on Energy

FROM: Rep. Doug Isaacson, Co-Chair

The House Special Committee on Energy is focused on resolving the issues that impede the ability of Alaskans from attaining affordable consumer energy. Every region of Alaska is entitled to secure the lowest affordable delivered cost for their energy needs. "Affordable" means that the cost is low enough to attract private investment, bring new jobs, and stabilize communities.

We all know that the consumer energy sector provides a lot of "interesting opportunities," so we can't tackle everything at once and be effective. There are six or more functions in providing consumer energy, listed in "TABLE A" (reverse side); a lengthy number of issues; hundreds of service providers, organizations, and independent entities within the consumer energy arena; and at least 13 State entities involved to varying degrees with consumer energy related functions, listed in "TABLE B".

To best facilitate committee action, I encourage a prioritization of issues according to the committee focus, and that each issue is identified with a function, and invite the participation of the appropriate organization and / or state agency in a committee format that best serves the understanding and resolution of the issue. Examples of Formats are: a) Bill Hearing; b) Presentation, usually from one organization or agency; c) Round-Table discussion, allowing for more than one interest to interact with the committee; or d) Informal informational workshops, such as will be held this Friday, January 31, 2014, with the Regulatory Commission of Alaska (RCA).

Each member has received previous correspondence from my office outlining possible committee topics. Our Committee schedule is still being developed and I invite your suggestions.

TABLES:

A. Consumer Energy consists of at least six separate and overlapping functions:

1. Generation
2. Operations
3. Distribution / Transmission
4. Regulation / Oversight
5. Projects / Funding
6. Fuel Sources
7. Miscellaneous

B. State Agencies with consumer energy related functions include:

1. Department of Commerce, Community, and Economic Development
    a. Alaska Energy Authority (AEA)
    b. Alaska Industrial Development and Export Authority (AIDEA)
    c. Regulatory Commission of Alaska (RCA)
    d. Division of Community and Regional Affairs (DCRA)
2. Department of Revenue
    a. Alaska Housing Finance Corporation (AHFC)
    b. Tax Division
3. Department of Natural Resources
    a. Royalty Oil and Gas Development Advisory Board
    b. Division of Forestry
    c. Division of Mining, Land & Water
4. Department of Environmental Conservation
    a. Division of Air Quality
5. Department of Law
    a. Regulatory Affairs & Public Advocacy (RAPA)
6. Department of Transportation & Public Facilities (DOT&PF)
7. Department of Administration

INSTITUTE OF THE NORTH

ALASKA'S ARCTIC THINK-AND-DO TANK

Review of 2013 Energy Projects

Nils Andreassen
Executive Director
Institute of the North

MISSION

To inform public policy and cultivate an engaged citizenry, consistent with our focus on the North and belief that commonly-owned resources should be managed and developed for community and individual prosperity.

REALITY, RICHNESS, RESPONSIBILITY

Our values

- Value the Arctic as a commons with management of resources for the benefit of peoples and communities of the North
- Focus on responsible energy and infrastructure development that facilitates sustainability
- Goal of healthy, prosperous and resilient communities
- Elevate the voices of northern peoples in state, national and international arenas

REALITY, RICHNESS, RESPONSIBILITY

Our work

- Convene and facilitate civic discourse in order to cultivate an engaged citizenry
- Inform public policy through outreach and education
- Sustain networks of stakeholders, policy makers and technical experts
- Synthesize research for broader awareness and accessibility

LEVELS OF GOVERNANCE

National

Indigenous

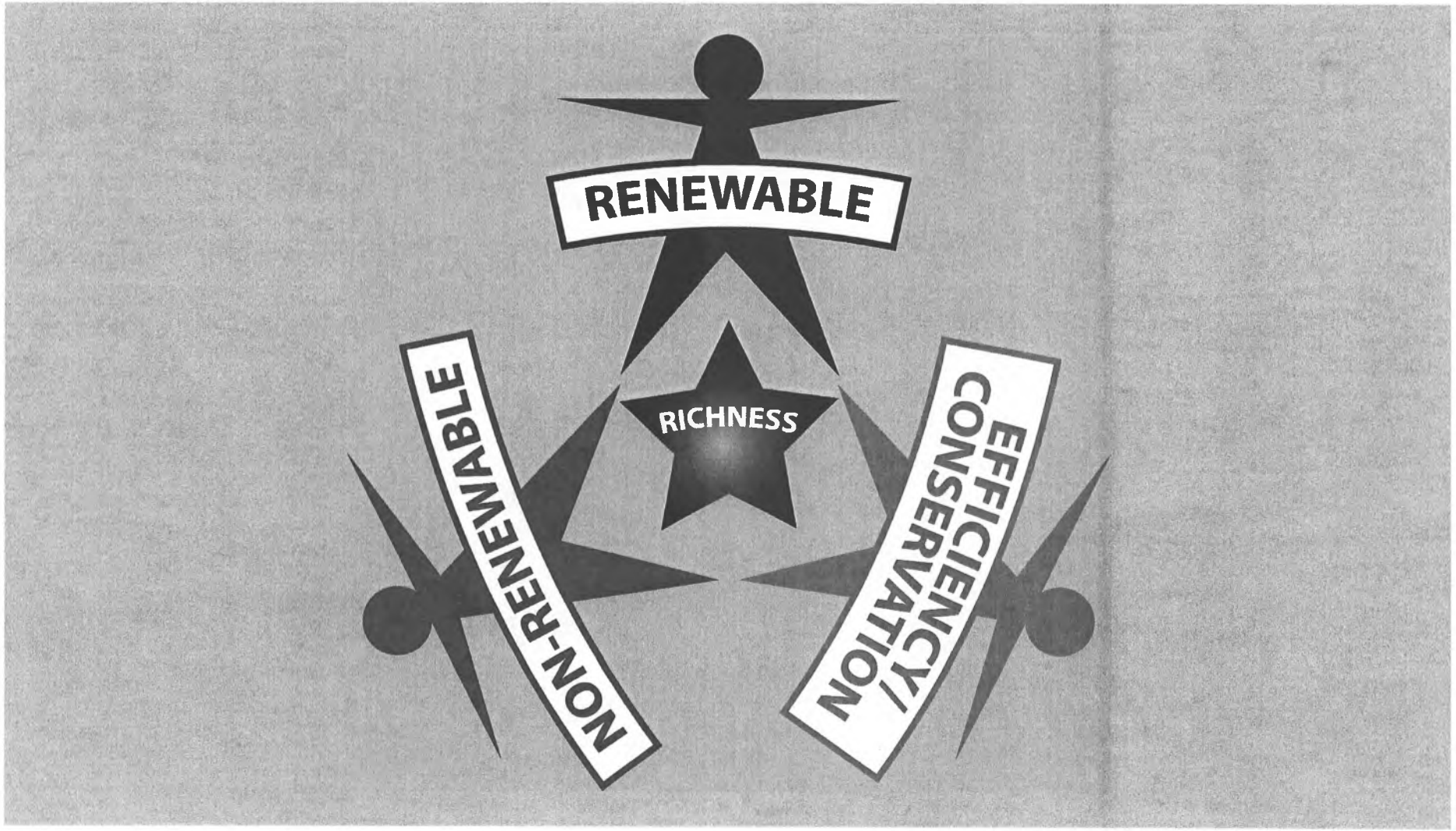
Sub-national

From Stakeholders to Rightsholders

RESPONSIBILITY

- Not risk free, but commitment to risk mitigation
- Necessary response ability
- Community, culture, and environment
  - Development of indicators

RICHNESS


RENEWABLE
RICHNESS
NON-RENEWABLE
EFFICIENCY/
CONSERVATION

RESILIENCE

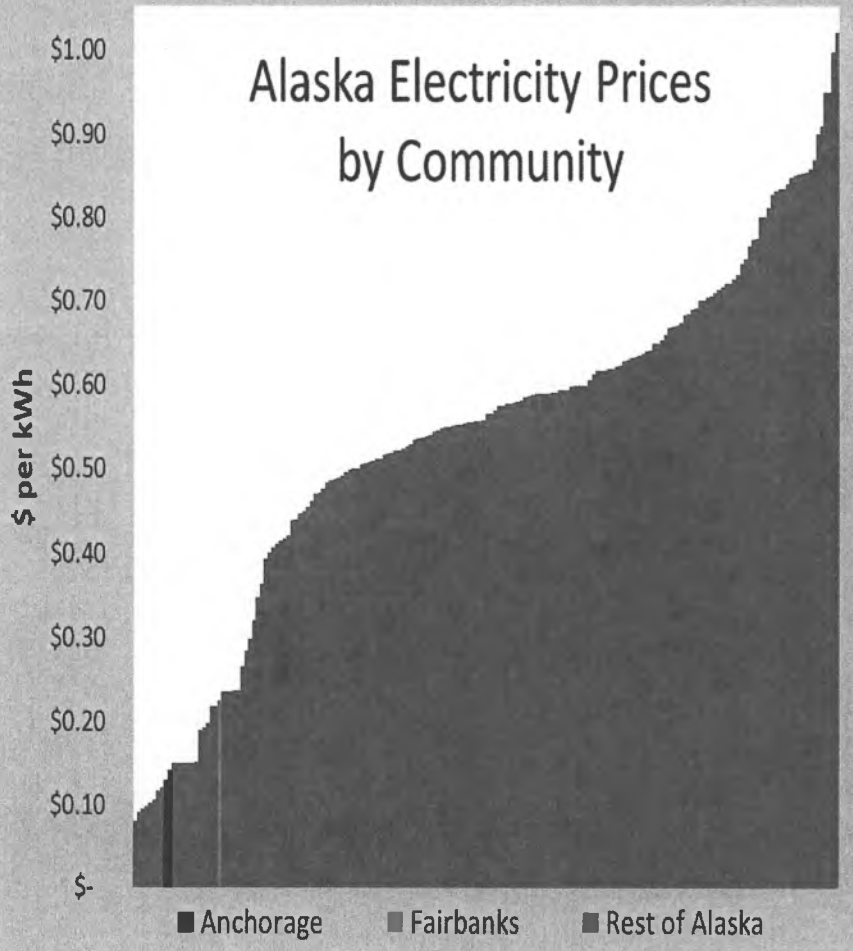
- Ability to respond and adapt to change – system capacity to bounce back
- Asset dependent, plus scale and rate of change
- Time sensitive – implement responsibility now
- Resilient communities depend on resilient energy systems

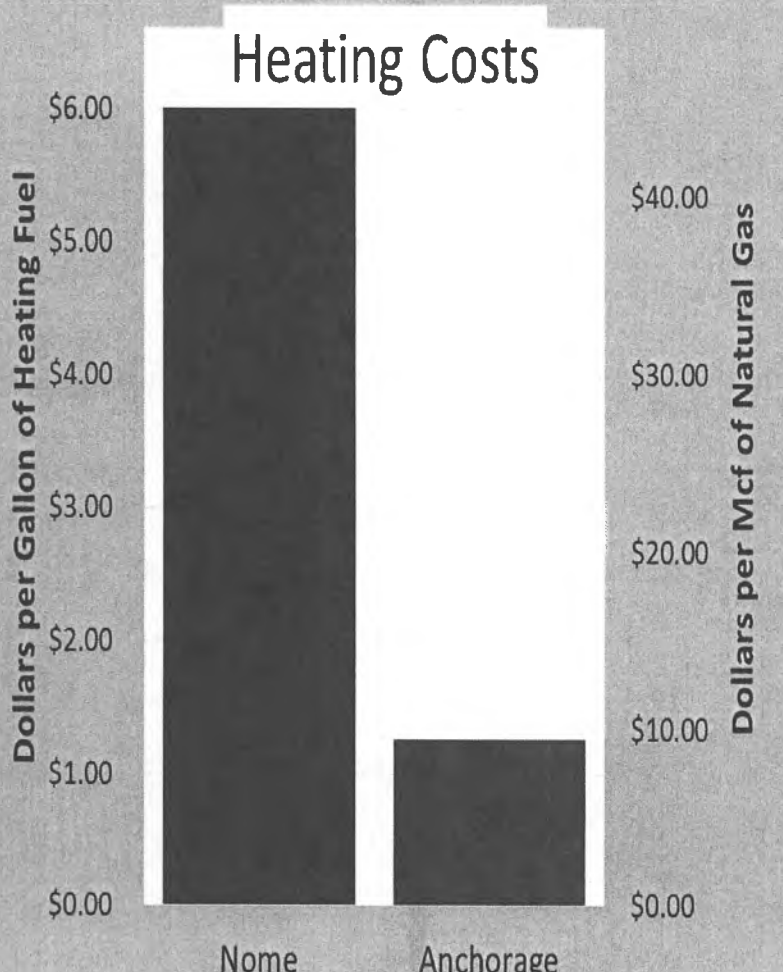
RESPONDING TO

- Fundamental challenges facing Alaska:
  - Declining oil production
  - Decreased state revenue
  - High energy costs in much of Alaska
  - Significant fiscal hurdles in next decade

- Search for best practices, new and innovative policies and systems that have derived maximum benefit from their resources for their people

ENERGY COSTS VARY





HIGH ENERGY COSTS

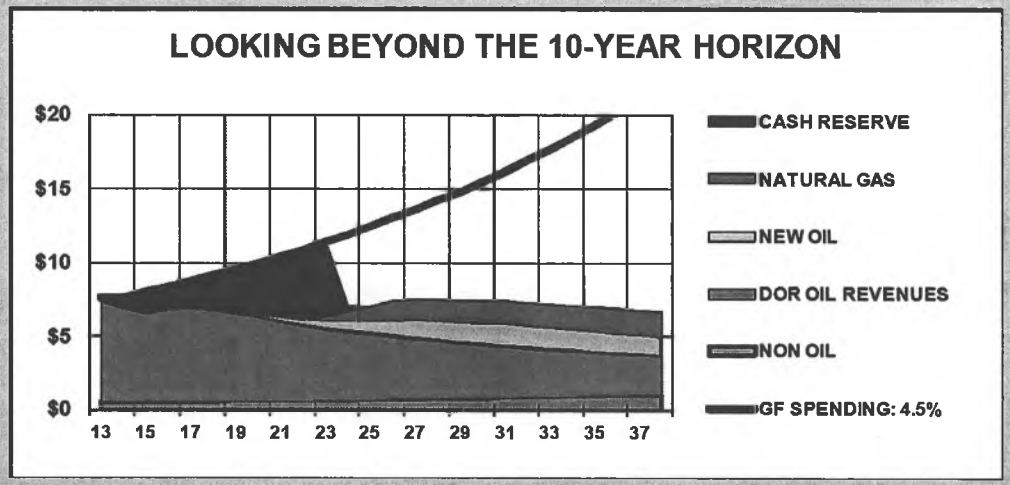
Electricity	Alaska Average Cents per killowatt hour kWh	U.S. Average Cents per kilowatt hour kWh	% Difference Alaska Higher than US	Period
Residential	17.78	12.03	48%	October 2012
Commercial	15.38	10.11	52%	October 2012

Source EIA

IMPACT- High Energy Costs are financially crippling Alaska households, costing Alaskans jobs and discouraging new industrial and resource development

THE POWER OF Alaska
ALASKA INDEPENDENT POWER PRODUCERS ASSOCIATION

FISCAL CONSTRAINT



"Reasonable assumptions about potential new revenue sources suggest we do not have enough cash in reserves to avoid a severe fiscal crunch soon after 2023, and with that fiscal crisis will come an economic crash."

ISER, *Maximum Sustainable Yield, FY2014 Update* (January 2013)

CHALLENGES

- Production
- Generation
- Distribution/Transmission
- Utilization

PRODUCTION

1. Access - Roads, Permitting willing landowners and leaseholder
2. Investment - regulatory certainty, stable market, infrastructure, access to private capital
3. Ownership of data - incentives business climate technical feasibility
4. Permitting - Clear & Consistent Standards, Avoid Duplication, Public Acceptance, timelines, capacity to process permit applications
5. Market Conditions - incentives create demand, attract and support private investment, market access for independent producers, compliance with federal regulations
6. Infrastructure - regulatory certainty, potential state involvement
7. Railbelt - Operation/Governance, balkanized, upgrades needed
8. Rural - Standalone, redundancy, no regional grid, lack of economic development, balkanized
9. Federal land ownership, and restrictive federal land use policy. (Ex: Tongass National Forest, Roadless Rule, etc.)
10. Natural Resource Development - need affordable power, value-added development

<u>Solutions:</u>

- Railbelt: Integrated operation/management, $900 million ($100-$200 annual savings) partnering, financing/ debt surcharge (from cost savings)
- Rural: Micro-grids, renewables, open access to transmission
- Extractive Industries: Partnering for rural energy renewables

GENERATION

- Security of supply
- Cost (fuel & capital/demand) → innovation, improve rates
- Logistics → regional plan, locally sourced
- Economies of scale
- Environmental impacts → fee's incentives and rules
- Dispatch and integration → technology, training, and transmission
- Firm v. Variable → battery storage curtailment
- Additional problems…
  - Storage
  - Technology
  - Aging Infrastructure
  - O & M
  - System Operations & Human Capital
  - Permitting
  - Financing and Access to Capital

DISTRIBUTION/TRANSMISSION

Anchor Tenants (potential users)

- Solution: Private investment for public benefit and create economies of scale (natural resource development, value-added industries)

High Contribution of renewables on grids, unbalanced load

- Solution: Centralized operation of stand-alone utilities (keep old tech for backup)

Regulatory uncertainty & lack of coordination

- Solution: Streamline permitting process to bring mines on-line faster (single agency POC)

Lack of infrastructure & lack of connection (distance, geo)

- Solution: Partner with other western states (PNWER, legis, admins), Connect to the North American grid where economically feasible (Yukon), Transition between utility grids within Alaska

Land access restrictions

- Solutions: Assert RS2477 & ANILCA, et al ROWs

No renewable land use designation

- Solution: virtual connections, evaluate on STWD basis, No renewable Land Use Designation (LUD) within the Tongass National Forest, or Tongass Land Management Plan (TLMP)

Competing Projects

- Solution: create big picture strategy that includes villages

UTILIZATION

NO ONE has used the AHFC public building loan fund.

- Solution: administrative leadership → make the department heads figure this out (district admn. People). As well as educating decision makers (school boards) about the benefits of applying for loans

Need low interest rates on loan programs for commercial buildings to become more energy efficient

- Solution: AHFC add this to their efforts

New methods for funding energy efficiency needs

- Solution: Implement PACE, which 29 other states are currently doing.

<u>Expand Opportunities:</u>

- Recruit and Support Energy Intensive Industries (e.g., mining, data centers)
  - Or small-scale e.g. local food processing in a village; opportunity to interconnect

- Better Management
  - Need strong infrastructure grid, equal access, RCA regulatory environment ensuring equal access to transmission

2010 PLAN

1. Establish an Energy Policy
2. Develop Strategic Goals
3. Adopt a plan to achieve the goals
4. Implement programs and projects consistent with the goals

- Steps 2-4 are the current problem statement
  - To what extent is Alaska achieving affordability, ensuring project efficacy and stable funding for projects in the long-term, while practicing fiscal constraint?

DECLARATION OF STATE ENERGY POLICY AS 44.99.115

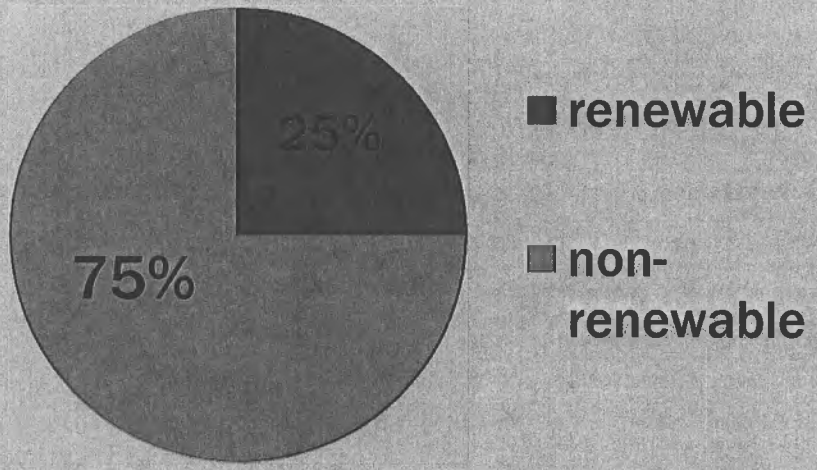
- The State of Alaska recognizes that the state's economic prosperity is dependent on available, reliable, and affordable residential, commercial, and industrial energy to supply the state's electric, heating, and transportation needs.

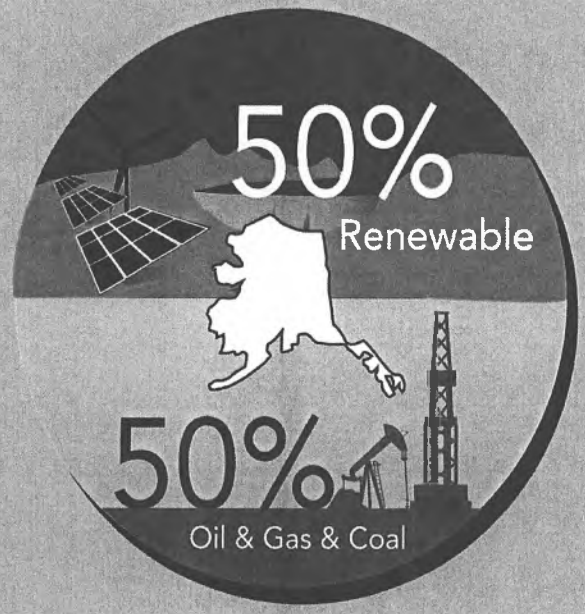
- The state also recognizes that worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels consumed by Alaskans and exported from the state to other markets.

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

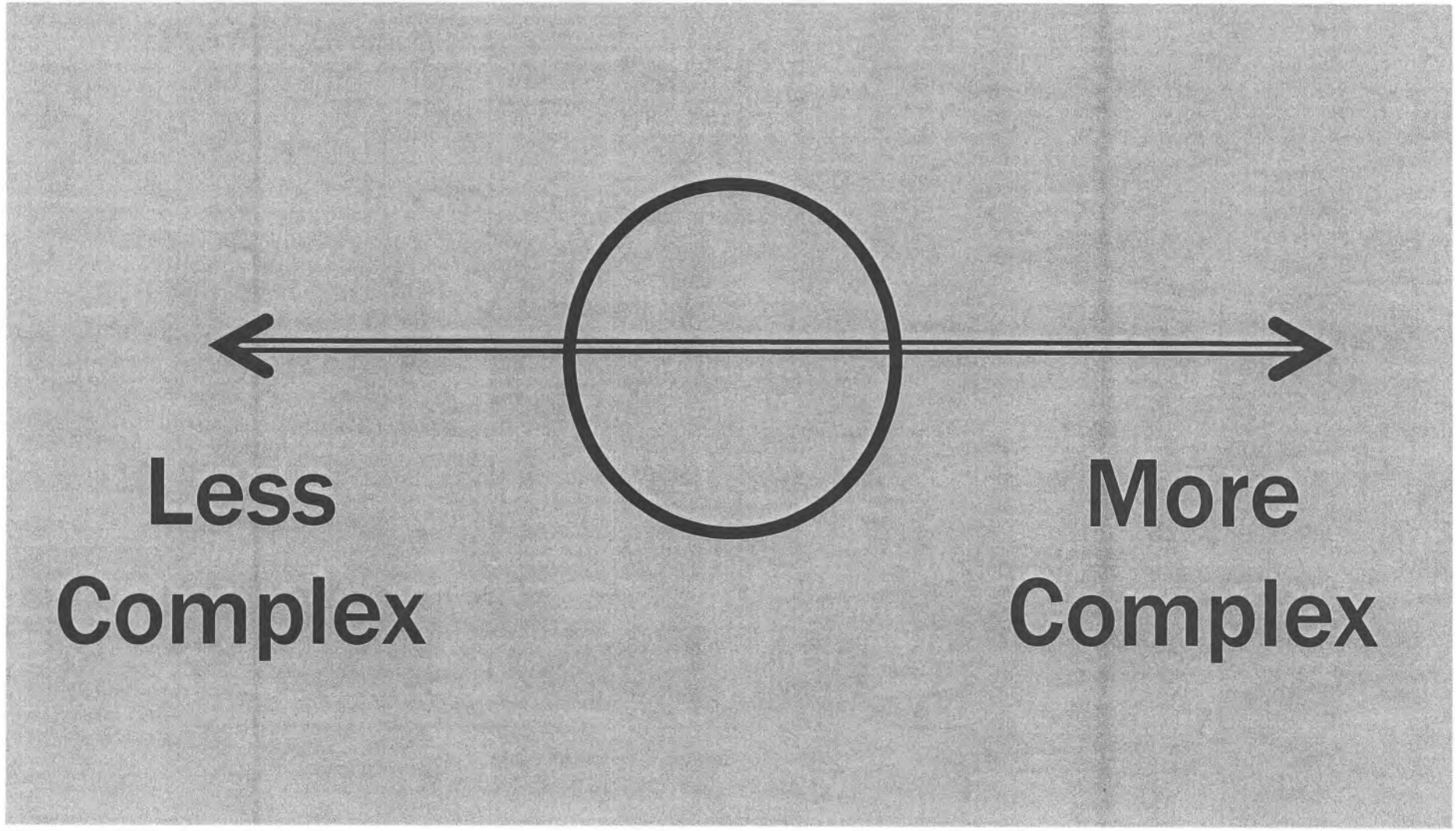
DIVERSIFYING ALASKA'S ENERGY PORTFOLIO

Alaska Net Electricty Generation
May, 2013





THE POLICY SWEET SPOT



CASE STUDY ANALYSIS - POLICY

- Certainty
  - Longevity
  - Regulatory and fiscal environment
- Empower the market (and individuals)
  - Open access—let market forces work
- Vision/Mission statement
  - Clearly articulated vision leading to broad support
  - Energy independence equals low-cost power
  - Goal of consumer benefit
  - Ancillary benefits - Energy security and Jobs
- Other
  - Broad statewide support because it is a common problem
  - Equalize costs between urban and rural
  - Leadership
  - Federal, state, and private investment
  - Legislative champion
  - Local entity adaptive (no restrictive policy)
  - Goal-oriented and Reality-based

CASE STUDY ANALYSIS - IMPLEMENTATION

- Get 'er done! (Infrastructure)
  - Build for industry first...and the rest will follow
  - Grid infrastructure
  - Could have incentivized utilities to invest, and create efficiencies
  - Emphasis on construction (not studies)
- Consensus
  - Spreading money around the state
  - Agreement among players
  - Positive change in land ownership (private)
  - Pro-active management of public lands for renewable energy development
- Other
  - Lock-in through clear contracts
  - Policy adaptation
  - Well-defined objectives, transparent process
  - Immediacy of need
  - Use what's abundant and affordable
  - Contracts
  - Outsourced to private sector
  - Existing organizations

CASE STUDY ANALYSIS – PROGRAMS/PROJECTS

- Universal, broad base, diverse and inclusive
  - Public and private financial participation
  - Popular, high demand
  - Available statewide
- Technical credibility facts! Info!
  - Good data
  - Well-prepared project plans
- Projects were catalysts and foundations
  - Created framework to enable, not dictate projects
  - Industrial-size projects to drive the completion of increased transmission interconnectivity with open access
  - Innovation, reinforcing feedback, lowering costs
  - More innovation and technology, lower costs
  - Stable prices and conservation
  - Reduction in consumption

ALASKA DIALOGUE - QUALITIES OF POLICY

An Energy Policy for the State of Alaska should:

1. Be driven by Vision and Strategy
2. Create and Supports Regulatory Clarity
3. Have Broad Stakeholder Buy-in
4. Be able to be evaluated against measurable indicators
5. Adapt and evolve based on results of evaluation
6. Establish a Loading Order (prioritization method)
7. Should include clear strategy or work plan for implementation

ALASKA DIALOGUE – WHAT POLICY ACHIEVES

An Alaska Energy Policy should achieve:

1. Economic Development/ Growth/ Sustainability
2. Stability & Predictability
3. Equity/Fairness
4. Innovation/ Entrepreneurism
5. Affordability
6. Stewardship
7. Transparency and Accountability
8. Consumer/User Responsibility
9. Support for private investment
10. Modern regulatory framework to attract, support, and protect new investment capital

INDICATORS

To what extent have we established, addressed, been affected by, incorporated...

Security of Supply
Environment and Pollution
Strategy for State
Politics and Pet Projects
Budgets
Risk Appetite
Resource Wealth
Technology Development
Social Considerations
Subsidies for People
Subsidies for Industry
Economic Development
Resource Development
Ratio of private investment to public investment

Price

ENERGY PRICE FOR POLICY SWEET SPOT

$$\text{Fuel} + \frac{\text{Capital \& Operation Costs}}{\text{Demand}}$$

KEY TAKEAWAYS

- **Does the current state energy policy meet the criteria?**

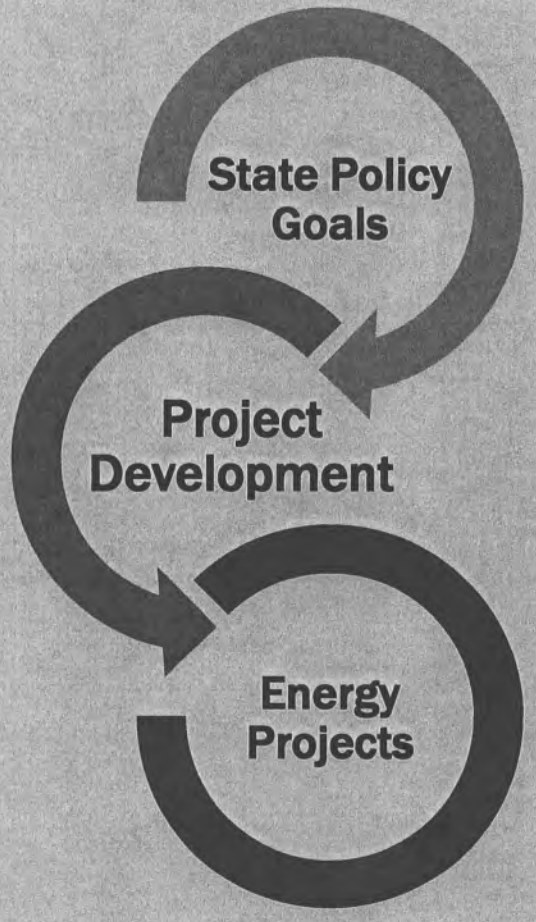
- ✓ Driven by Vision and Strategy
- • Creates/Supports Regulatory Clarity
- ✓ Has Stakeholder Buy-in
- • Can be evaluated against measurable indicators
- • Results of evaluation guides adaptation and policy evolution
- • Establishes a Loading Order (prioritization method)
- ✓ Economic Development/ Growth/ Sustainability
- ✓ Stability & Predictability
- ✓ Equity/Fairness
- • Innovation/ Entrepreneurism
- • Affordability
- • Stewardship
- • Transparent, Accountable Process
- • Consumer/User Responsibility

How are we evaluating the outcomes?

REMAINING QUESTION

- Is the current state energy policy aspirational or directional? And for whom?

AEA -
PATHWAY FROM POLICY TO PROJECTS

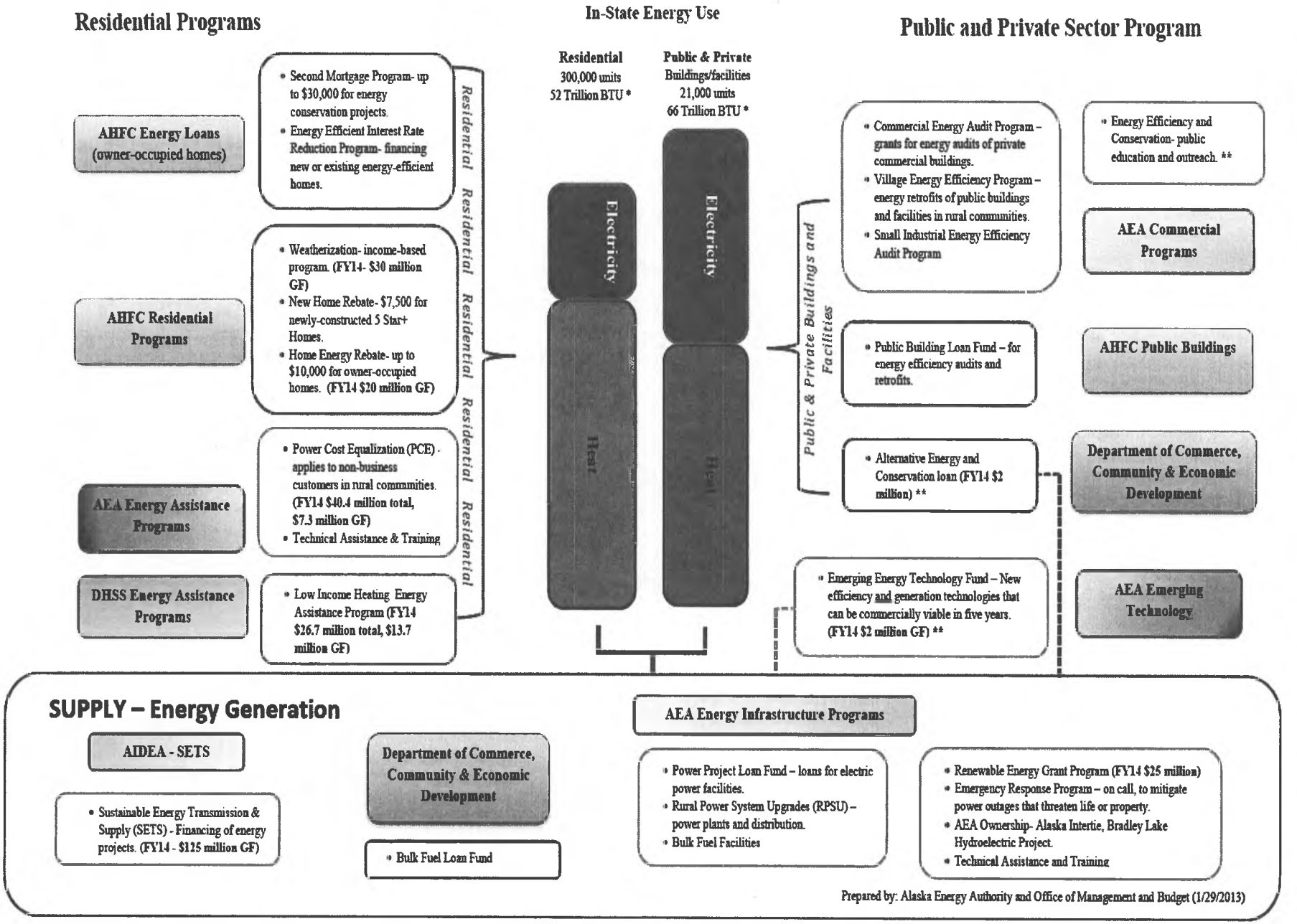


- Administration
- Alaska Legislature
- AEA Policy Development

- Board of Directors
- Regional Planning
- In-House Project Evaluation

- Loans and Direct Grants
- Project Management
- Partnerships (Private, AIDEA)

State of Alaska Energy Programs: Serving the needs of Alaska's residential and commercial energy users



** Source: Energy Information Authority*

*** Note that some programs do not fall within specific categories - Public outreach and education serves both the commercial and residential markets and Emerging Technology and the Alternative Energy and Conservation loan serve both generation and efficiency*

ROADMAP

- Criteria - A principle or standard by which something may be judged or decided
- Strategy - prioritize or rank how we spend limited money in a way that produces results
- System – tracks projects/expenditures to make sure that we are accomplishing the goals set out by the policy

POTENTIAL RECOMMENDATIONS

Draft Recommendations

- Make standing committees of House Energy and Senate In-State Energy – consolidate oversight
- Think in terms of a balance sheet – assets and liabilities
- Evaluate energy projects with accurate information, and options vetted and weighed against one another
- Encourage better outreach and communication from state agencies – benchmarks of success
- Encourage and support private investment
- Implement energy policy as a key element of fiscal policy – fenceposts for policy makers and agencies

POTENTIAL RESEARCH

1. Impact of grid connectivity to social and economic development? Regional or microgrids?
2. Inventory of measures of government support to both extractive industry and renewable energy projects
3. Study examining the benefit sharing arrangements to local communities from private sector development
4. Lessons learned from policies promoting renewable energy
5. Dedicated financial vehicle (i.e.; Arctic Development Bank or Arctic Resilience Fund) to support renewable energy, local development, and resilience

POTENTIAL PROJECTS

- Development of an Arctic Risk Map that shows potential origin, probability, and consequence
- Assess and map renewable energy sources, which can be overlaid on existing oil and gas mapping
  - Development of an energy development and distribution roadmap
- Review regulatory and fiscal regimes for impact on the human dimension and social, economic and cultural development
- Review stake/rightsholder engagement and effective consultation practices
- Drafting of a master plan for community survivability
- Develop best practices guide to northern energy efficiency, through engineering, architecture and design

NEXT STEPS

- Build on qualitative work at Dialogue by considering indicators for criteria
- Develop quantitative evaluation measures for decision-making
- Consider both as part of a strategic plan

CHALLENGE

Arctic as a model of clean energy development

Arctic as a model for delivering affordable energy to its peoples and communities

"With great energy wealth comes great energy responsibility, on behalf of our people."