



Alaska Affordable Energy Strategy

Update to AEA Board


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Sept. 24, 2015

Senate Bill 138

Alaska Affordable Energy Strategy

Plan and recommendations to the Legislature on infrastructure needed to deliver affordable energy to areas in the state that do not have direct access to a North Slope natural gas pipeline.

Due: January 1, 2017

 LAWS OF ALASKA
2014

Source
HCS CSSB 138(FIN) am.H

Chapter No.

AN ACT

Relating to the limitation on the value of property taxable by a municipality; relating to the Alaska Gasline Development Corporation; relating to an in-state natural gas pipeline, an Alaska liquefied natural gas project, and associated funds, requiring state agencies and other entities to expedite reviews and actions related to natural gas pipelines and projects; making certain contracts by the Department of Natural Resources and the Department of Law not subject to the State Procurement Code; relating to the authorities and duties of the commissioner of natural resources relating to a North Slope natural gas project, oil and gas and gas only leases, and royalty gas and other gas received by the state including gas received as payment for the production tax on gas; relating to a report and recommendations by the commissioner of natural resources regarding the delivery and availability of North Slope natural gas in the state, including the identification of risks and recommendations for mitigation; relating to the tax on oil and gas production, on oil production, and on gas production; relating to the duties of the commissioner of revenue relating to a North Slope natural gas project and gas received as payment for tax; relating to confidential information and public record status of information provided to or in the custody of the Department of Natural Resources and the Department of Revenue; relating to apportionment factors of the Alaska Net Income Tax Act; amending the definition of gross value at the "point of production" for gas for purposes of the oil and gas production tax; clarifying that the exploration incentive credit, the oil or gas producer education credit, and the film production tax credit may not be taken against the gas production tax paid in gas; relating to the oil or gas producer education credit; requiring the commissioner of revenue to provide a report to the legislature on financing options for state ownership and participation in a North Slope natural gas project; requesting the governor to establish an advisory planning group to advise the governor on municipal involvement in a North Slope natural gas project; relating to the development of a plan by the Alaska Energy Authority for developing infrastructure to deliver affordable energy to areas of the state that will not have direct access to a North Slope natural gas pipeline and a recommendation of a funding source for energy infrastructure development; establishing the Alaska affordable energy fund; requiring the Department of

Enrolled SB 138

SB 138: Alaska Affordable Energy Fund

Special account in the general fund to provide a source from which the legislature may appropriate money to develop infrastructure to deliver energy to areas of the state that are not expected to have or do not have direct access to a North Slope natural gas pipeline

- 20 percent of the revenue from the state's royalty gas from an Alaska LNG project (after the payment to the permanent fund)

AkAES Planning Horizons

Short-term:

1. With the current budget climate, what can the state do to maximize the reduction in community energy costs?
2. Test options prepare the state for the long-term plans

Long-term: (2025 at the earliest)

1. How should the state invest money available through the Affordable Energy Fund to provide the maximum benefit to communities?

Avoiding Silos

- Stakeholder Engagement to Build on Local Expertise
- Capitalize on Previous Efforts
- Alignment with Administrative Order 272
- Building on Existing Energy Champions
- Engaging Rural Stakeholders
- Technical Advisory Group

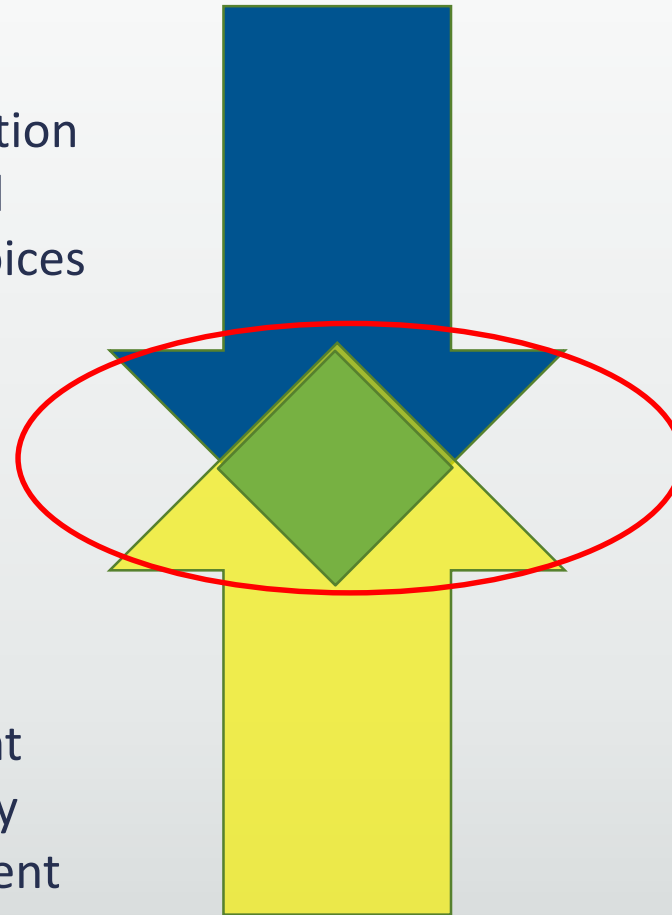
AkAES & Regional Planning

AkAES:

State-directed, program oriented, specific legislative mandate, allocation of resources, economic & technical comparison between potential choices

Regional Planning:

Community-driven blueprint for success, includes priority list of projects, not dependent on state funds



Common elements between AkAES and Regional Plans

How do you Define Affordable?

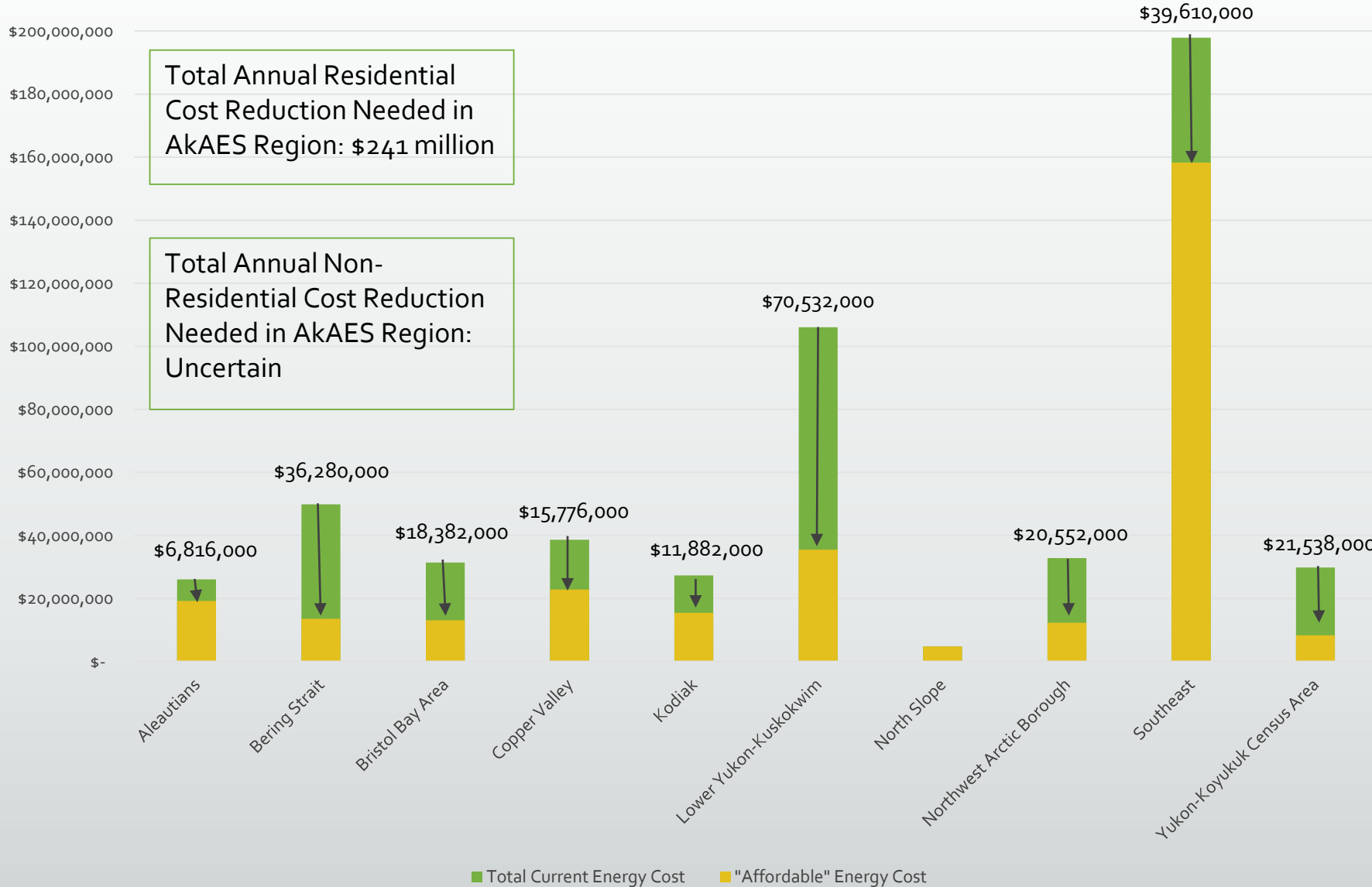
Two primary options for using “Affordable” to allocate resources:

1. Need-based: “Affordable” includes the ability to pay
 - a. Some combination of energy unit prices and/or costs and median household income of the community
 - i. Example: LIHEAP
2. Need-blind: “Affordable” is a price or cost target
 - a. A goal for energy unit prices and/or costs
 - i. Example: PCE

Budgetary Implications of “Affordable”

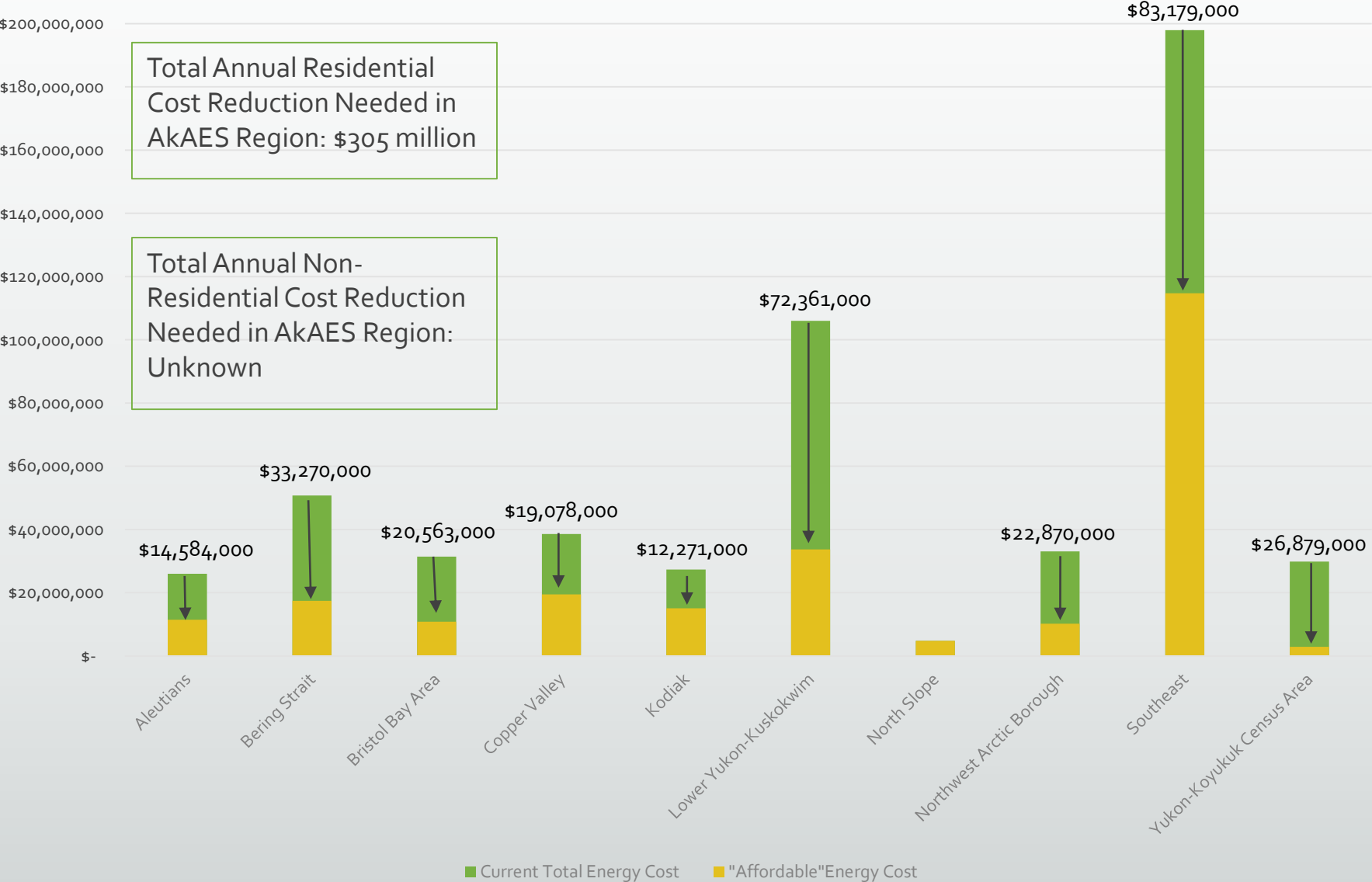
- Total cost reduction requirements will be different based on how “affordable” is defined
- Regional distribution of required cost reductions per definition influenced by:
 - Total population
 - Local cost of energy—heating is the primary driver
 - Climate
 - Building stock
 - Other socioeconomic considerations

Need-Based "Affordable" Energy



- Heat and electricity
 - Annual Household Energy Cost Reduction needed to Have 8% Energy Cost Burden
- Data from 2014 AHFC Housing Assessment
- Assumes 500 kWh/month
- Only includes residential sector
- Uses MHI from ACS 2013
- Does not include PCE

Need-Blind "Affordable" Energy



- Heat and electricity
 - Annual Household Energy Cost Reduction Required to equal \$0.21/kWh and \$15/mcf Natural Gas
- Based on regional estimates from AHFC 2014 Housing Assessment
- Assumes 500 kwh/month
- Only includes residential sector

Developing Recommendations

What AkAES is expected to develop:

- Prioritized list of program-level recommendations
 - Improvements to current programs
 - New programs (loans, grants, incentives, assistance) to fill identified gaps
 - Regulations, codes, or other requirements that will lead to cost effective energy cost reductions
- Useful tools and data for communities and regions to help prioritize projects

Three Phases of Development

1. Identify Rural Energy Cost Drivers
 - Including fuel, infrastructure costs, etc.
2. Identify Strategies to Reduce Costs
 - Energy efficiency, projects, etc.
3. Policies to Enact Strategies & Allocation of Resources

AkAES Study Overview

Phase 0: 1) Do preliminary research, 2) develop study plan and budget, 3) identify partners and contractors

- 1 & 2 complete, 3 in progress

Phase 1: Data collection: Drivers for energy and project costs

- In progress

Phase 2: 20-year forecast for energy consumption, costs, and project benefits

- In progress

Phase 3: Develop strategies for reducing energy costs

- Scopes defined

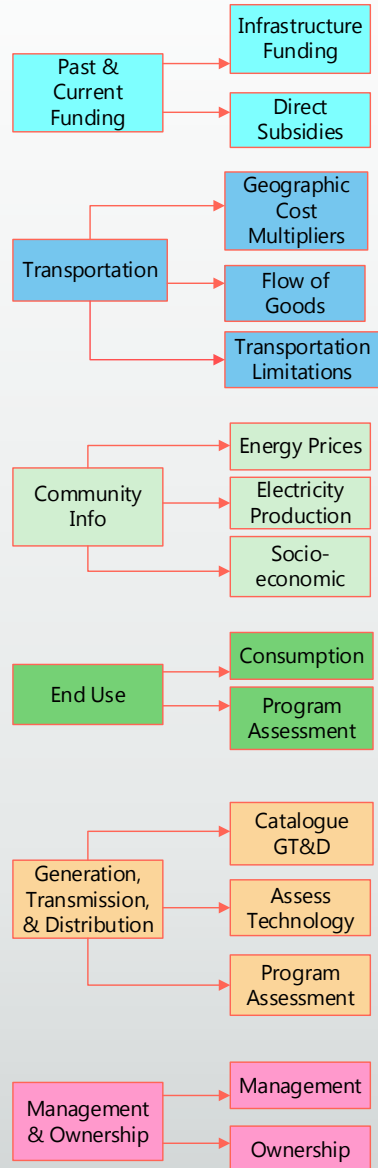
Phase 4: Develop and evaluate potential policy options to implement strategies

- Scopes defined

Phase 5: Prioritize policy options and develop Evaluation, Measurement and Verification (EM&V) plans

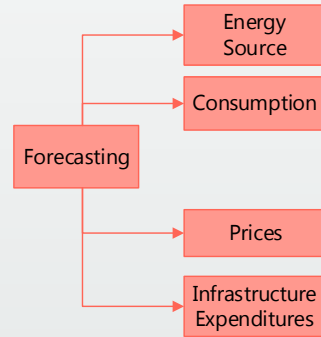
Phase 1: Data Collection

What has been done? What has been effective?.
What is the current need? What are current local choices?



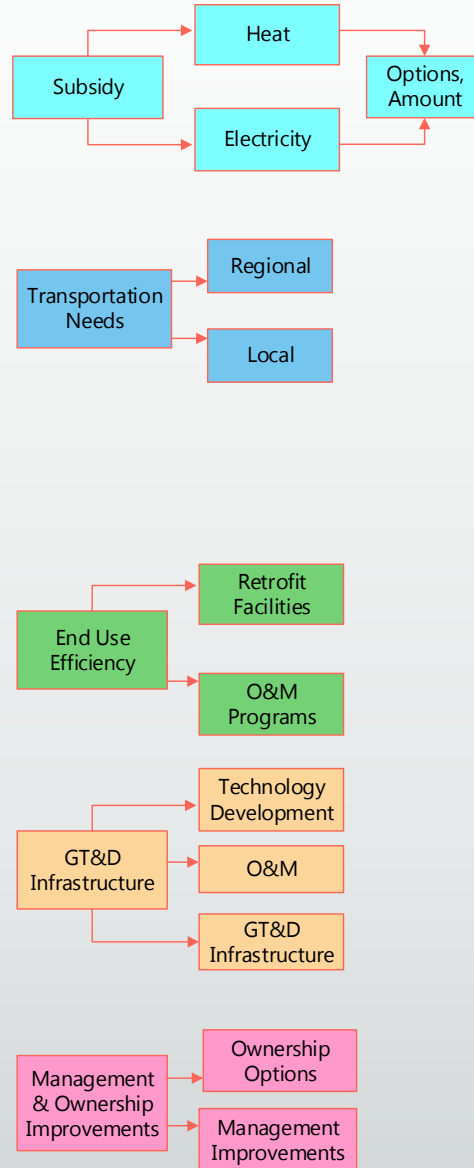
Phase 2: 20 Year Forecast Based on Status Quo

What will be the energy consumption, generation, costs, and issues in the next 20 years based on current trends?



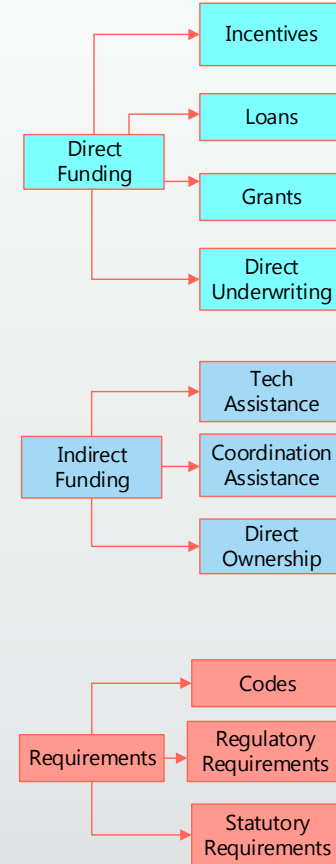
Phase 3: Strategies for Affordable Energy

What should be done on a community/ regional/statewide level to deliver affordable energy?



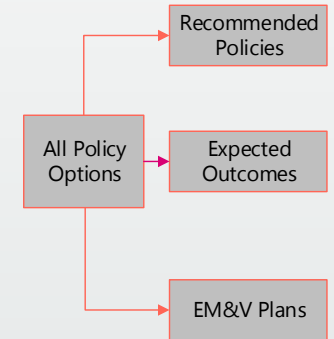
Phase 4: Policy & Implementation Plans

What are potential policies to implement the strategies?



Phase 5: Prioritization & Outcomes

Which policies should be implemented and what are the expected outcomes of those policies?



RSAs and RFPs

Study	Entity	Status
Community Energy Model & Decision Support Tools	GINA	Active
Sustainable Utilities Study updates, Utility structure Analysis, and subsidy program analysis	ISER	Active
Demographic and Economic Scenario Development	ISER	Active
Energy cost impact on community outmigration/ Training & Employee Tenure	ISER	Being Developed
Statewide LNG Feasibility	Northern Economics	Active
Energy Efficiency Gap Analysis	VEIC	Active
Documentation of Alaska-specific technology development needs	ACEP	Active
Identification of Barriers to Private Investment in Rural Alaska	ACEP	Active
Investigation of Improvements to Bulk Fuel Transportation system	USACE	Waiting on AG signature

Expected Near-term Deliverables

Study	Entity	Status
Community energy consumption model: Residential, Non-residential, & water/wastewater (electricity and heating fuel)	GINA	Due mid-October
Economics & technical/safety requirements of LNG	Northern Economics/ Baker Engineers	Due Sept. 30
Draft of private investment case studies & literature review	ACEP	Due Sept. 30

Case Study: LNG Study

Contractor: Northern Economics (Subcontractor: Michael Baker Engineers)

Goal: To assist AEA in determining if LNG can be a viable solution for bringing long-term affordable energy to the communities that would not have direct access to the proposed natural gas pipeline, and, if so, what policy options exist that could assist communities in this transition

Target Completion Date: April 2016

LNG Study Outline

Phase 1: Data Collection

- Engineering analysis for LNG infrastructure requirements
- Modeling—costs for LNG, infrastructure, operations, etc.
- Barriers—interviews with utilities, LNG suppliers, etc.

Phase 2: Forecast LNG Demand

- LNG demand at the community-level based on best-case scenario assumptions

Phase 3: Develop Strategies for LNG

- Determine geographic areas
- Strategies to remove barriers to implementation,
- Investment required & savings opportunities

Phase 4: Policy Recommendations

- Programs to capture opportunity: 1) Direct Funding, 2) Indirect Funding and/or Assistance, or 3) Requirements

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