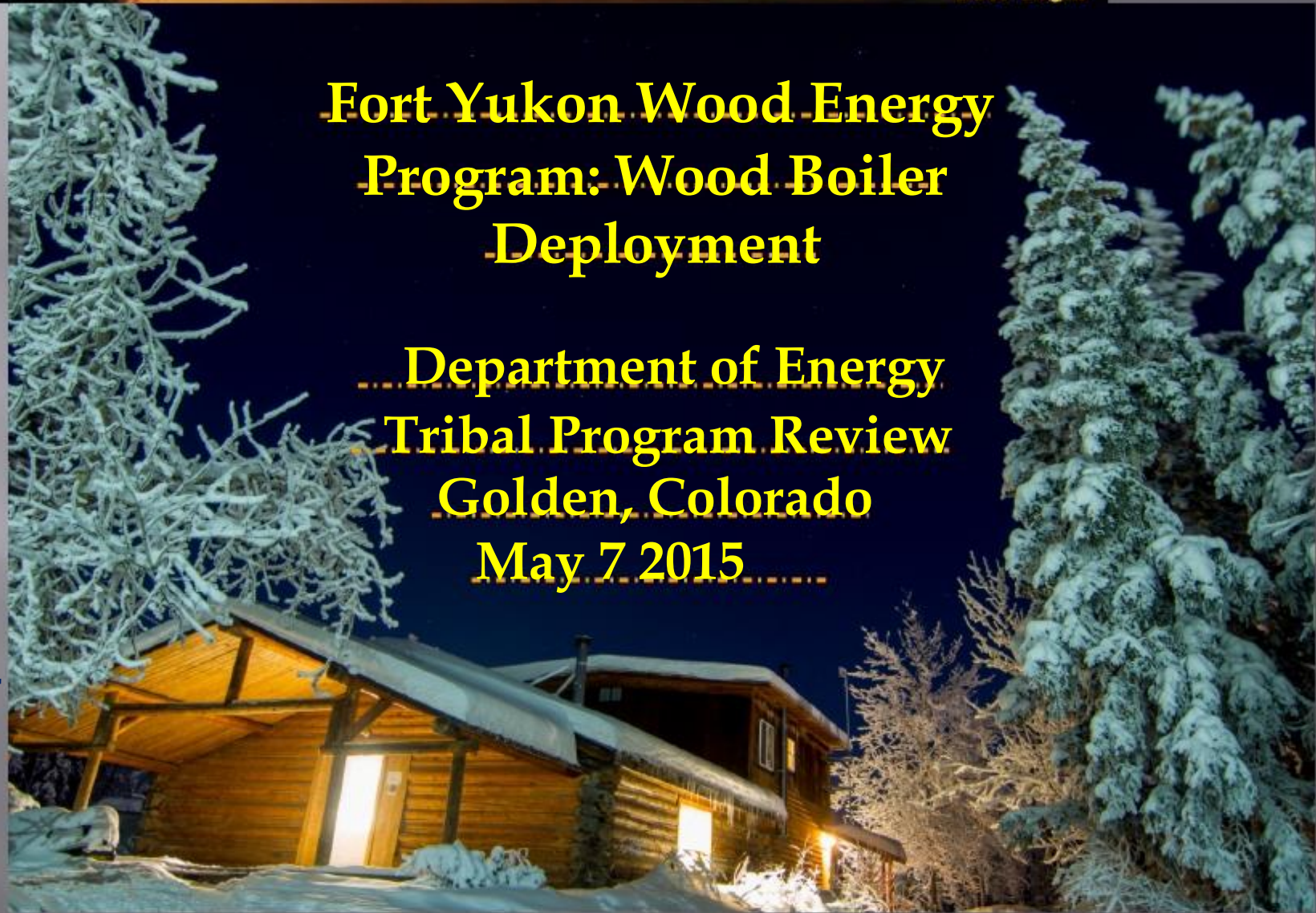




Presented by:  
Frannie Hughes

Gwitchyaa Zhee  
Corporation CEO

Work compiled by  
Kelda Britton,  
CATG NR Director



# Fort Yukon Wood Energy Program: Wood Boiler Deployment

Department of Energy  
Tribal Program Review  
Golden, Colorado  
May 7 2015



Please contact  
me for a full  
list of citations.  
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# Our Organization



CATG is a consortium of 10 Gwich'in and Koyukon Athabascan tribes located throughout the Yukon Flats. Arctic Village, Beaver, Birch Creek, Canyon Village, Chalkyitsik, Circle, Fort Yukon, Rampart, Stevens Village and Venetie are the remote villages comprising CATG. The Yukon River and its tributaries, including the Porcupine, Chandalar, Birch Creek and Black Rivers, tie the people of the Yukon Flats villages together.





# Where is Fort Yukon, Alaska?

The Village of Fort Yukon is located 8 miles North of the Arctic Circle.



Only accessible by boat during the summer, snow machine during winter, and plane. The FYU Biomass Project will be the first off grid, off road system biomass CHP in the world.

# Why the Need?

## Power Costs In Alaska Are Among The Highest The Nation

Gasoline = Ranges from \$7.50- \$8.50 per gallon . No 1 Diesel = \$6.3798 per gallon . Average house hold cost for oil = \$3,500 per year . Oil cost per year for school = \$210,000 Fuel cost for electrical generation = \$1.4 M Cord Wood = \$275 - \$300 per cord Kwh = \$0.77 (rate increase coming) Propane = \$203.89 per 100 lbs tank





# Project Objectives

- First off grid, off road system biomass CHP in the world
- New Power House (CHP ) Facility construction
- Wood Chip Boiler
- District Heating loop providing heat to commercial buildings  
I.e. School, AC, Radio Station, Water Plant,
- Sustainable Forest Management program
- Create a for profit in-village wood energy utility to displace diesel energy
- Support training needs for field forestry technicians and supports workshops for education on key biomass issues for Fort Yukon and the Yukon Flats Villages.



# Project Partnerships

Gwitchyaa Zhee Corporation (GZ Corp)

Alaska Village Initiatives (AVI)

Department of Energy (DOE)

Denali Commission

Council of Athabascan Tribal  
Government (CATG)

Alaska Energy Authority (AEA)

State of Alaska Division of Forestry (DOF)



# Money Talks

This Project has multiple funding source (9.8million secured)

Planning/Trainings/Permitting (3 Million)

Final Design and Construction (6.8 million)

Construction Funding

Rural Utility Services (RUS \$3.5 million)

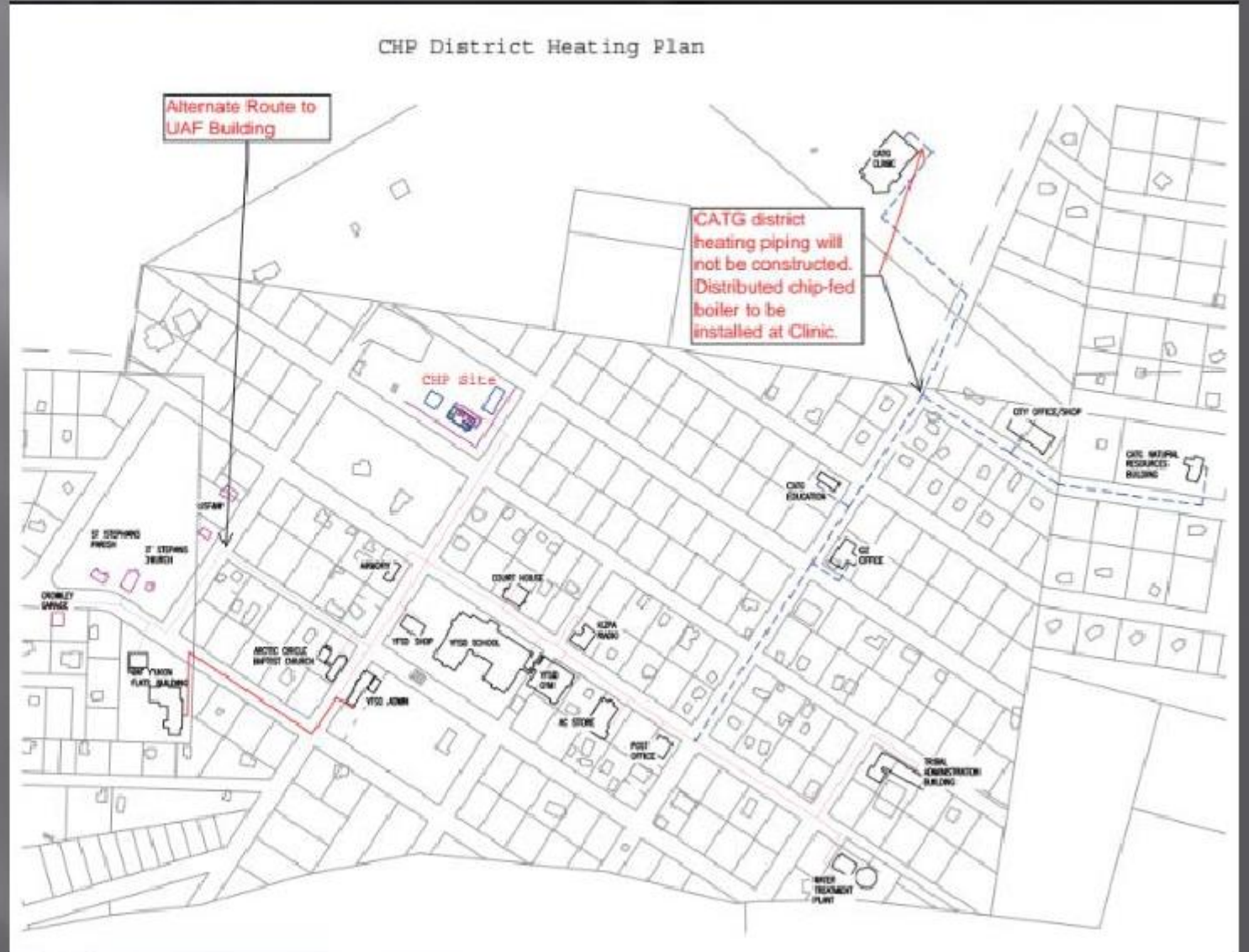
AEA Rural Energy Fund \$2.3 Million

DOE Tribal Energy Fund 990,000



# Proposed Timeline

- Site Development  
Summer 2014
- CHP Plant Foundation/  
Building Construction  
Early Fall 2015
- Clinic Stand Alone Boiler  
Summer 2016







- Why:
- Develop forest technician work force.
  - Apply field data collection, and best practices
  - Maintain sustainable harvest





# Forestry Technician Training :

## Forestry Technician Training

- September 23-27<sup>th</sup>, 2013.
- Measure portion of Harvest Area 1 near Ylotta Slough

## Involvement

- Fort Yukon tribal members and Salish Kootenai Tribal College
  - basic forest skills - DBH tree measurement, GPS, and data collection.





# Harvest Equipment Operator and Safety Training

November 4<sup>th</sup> – 7<sup>th</sup> : Classroom  
instruction, field time instruction,  
and FRPA training.

*Selections based on:*

- Previous experience
- Attentiveness
- Safety Awareness
- Work Ethic
- Comradery
- Common Sense

*Overall Objectives:*

- Operational Safety
- Operational efficiency
- Regulatory compliance



Gerald James pictured above (Fig 5) operating the Kubota  
Pictured below (Fig 6), Cynthia James training on the New Holland.



# Harvest Process Development

## Activities Associated with Biomass

- Harvesting, piling, drying, transporting, and chipping
- Weather Conditions
- Harvest Sites
- Transportation
- Safety

## Outcomes:

- Train people
- Start harvest
- Data collection
- Document the process









## *Now What?*

Once a program has been established in Fort Yukon, it is the intent of CATG Natural Resource Department in collaboration with the Village Tribes, Native Corporations and Private Lands to support the installation of programs in each of the villages in the Yukon Flats Region. The model program being developed in Fort Yukon will serve as the basis for all projects in interior Alaska.



# *Conclusion*

There is no right or wrong.

All of the Harvest Equipment  
needed additional Arctic  
Weatherization

Documentation is key to  
Improving Harvest



*“Indigenize It”*

# The Future:

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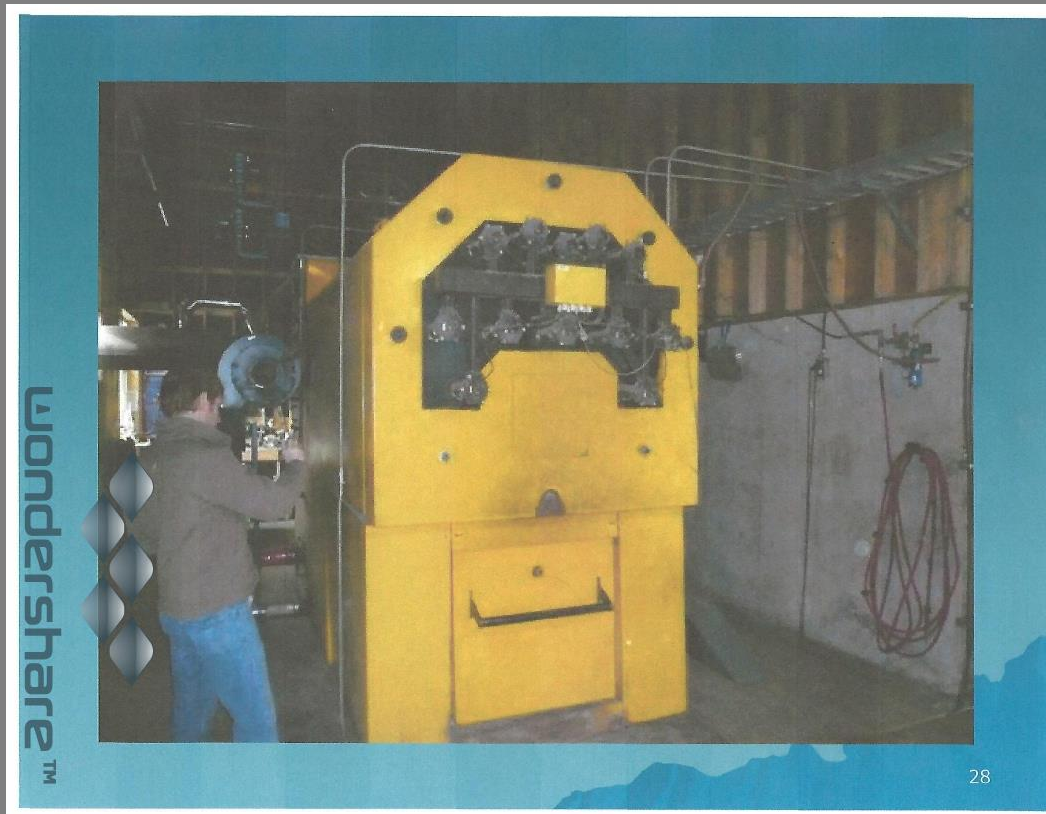
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Council of Athabascan Tribal Governments

User Login

# Acknowledgements

Department of Energy (DOE)

Alaska Energy Authority (AEA)

Denali Commission

Alaska Village Initiatives (AVI)

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Gwitchya Zhee Corporation (GZ Corp)

**We greatly appreciate contributions and partnerships  
from the above agencies!**

