YK Comprehensive Economic Development Strategy (CEDS) 2021 Work Session

Energy Focus Area Action Planning Results

Thursday, October 21, 2021 | 1:30PM-3:30PM

Link to recording: https://www.avcp.org/tribal-resources/community-development/regional-comprehensive-economic-development-strategy/

Facilitator(s): Natalie Hanson (Executive Director, Nuvista **Electric** Cooperative)

Support: Freddie Olin, Agnew::Beck Consulting

Participants:

First Name	*Last Name*	*Organization*
Alba	Brice	Calista Corporation
Andrea	Gusty	The Kuskokwim Corporation
Kristina	Woolston	Donlin Gold
Anna	Sattler	Alaska Village Electric Cooperative (AVEC)
Leila	Smith	Calista Corporation
Bill	Stamm	Alaska Village Electric Cooperative (AVEC)
Audrey	Alstrom	Alaska Native Science and Engineering Program (ANSEP)
Brent	Hove	Alaska Native Tribal Health Consortium (ANTHC), Division of Environmental Health and Engineering (DEHE)
Brenda	Pacarro	Calista Corporation
Rebecca	Wilmarth	Donlin Gold
Jonathan	Samuelson	The Kuskokwim Corporation
John	Charlie	Association of Village Council Presidents (AVCP)
Florence	Kargi	Coastal Villages Region Fund (CVRF)
Mike	Black	Alaska Native Tribal Health Consortium (ANTHC), Division of Environmental Health and Engineering (DEHE)
Eric	Evon	Association of Village Council Presidents (AVCP)
Katya	Karankevich	Alaska Native Tribal Health Consortium (ANTHC), Division of Environmental Health and Engineering (DEHE)
Anny	Cochrane	Alaska Department of Labor and Workforce Development (DOL/WD)
Fannie	Black	Yuut Elitnaurviat

Objective: Review progress on priority CEDS actions, define next steps for implementation, and track progress toward key indicators.

Agenda:

A. **Welcome, Logistics, Roll Call, Breakout Purpose and Agenda Review**

B. **Strategy/Action Introduction and Knowledge Sharing**

CEDS Action(s): Build renewable energy infrastructure. Address barriers to building more renewable energy infrastructure in the YK Delta.

C. Action Planning

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task A. Update the inventory of potential renewable energy projects in the YK region ("Community Energy Profiles" from 2016 YK Energy Plan) to give a baseline to work from.	**Lead:** Nuvista, CEMAI program **Partners:** ANTHC to contribute information for ANTHC projects; VSW to contribute information for VSW projects		**Working Group:** Review PCE Data and identify which communities need the most technical assistance with PCE. Nuvista/CEMAI has helped provide technical assistance with PCE.

Task A. Progress Update:

Nuvista: The Community Energy Profiles were determined to be ineffective. TKC has helped gather PCE data for the region, especially the TKC sub-region.

TKC: created an energy action plan for each 10-member community. DOE Office of Indian Energy/ANTHC were partners. Each community made goals involving immediate actionable items. Biomass was a strong priority. Household LED lighting also helped lower energy costs.

Donlin: Natural gas line is a continued proposal and could bring gas heat/energy potential to the region. [p.32 May 2020 YK CEDS Update]

ANTHC: is working on further rolling out remote monitoring systems to stop any catastrophic failure potential, as well as collect data on energy expenditure in real time. Renewable energy sources are a new calculus to work through for live and remote monitoring.

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task B. Gather energy audits that have been completed but not actioned; if possible, bundle those projects for implementation.	**Lead:** Nuvista, REAP **Partners:** ANTHC has energy audits for water treatment plants and community facilities; AHFC audits.		**Working Group:** At a future meeting, review task, lead and partners. Are more updates needed? Is this more of an ongoing task or a task with a clear completion?

Task B. Progress Update:

Nuvista: has conducted numerous community audits in cooperation with AVEC and has also helped worked through a heat recovery database. There are opportunities to seek funding for completing audits.

ANTHC: Compare old audits with the current status and grid operation. Heat re-capture and wind turbines have changed grids. Water tanks have helped re-capture heat (i.e., in the Naknek Tribal office, the biggest energy sink was the coffee pot). Village water and sewer take a lot of energy. Audits capture usage data to help communities calibrate needs vs. funding.

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task C. Develop a renewable energy readiness self-assessment that allows a community or utility to rate itself on things like whether energy conservation measures are in place, energy audits have been done, preventative maintenance is being done, financials are in order, O&M training assessment (Are people paid well? Have they received quality training?), etc.	**Lead:** The Denali Commission already developed an energy report card/checklist (based on the RUBA water-sewer best management practices model) that is available		**Working Group:** At a future meeting, review task: has this been completed? If so, should it remain as an ongoing task/program or be removed from the plan?
Task C. Progress Update: **Denali Commission:** This task may possibly be already completed? ANTHC DEHE staff have compiled two lists: one Excel spreadsheet, and one PDF for all or most YK villages.			

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task D. Create and update an inventory of existing and needed feasibility studies for renewable energy projects. Use this inventory to seek funding for future feasibility studies. Feasibility includes: financial (is it cost effective?) and resource (is wind, water, etc. consistent enough?). Identify opportunities to "bundle" projects to lower the per-project costs and expand capacity for these projects. What are the complete energy needs of a community, and how best can those be met?	**Lead:** Nuvista **Partners:** REAP *(Chris McConnell has been doing this type of research on studies that have been done around the state.)*	Tribe/federal funding diversity is something to capture. CARES and ARPA are helpful to an extent. Community/public facilities could have dedicated funding opportunities, i.e., EPA, Denali Commission, BIA, USDA, DOE, etc.	**Nuvista:** Create/update inventory? **Working Group:** Help ensure feasibility studies focus on practical solutions, sustainable energy, and sustainable funding streams.
Task D. Progress Update: **Nuvista:** "*Regional Utility Facility Support Collaborative*". The board has identified a preferred list of members for the collaborative and are working through business plan proposals. (This could be an entire action item.) **TKC:** One member community had been without central power generation for six years. There could be an advocacy system in place to ensure underrepresented and underserved communities do not fall in the cracks. Communities and the region should work toward long-term value and sustainability. Biomass and linked housing designs in TKC villages could be long-term, sustainable, and transformative. Local and TEK is highly valuable for finding new energy efficiencies and projects. **AVEC:** Co-ops helps lower rates and other costs and increases customer service capacity. **Nuvista:** Flexible co-op membership helps communities which independently operate power.			

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task E. Provide energy literacy education, training and workforce development (online and in-person classes).	**Lead:** UAF **Partners:** UAF works with AK Energy Smart to prepare students for UAF-level classes. REAP has 3 dedicated energy educators and can connect communities with culturally and energy-specific learning	Grants are available to help with tuition assistance for UAF BB Campus Sustainable Energy Occupational Endorsement Program (Spring 2022).	**Mark Mastellar:** will send a flyer on the program for the record. **Working Group:** Share information about the program with interested groups/individuals, who can also check in with Mark Mastellar at UAF Bristol Bay Campus.
Task E. Progress Update: **Mark Mastellar at UAF Bristol Bay Campus:** Sustainable Energy Occupational Endorsement Program courses will be available via distance learning in Spring of 2022. There are opportunities for faculty to travel out to villages and provide course training. **Calista:** The proposed Donlin gas line could serve as a regional energy/economic catalyst. Projects and initiatives that are practical and sustainable are likely the most effective for the region.			

Action Plan Task	*Lead and Partners*	*Funding Sources*	*Next Steps*
Task F. Implement new energy infrastructure projects that result in increased efficiency and decreased costs. Heat recovery is considered a renewable energy project/source.	**Partners:** ANTHC heat recovery initiatives. Data gathered about diesel displacement will show progress.		**Working Group:** At a future meeting, review task, lead and partners. Are more updates needed?
Task F. Progress Update: No update.			

D. Indicators of Success

Indicator of Success/Positive Change	*2-Year Target*	*Priority Indicator?*	*Next Steps*
Tasks E-F. Number of jobs or internships created or retained for regional residents in the energy sector (e.g., in studying, planning for, building/maintaining operating traditional utilities, and new renewable energy infrastructure). • Creating a meaningful target for this indicator requires baseline information that is not readily available. An input-output model may have to be done to estimate current energy-related jobs and set a meaningful target.	In 2 years, # jobs or internships are created or retained for regional residents in the energy sector. Train operators and back-up operators in the villages and the region. Nuvista works toward local hire for operators and techs.	(yes/no)	**Where to find the data:** TBD at future Working Group meeting. **Who will collect it:** TBD at future Working Group meeting.
Tasks A, B, D, F. Amount of public and/or *private funding* invested in YK energy projects (e.g., state/federal, foundation grants awarded,	In 2 years, $# in private funding invested in YK energy projects.	(yes/no)	**Where to find the data:** TBD at future Working Group meeting.

Indicator of Success/Positive Change	*2-Year Target*	*Priority Indicator?*	*Next Steps*
investments in a utility or renewable energy development project). • Creating a meaningful target for this indicator requires baseline information that is not readily available. An input-output model may have to be done to estimate current energy-related investment and set a meaningful target.			**Who will collect it:** TBD at future Working Group meeting.
Task E. Number of people who complete the Alaska Center for Energy and Power (ACEP) Rural Electric Utility Operation Training and Internship Program (as an education metric for utilities). • Creating a meaningful target for this indicator requires baseline information from the UAF-Bristol Bay partners. • *UAF Bristol Bay Occupational Endorsement in Sustainable Energy, i.e. enrollment, student success, post-graduation recruitment*	In 2 years, # people complete the ACEP Rural Electric Utility Operation Training and Internship Program.	(yes/no)	**Where to find the data:** UAF-Bristol Bay partners **Who will collect it:** TBD at future Working Group meeting.
Task E. Number of people who receive facilities maintenance training. • Creating a meaningful target for this indicator requires baseline information from the facilities directors at YK region school districts, who would know what the training needs are, who is getting them and who needs what.	In 2 years, # people receive facilities maintenance training. Local hire and improved operations/ maintenance/ service delivery? Perhaps include in audits?	(yes/no)	**Where to find the data:** facilities directors at YK region schools **Who will collect it:** TBD at future Working Group meeting.
Tasks A, B, D, F. Number of new energy projects/ upgrades/ improvements in planning or development. • Creating a meaningful target for this indicator requires baseline information from the tasks above.	In 2 years, # new energy projects are in planning or development: renewables, upgrades, improvements. For example, TKC helped residents of its ten member villages upgrade individual home energy sources, improve energy efficiency, and reduce household costs.	(yes/no)	**Where to find the data:** TBD at future Working Group meeting. **Who will collect it:** TBD at future Working Group meeting.
Tasks A, B, D, F. Number of new renewable energy projects in operation. • Creating a meaningful target for this indicator requires baseline information from the tasks above.	In 4 years, # new renewable energy projects in operation. For example, a Nuvista wind project in Kwethluk resulted in new position to help monitor the project.	(yes/no)	**Where to find the data:** TBD at future Working Group meeting. **Who will collect it:** TBD at future Working Group meeting.

Indicator of Success/Positive Change	*2-Year Target*	*Priority Indicator?*	*Next Steps*
Tasks A-F. Number of new local or regional energy-related businesses. • Creating a meaningful target for this indicator requires baseline information that was not readily available during discussion. Participants noted that at a regional scale, Donlin may be the major private energy-related business, and that small businesses development (e.g., diesel mechanic, trainer) will require more small business finance education. • *Seeking effective, sustainable, and long term CARES and ARPA funding opportunities*	In 2 years, # new local or regional energy-related businesses are operating in the YK region. Current and potential Donlin operations could increase backhaul opportunities in the region.	(yes/no)	**Where to find the data:** TBD at future Working Group meeting. **Who will collect it:** TBD at future Working Group meeting.

E. Summarize, Closing Comments and Adjourn

What final comments, questions or concerns do we have as individuals/as a group?

- Katya/ANTHC: Akiachak will meet its energy efficiency needs for water treatment. Kongiginak determined that heat recovery was not feasible due to too much contained heat loss by wind; wind-to-heat is being explored. Pilot Station completed a heat recovery feasibility study, and it was determined to be effective. Energy efficiency funding has recently been secured from the Denali Commission. Mike Black noted that heat recovery is not a state/federally funded program, but from private philanthropy (Helmsley Charitable Trust).
- John Charlie: The Tuntutiliak wind power generation project may have resulted in reduced heating costs for family homes. Natalie noted that Kongiginak has a successful similar project, at about 10 cents/KwH. Kwethluk has a similar project; studies and data gathering are ongoing. Heat waste capture opportunities could help displace diesel costs for community/public facilities. Water and sewer systems have recently been utilizing heat recapture.
- Bill Stamm: Noted that all of the discussed systems are interrelated and interconnected. Carbon reduction could be a new driving energy use/waste factor. Reducing carbon emissions is a goal and a success in the energy sector, generally. Diesel consumption per community is an indicator for showing status quo or reducing diesel generation, waste, and air pollution or CO_2 tonnage. Andrea Gusty brought up biomass as an effective, sustainable, and affordable alternative heat source vs. diesel. John Charlie noted that new motorized vehicles are highly efficient compared to older models, and waste oil could be utilized as a recycled product for other uses. Brent Hove brought up oil recycle project funding opportunities in the state, but none have been funded to date. Bill replied that there is a used-oil, reinjection blender design that could be used in the region.
- Brent Hove: commented on geothermal and solar projects. Seldovia explored geothermal opportunity and use, which eventually paid off over seven years. Maybe a drill rig could be brought to the YK region for light exploration around a set of pilot villages? Natalie and Katya recalled that geothermal is likely a poor energy source for the YK region, mostly due to geothermal heat sources not being located near enough to villages. Mike Black noted that ground- and air-source heat pumps have been used in CCHRC designs around the state. Katya replied that air-source is more cost effective for villages, and could be further explored in the YK region.

When should we meet again?

- Not discussed.