

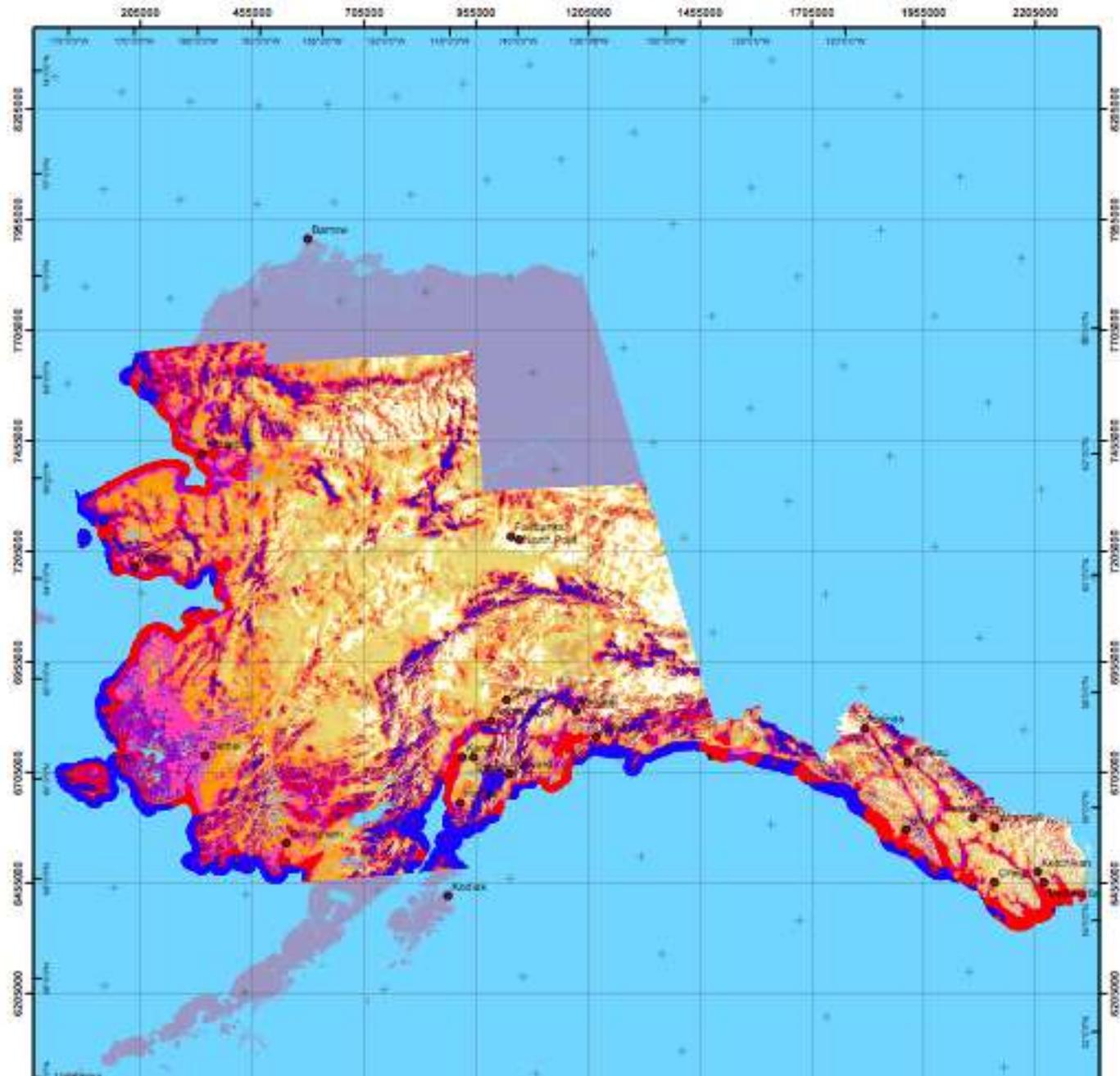
# The Chaninik Wind Group Update

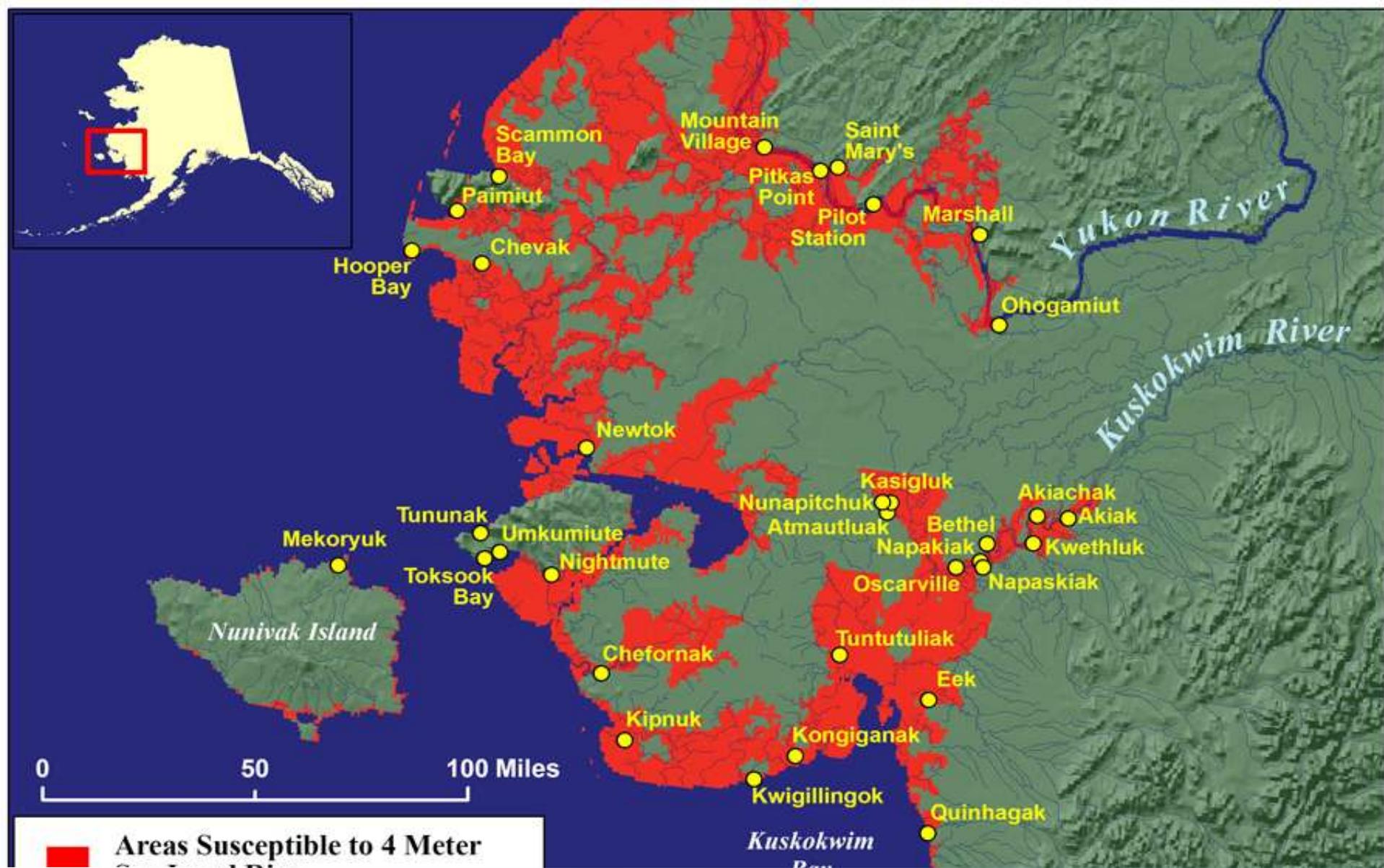


**Under Construction, building capacity and momentum!**



# Wind Resource of Alaska









# Average Prices of Fuel and Food Items in the CWG Region

- ✧ Stove Oil: \$7.10 per gallon (Bulk)
- ✧ Gasoline: \$6.69 per gallon
- ✧ Propane: \$264.00 per 100 lb 25 gallon bottle
- ✧ Average ticket from Village to Anchorage RT: \$556.36
- ✧ Gallon of Milk: \$9.26
- ✧ Loaf of White Bread: \$4.12
- ✧ 3 lbs of Coffee: \$15.28
- ✧ 1 Dozen Grade A Eggs: \$4.36
- ✧ 1 lb of Butter: \$5.00

(Courtesy Calista Region Energy Plan)



“We try our best to keep up with costs of fuel and lights, in order to have transportation for survival.”

-Tina

“Installing wind turbines will be great because of high prices of stove oil is too high. Helping reduce electricity bills would help to buy oil to keep the houses warm.”

-Charles





“Wind generators will lower energy costs and improve the fuel efficiency of the power generators in my village. The community can get its electrical needs all from wind generators without depending on diesel generators.”

-Rachel

Chaninik Wind Group villagers live subsistence lifestyles with few local jobs. These traditional Yupik villages rely on electricity to maintain home lighting, street lighting, telephone service, school service, clinic hours, and freezers to maintain a subsistence lifestyle. Reliable electricity is crucial to the residents of the Chaninik Wind Group.

# Initiatives

- Wind turbines
- Training
- Capacity building
- Power house upgrades
- Advanced controls
- Thermal storage
- Advanced metering
- 3 villages Summer 2011











# Thanks Denali Commission for your Support!

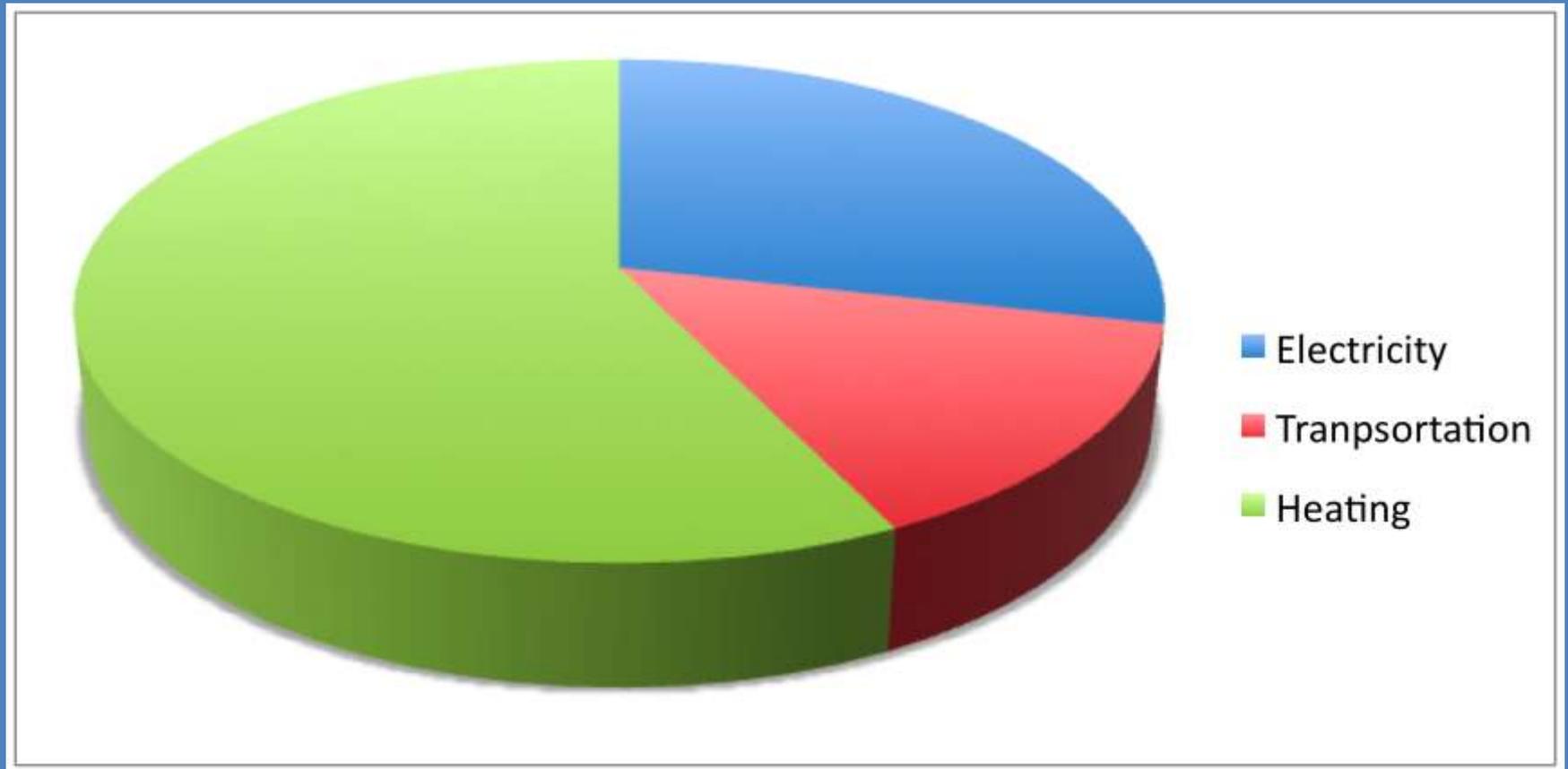


Department of Energy

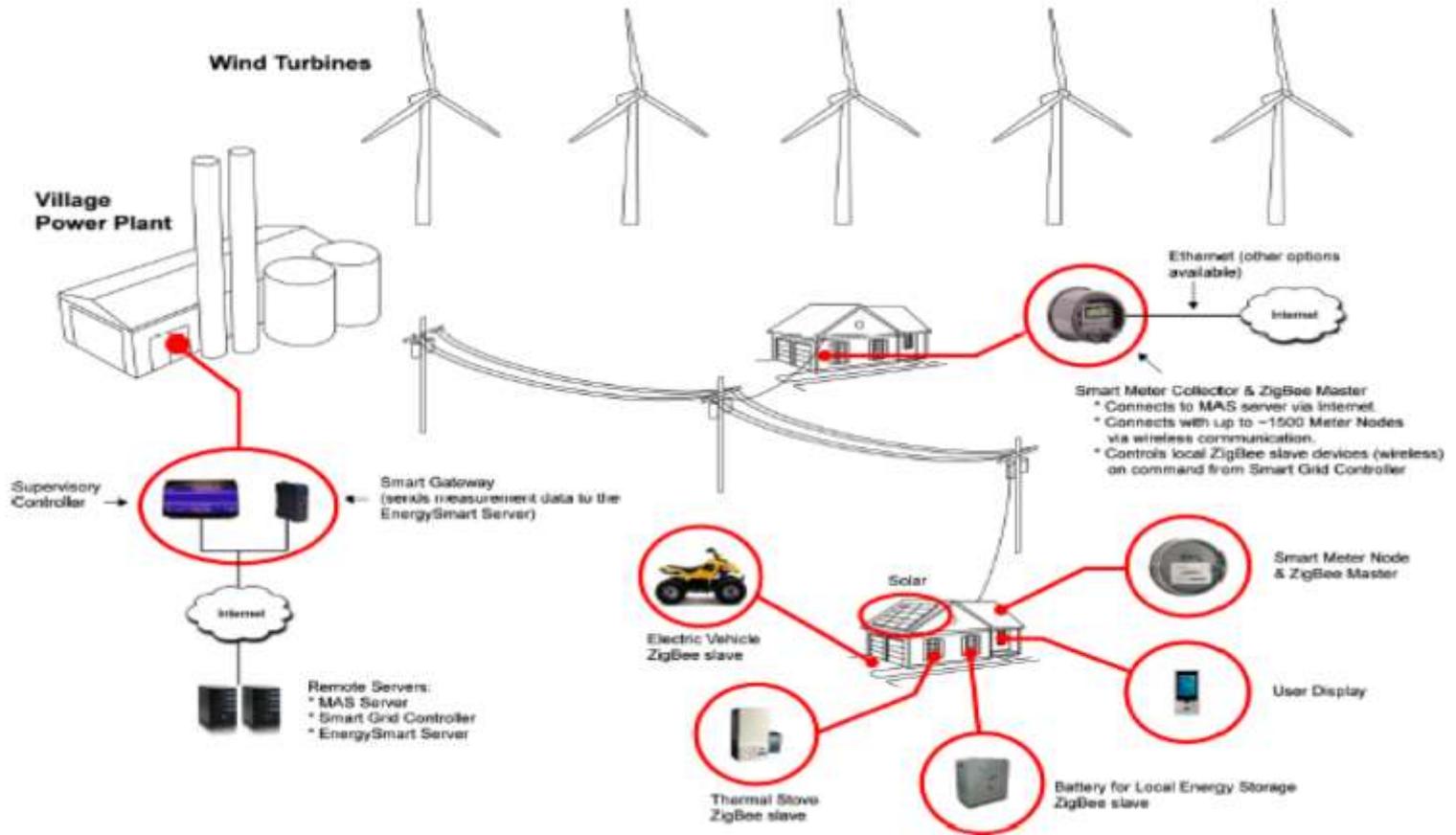
Tribal Energy  
Program Review



# Annual Fuel Usage by Home



# Village Wind Heat Smart Grid



# Thermal Stove Heater

Front View



Interior View

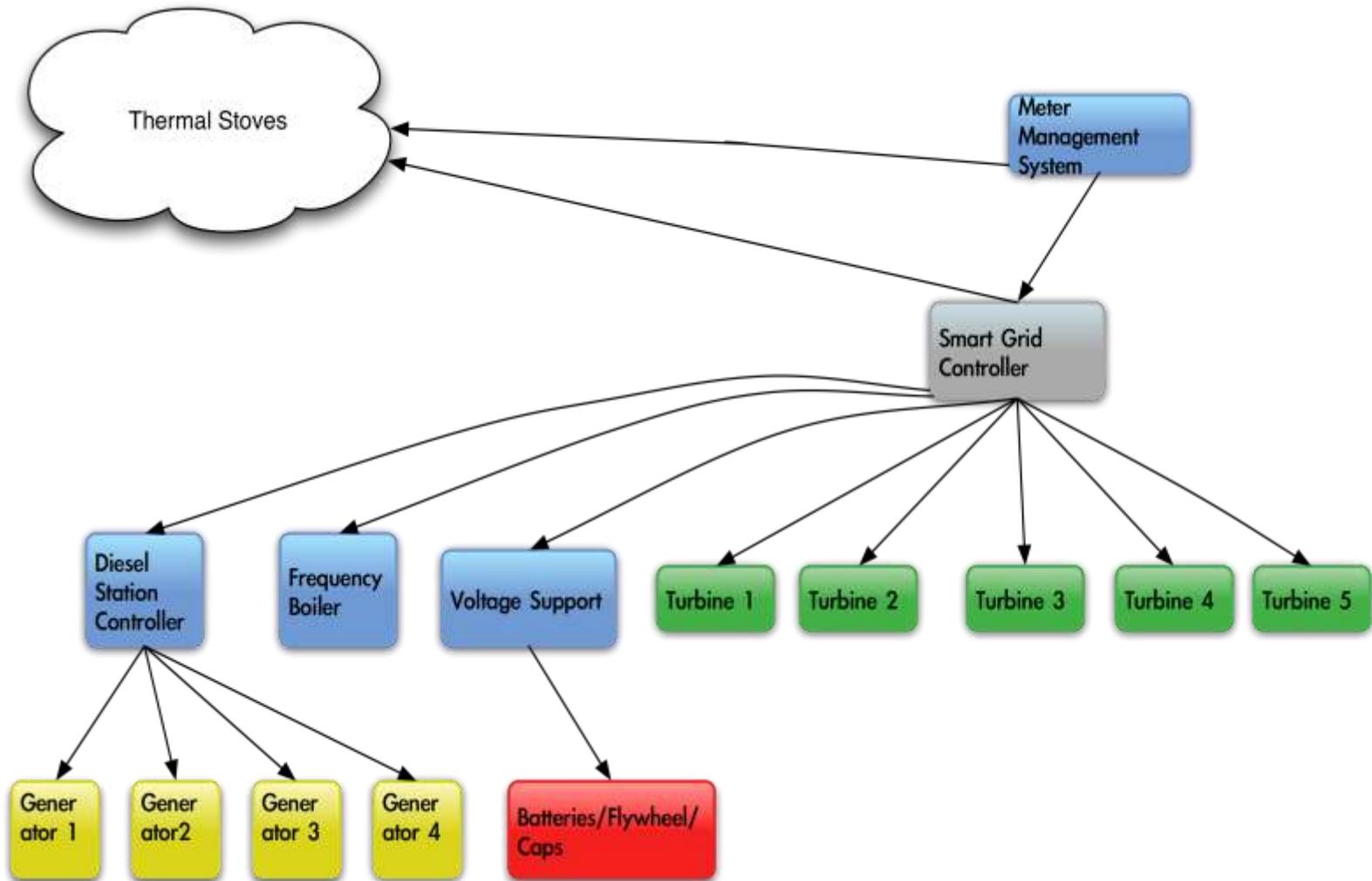


# Advanced Metering

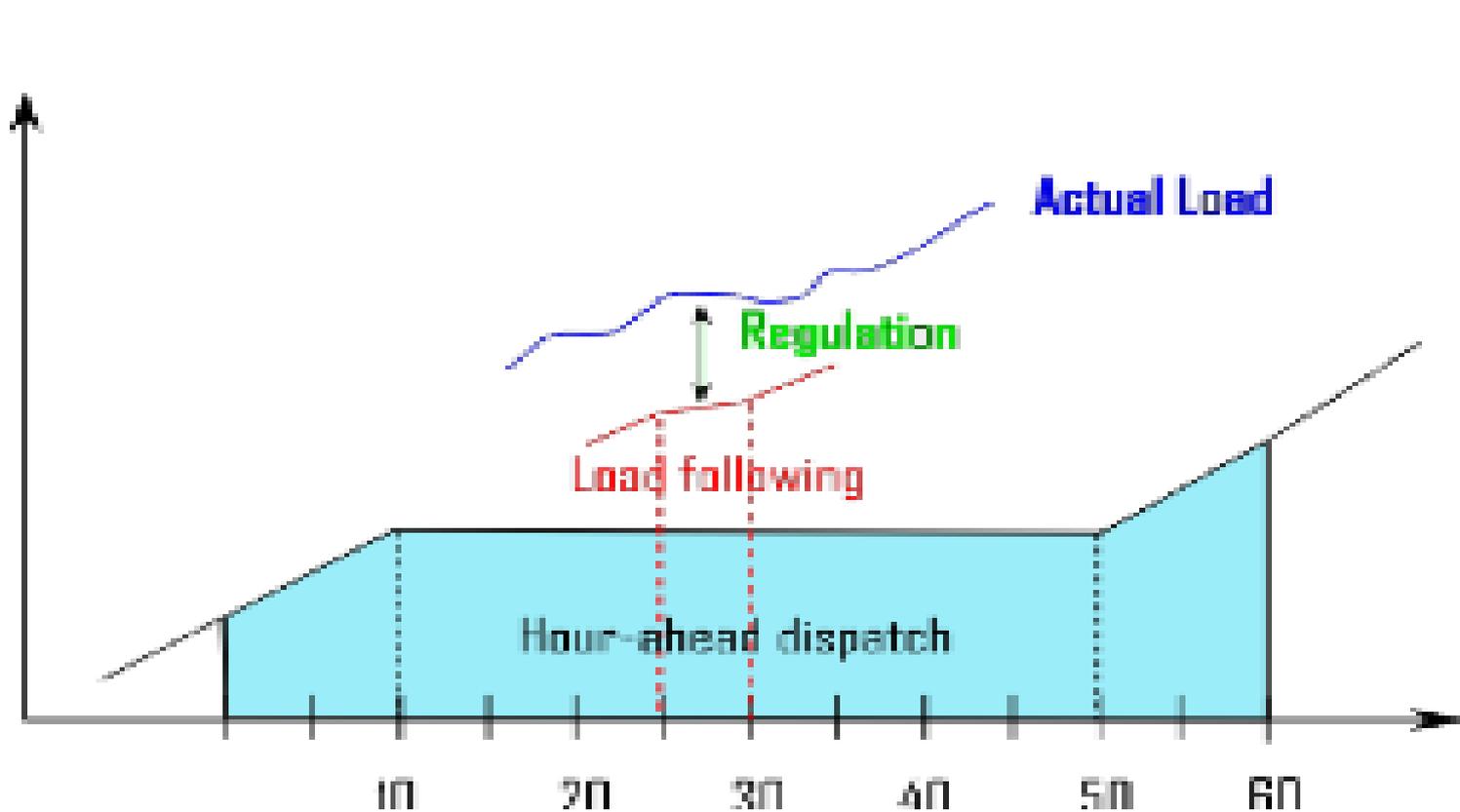


Electronic meters+ fast communications + information  
= real time intelligent management and control.

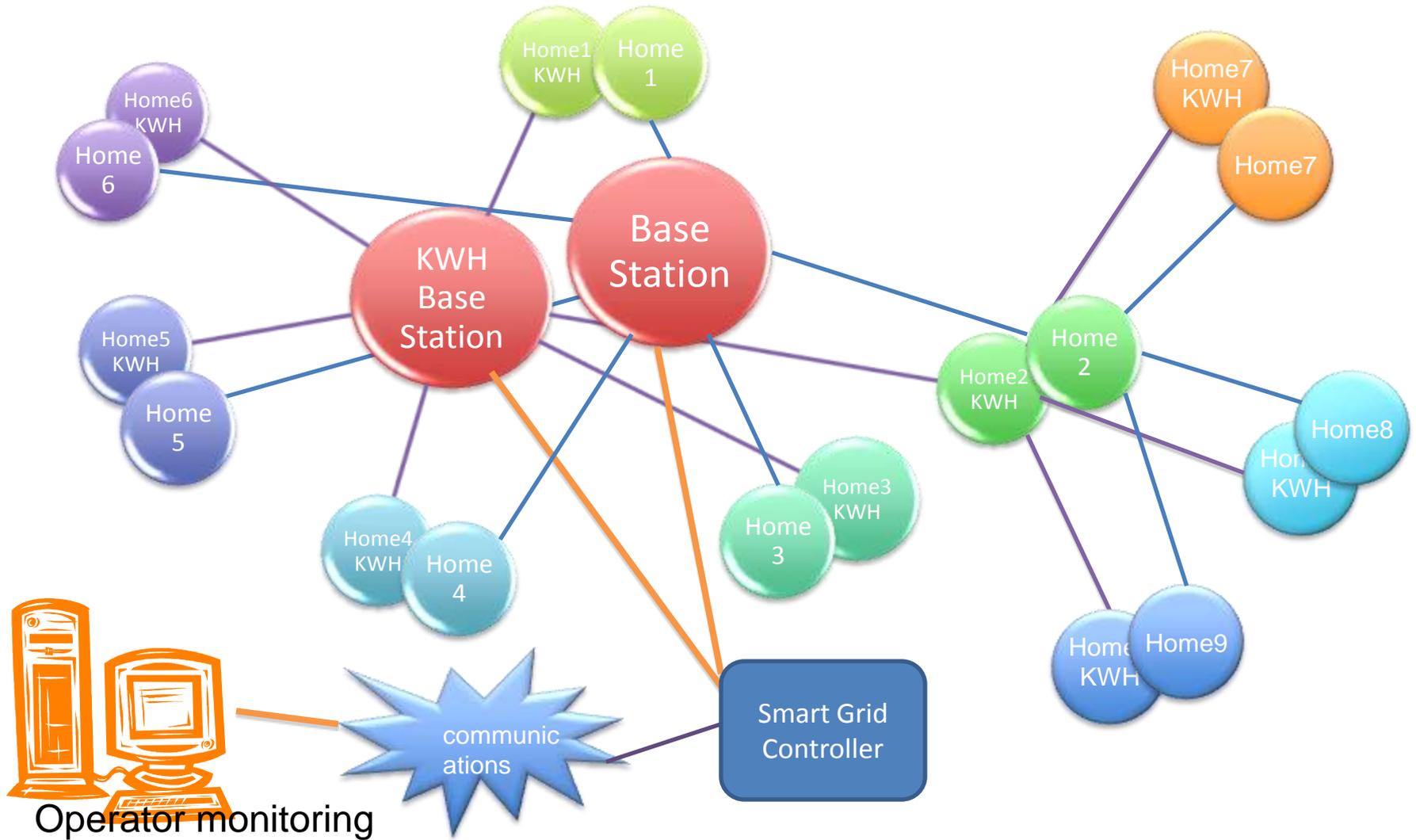
# Smart Grid Controller



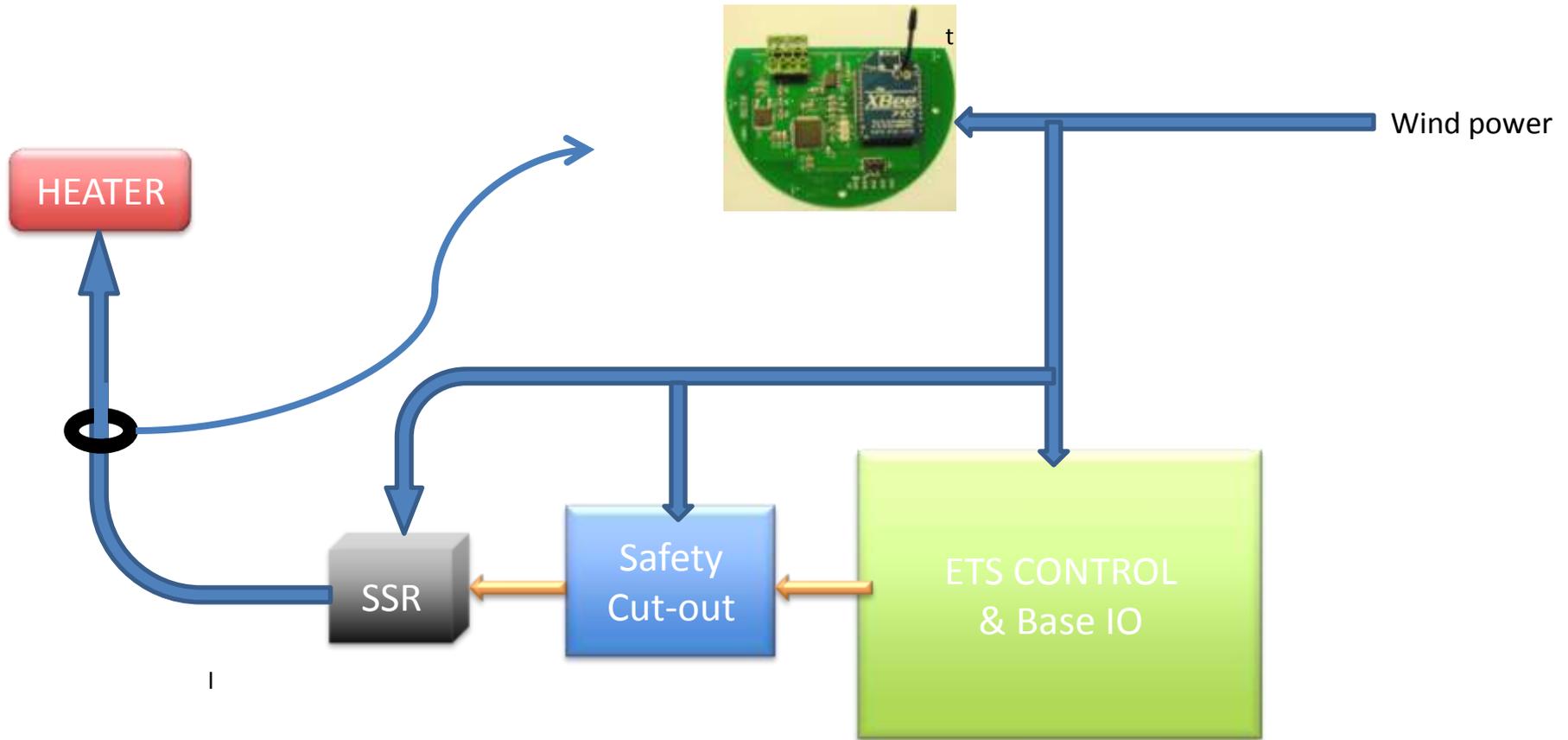
# Integration: controlling energy/load



# Phase1 Network

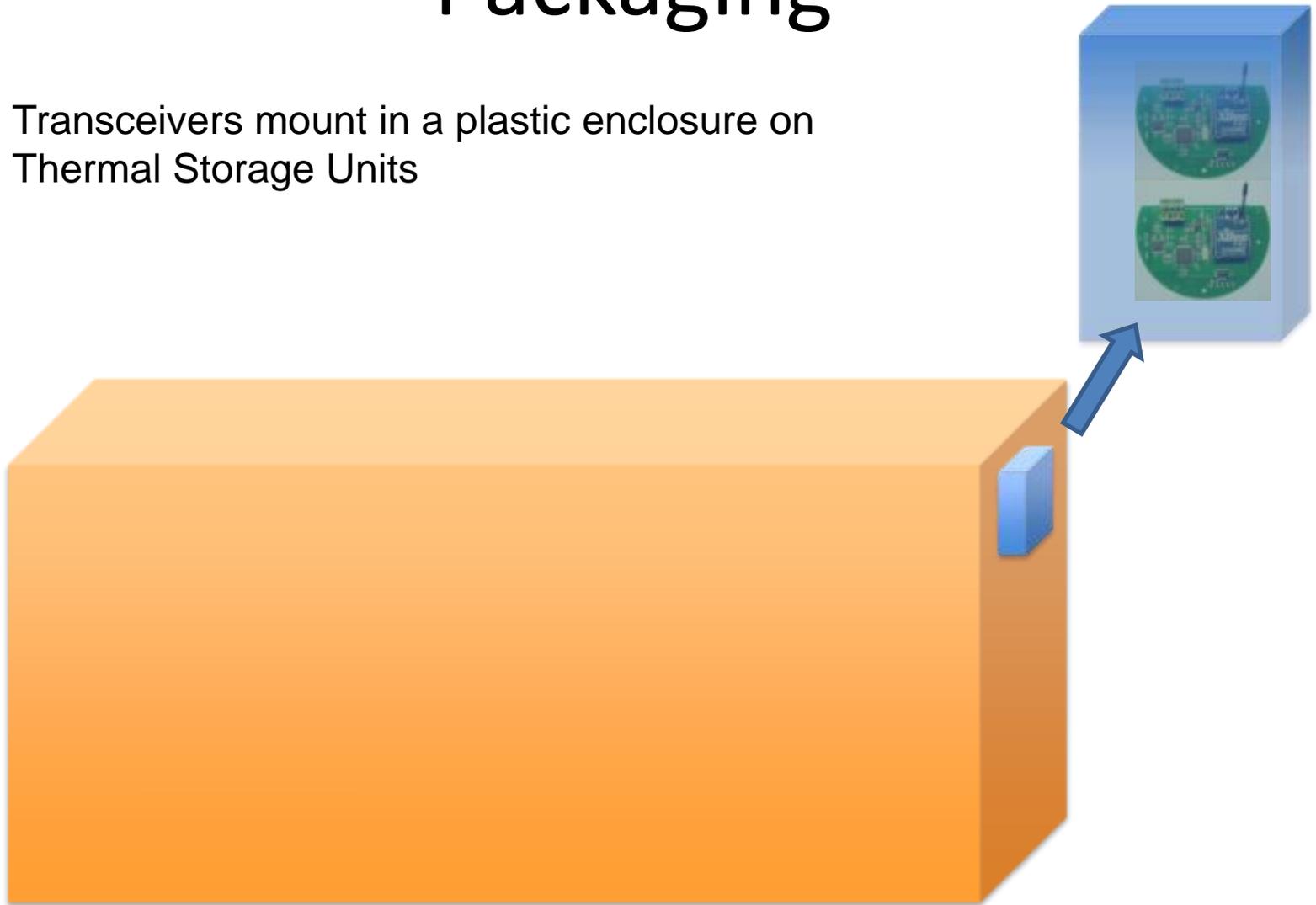


# A special controller

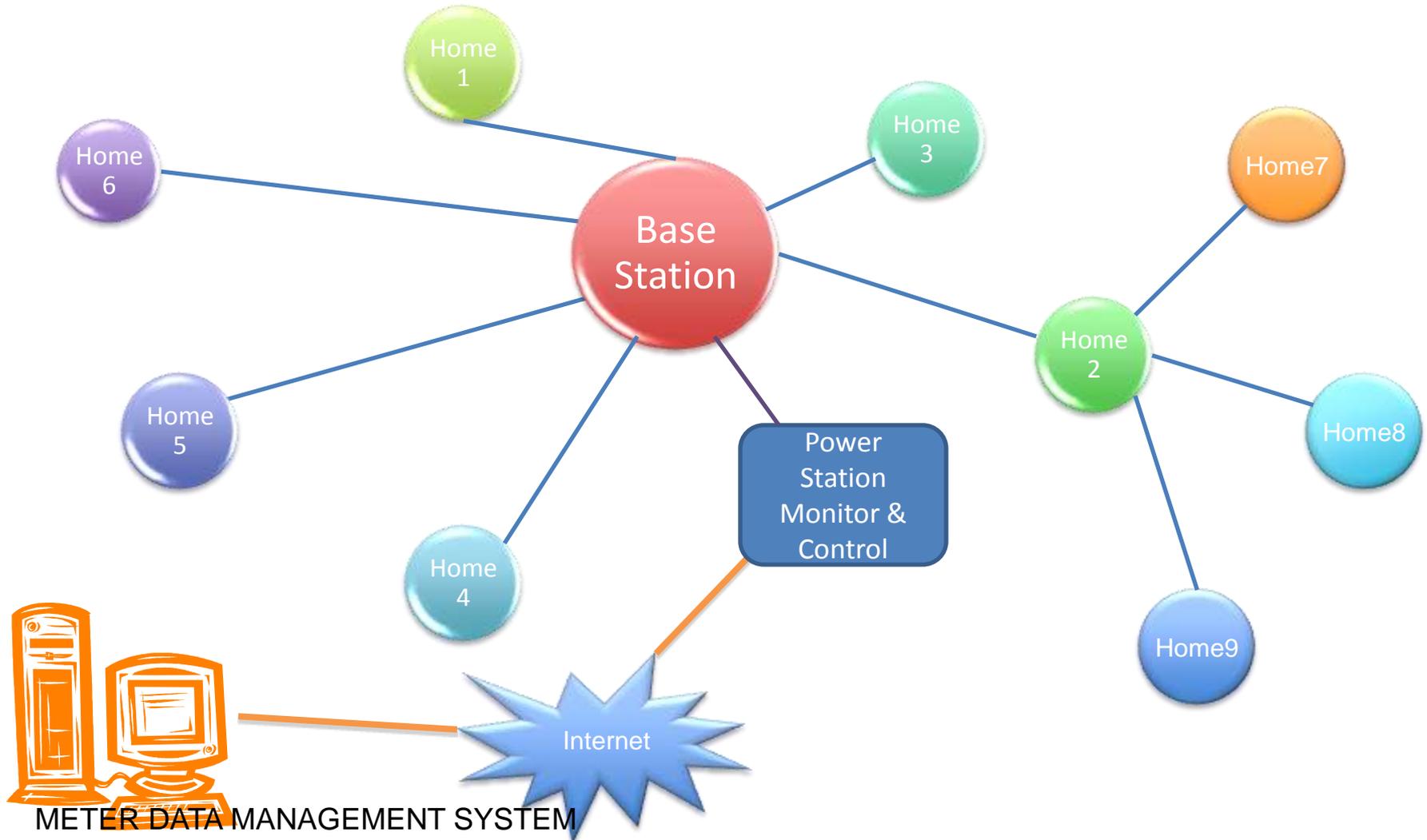


# Packaging

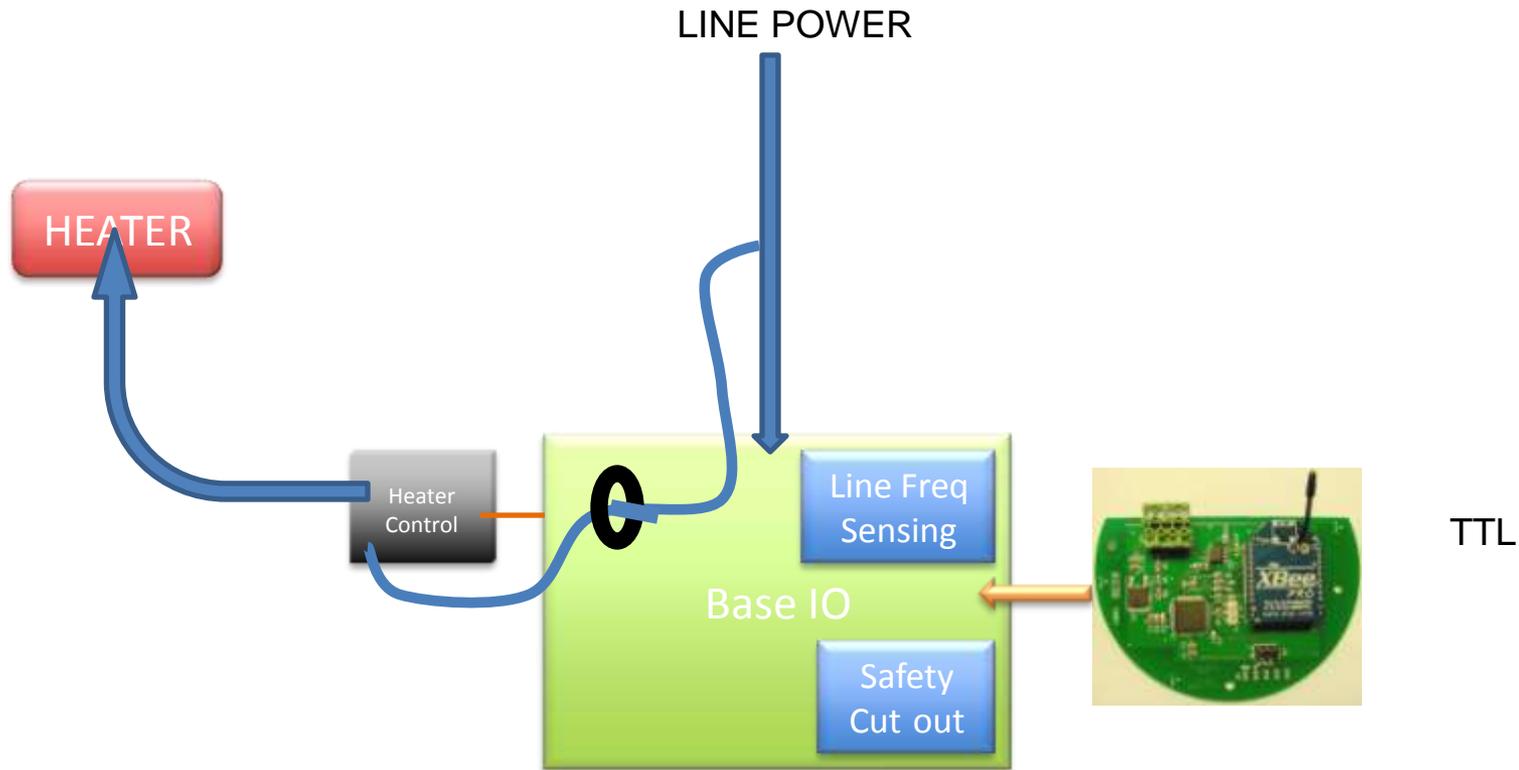
Transceivers mount in a plastic enclosure on Thermal Storage Units



# Phase2 Network



# Phase 2 Wind Friendly Heater Controller



# Current Project Status

- ✧ Kongiganak, Tuntutuliak, and Kwigillingok , turbines by spring 2011
- ✧ New diesels gensets installed
- ✧ Upgrade diesel plant Spring 2011
- ✧ Phase 1 controller completed
- ✧ Install metering and thermal storage units system Spring 2011
- ✧ Commissioning Summer 2011

## Future:

- ✧ Phase 2 controller,
- ✧ Inhome displays
- ✧ Energy storage to increase diesel displacement
- ✧ Shared services network
- ✧ Address transportation, conservation, energy efficiency, weatherization, training, solar,.....etc....strengthen the organization to keep going.

# Thanks to USDoE Tribal Energy Program!



Quyana!

# Contacts

- William Igkurak  
([wmigkurak@hughes.net](mailto:wmigkurak@hughes.net))
- Dennis Meiners ([dennis@iesconnect.net](mailto:dennis@iesconnect.net))