Coeur d'Alene Tribe Energy Efficiency & Conservation Block Grant (EE&CBG) Project Plummer, Idaho

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Presentation Outline

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- History of the Tribal Natural Resource Department
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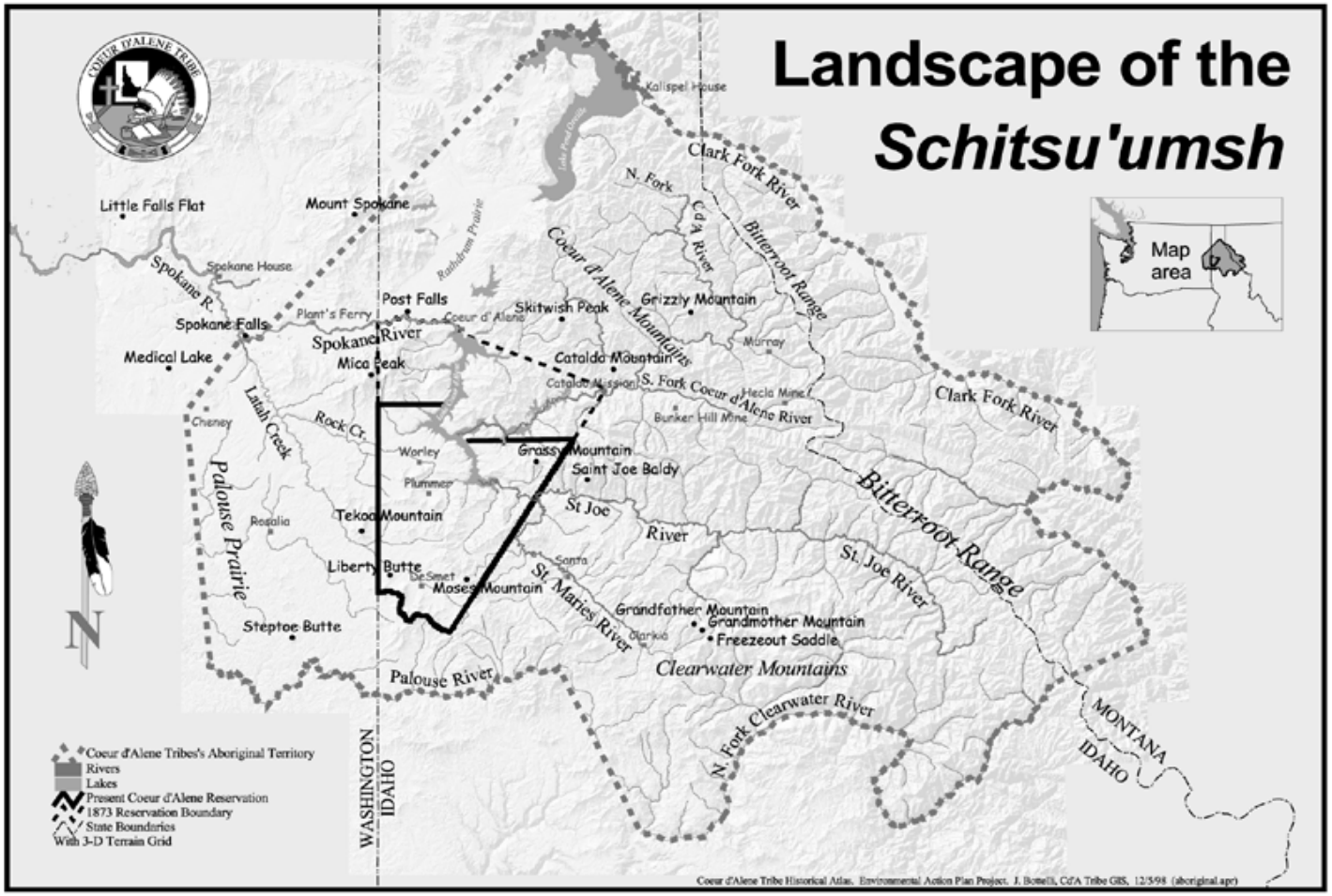
- Contact Information

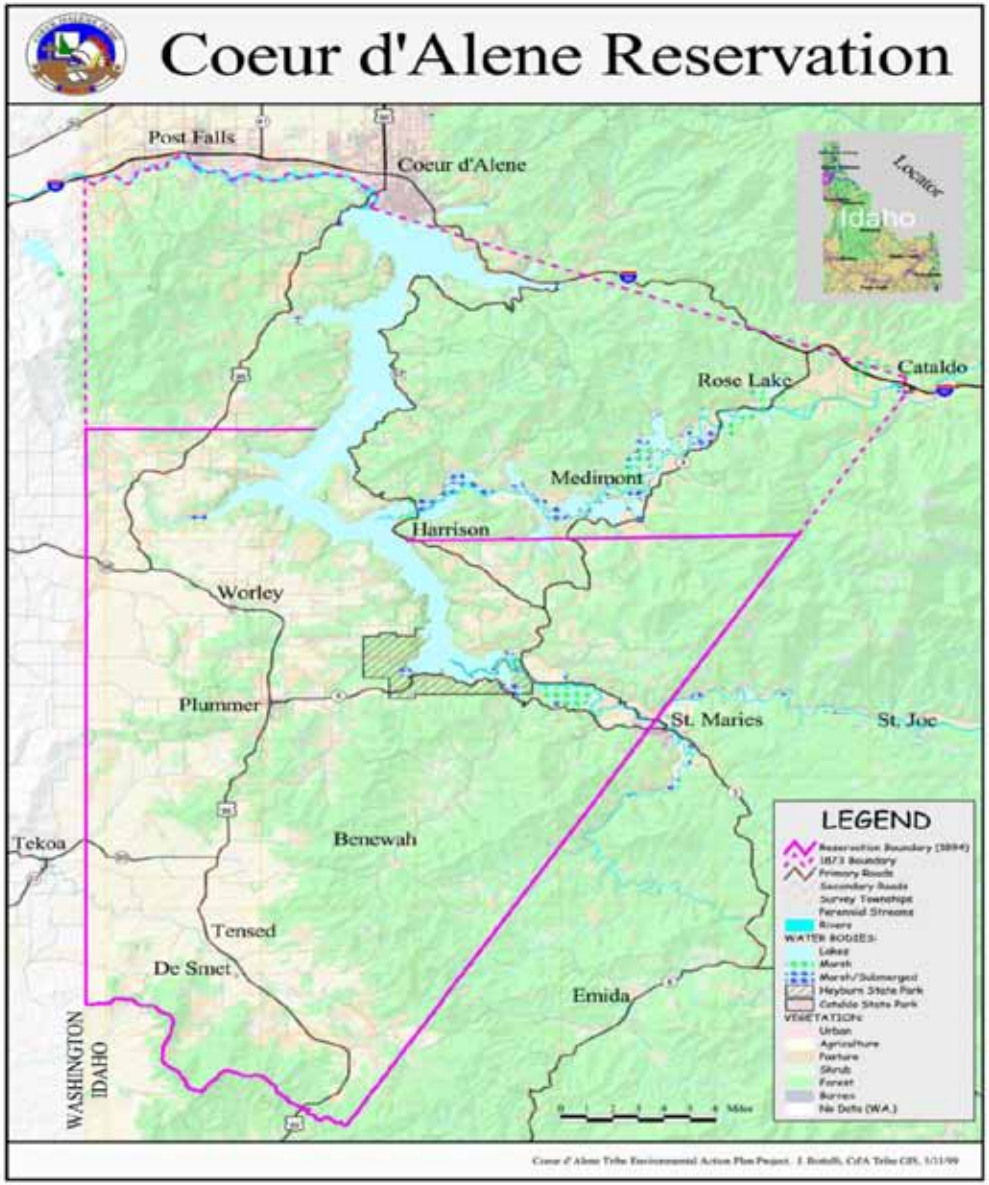
Coeur d'Alene Tribe Background

- The Coeur d'Alene Reservation is approximately 334,000 acres, not including Tribal submerged lands.
- Aboriginal territory = more than 5 million acres.
- Approximately 6,451 residents according to the 2000 Census.
- Tribal enrollment is ~2,299 and growing.
- Tribe relies on forestry, agriculture, gaming, etc. in the current economy.
- Tribe continues traditional subsistence activities such as fishing, hunting and gathering foods and medicine.

Coeur d'Alene Tribal Map aboriginal and present reservation boundaries; Page 1 of 2



Coeur d'Alene Tribe Present Reservation boundary Page 2 of 2



History of the Tribal Natural Resource Department

- In 1992, the Tribal Natural Resource Department was established as a stand-alone Department.
- Currently, there are 7 programs in the NR Department: Air Quality, Environmental Programs Office, Fisheries, Forestry/Fire, Land Services, Pesticides and Wildlife.
- The Environmental Programs Office in the NR Department is administering the EE work.

Energy Work Prior to EECBG

- In June 2008, Cascade, Inc. completed a Wind and Biomass Energy Feasibility Assessment for The Coeur d'Alene Tribe Public Works Department. Conclusions were;
  - Biomass energy (wind turbines) and waste to energy (wood waste) not good options.
  - Wind turbines; viable but checker board land ownership identified as problematic for wind turbine and tower application sites.

EECBG Project Objectives

- The Tribe received $68,400 from the EECBG Program to complete two objectives:

1. Complete a Tribal Energy Efficiency & Conservation Strategy.

2. Complete energy audits of Tribal buildings.

EECBG Progress to Date Continued;

- Submitted a preliminary Energy Efficiency & Conservation Strategy to DOE by the deadline.
- Procured an energy consultant firm: McKinstry Essention in Seattle, WA. addressed the best practices for infrastructure operation improvements leading to utility efficiency and carbon footprint reduction.
- Conducted a kick-off Energy Efficiency Work Group meeting with Tribal Members and Partners.
- Leveraged DOE funding with Bonneville Power Administration funding ($29,000 from BPA to McKinstry funded 9 of 34 Tribal building audits).

EECBG Progress to Date

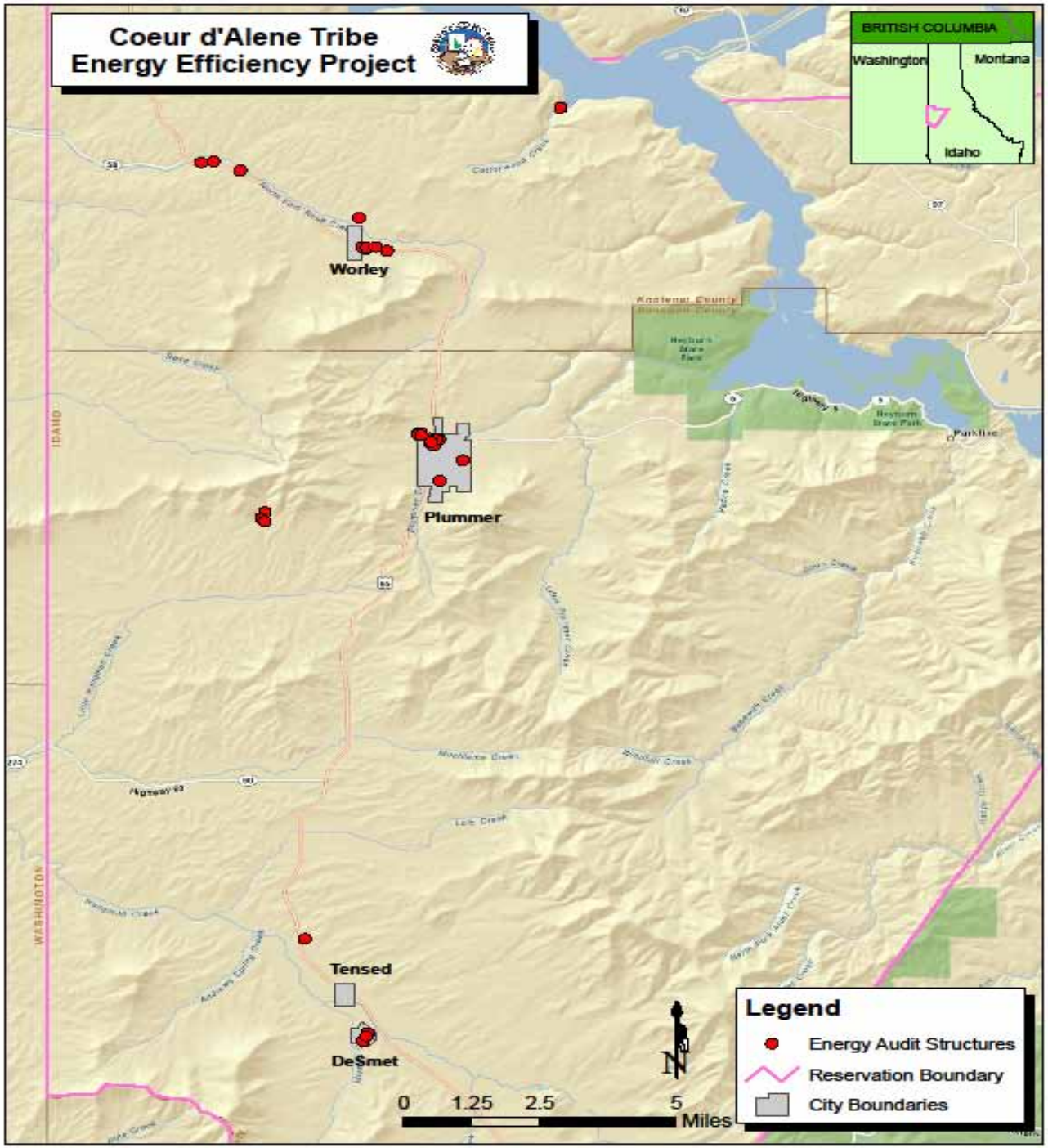
- Accompanied McKinstry on Tribal building audits.
- Held a second Energy Efficiency Work Group meeting to review draft energy audit report and revised EE&CS.
- Submitted all required grant documentation (quarterly financial and progress reports to FederalReporting.com and PAGE websites as well as Historic Properties reports).
- Currently reviewing draft documents to finalize them for consideration by Tribal Council for approval.

Partnerships

- Coeur d' Alene Tribe, Plummer, ID.
- McKinstry Essention, Inc. (Consultant), Seattle, WA.
- Bonneville Power Administration (BPA), Spokane, WA.
- Clearwater Power, Plummer, ID.
- Kootenai Electric, Plummer, ID.
- City of Plummer, ID.

EECBG Lessons Learned

- Partnerships are important (*workgroup attendees; tribal employees, consultant firm and utility companies*).
- Leveraging resources is beneficial (*we could not audit the Tribal Casino with EECBG funds so BPA was able to fund that directly*).
- Turnover in key staff can pose difficulties.
- Small, inexpensive changes can save a lot (*Energy Conservation Measures such as weather-stripping and replacement of light fixtures*).


Coeur d'Alene Tribe
Energy Efficiency Project
BRITISH COLUMBIA
Washington
Montana
Idaho
Worley
Plummer
Tensed
DeSmet
IDAHO
WASHINGTON
Parkline
Legend
Energy Audit Structures
Reservation Boundary
City Boundaries
0 1.25 2.5 5
Miles

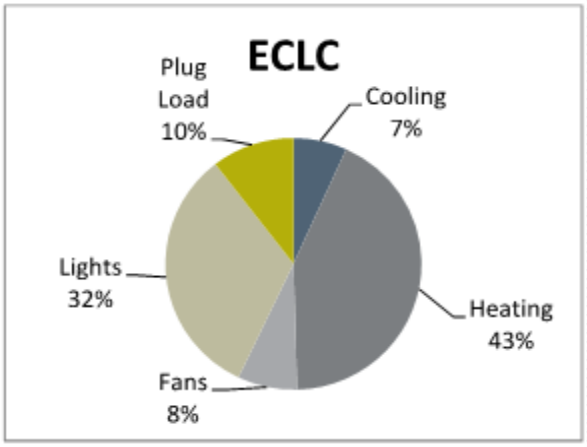
Project Specific Buildings	34 Tribally Owned Buildings	Northwest Region 10, Plummer, Idaho
Benewah Medical Center (BMC)	Tribal Housing Authority & Shop	Tribal Police Headquarters
Tribal School	Finance Dept.	Veterans Building
Tribal School Bus Garage	Senior Housing Complex	Early Childhood Learning Center
Food Distribution Warehouse	Roads Maintenance	Echelon Building in Worley
Benewah Market	DeSmet Longhouse	Echelon Building in Plummer
Tribal Headquarters	Fire Warehouse	Social Services Building
Youth Shelter	Camp Larsen	Rose Creek Longhouse
Court Services	Depart. of Education	Benewah Auto
Technology Center	Facilities Dept. Building	Tribal Wellness Center
Felix Aripa Building	Tribal Casino Resort Hotel	Tribal Casino Gas Station
Tribal Farm	BIA Building	Tribal Casino Daycare
		Tribal Casino Golf Course

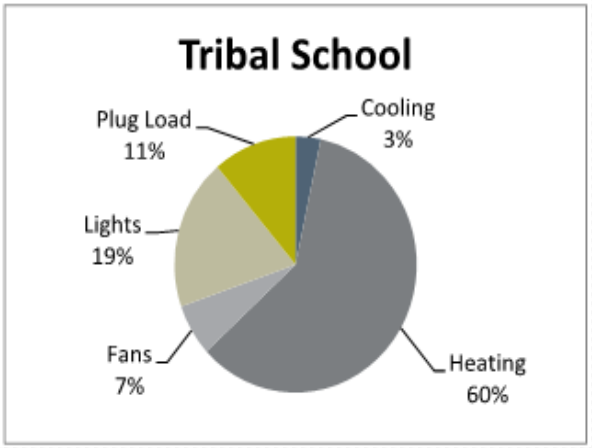
12 Top Recommended Energy Conservation Measures (ECM's)

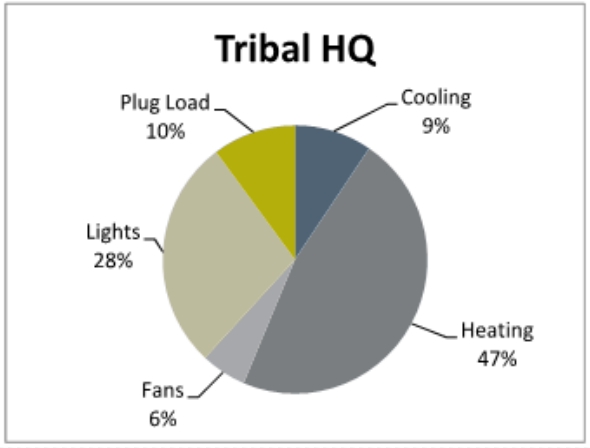
Measure	***Simple Payback***
New Thermostat Schedule	0
Weatherstripping	5 mo.
Add Programmable Thermostat	2.4 mo.
Computer Power Management	0-6 mo.
Add R-19 Ceiling Insulation	17 yr./7 mo.
Add Heat Pumps	14 yr.
Add Economizer Controls	38 yr.
Hot Water Tank Wrap	1 yr./7 mo.
Replace T-12 to T-8	3 yr./6 mo.
Occupancy Sensors	7 mo.
Incandescent to CFL/LED	1 yr./7 mo.
High Density Discharge (HID) to T5	8 yr./6 mo.

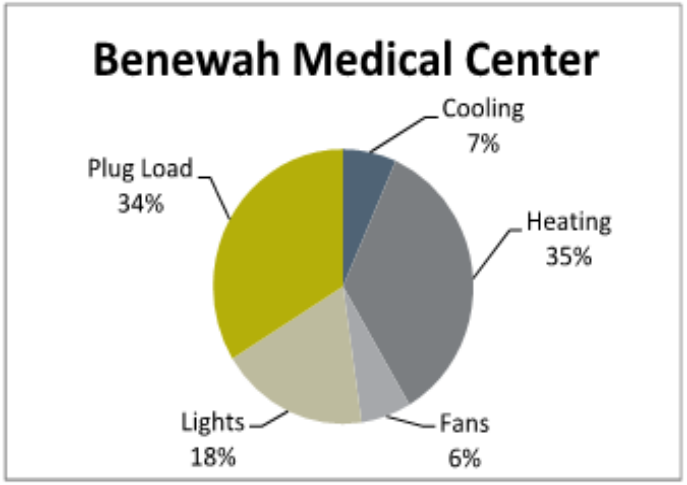
5 High Use Building Energy Profiles

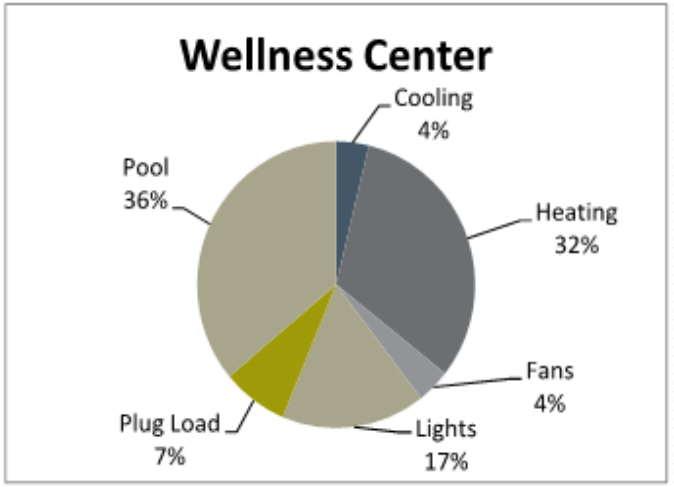
(McKinstry.com)











Benewah Medical Center

BMC's Historical Energy Consumption

- A 2-story 13,800 sq. ft. medical clinic which serves the entire CDA Tribal geographic area.
- Business hours are Mon-Fri 8:00am-6:00pm.
- Uses approximately 630,000 kWh (kilowatt hours), annually electricity costs are $35,000.
- Largest energy users are the lights (18%); Heating (35%); and the internal plug loads (34%), which are printers, computers and copiers.

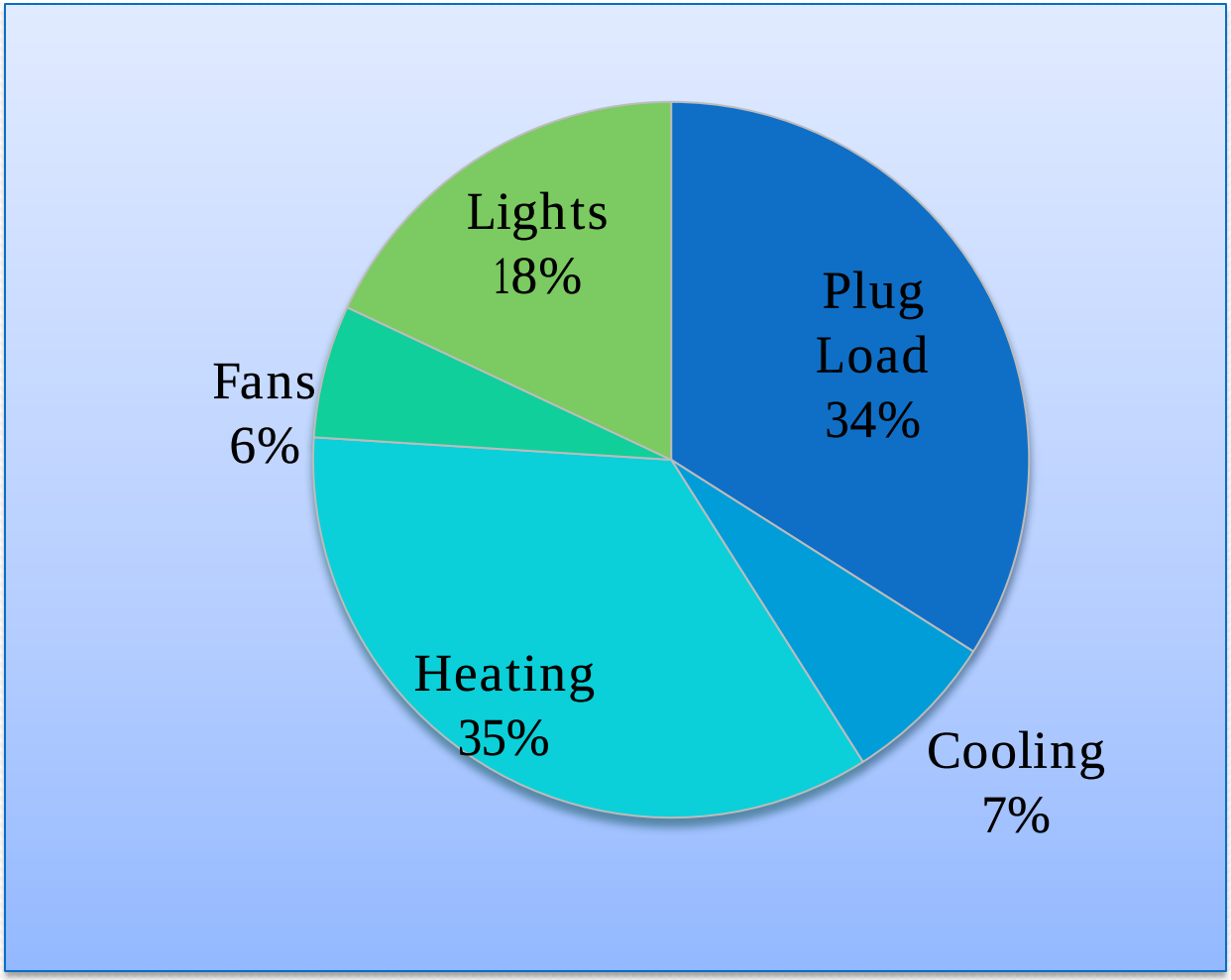
(McKinstry.com)

Lighting Measures Summary

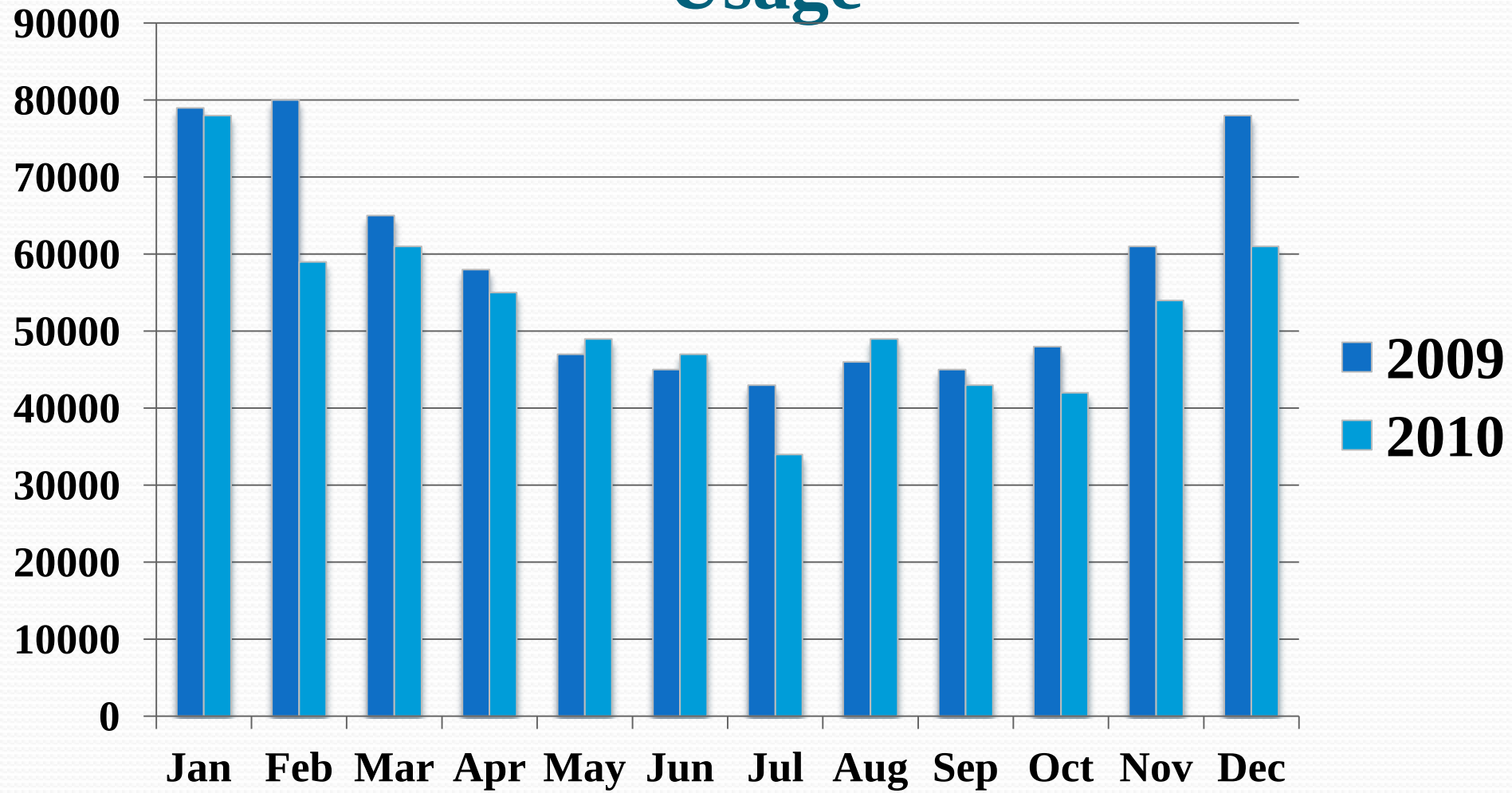
- Change 8-lamp 8ft T12 to 4-lamp 4ft T8 (low ballast factor).
- Change 4-lamp 4ft T12 to 4-lamp T8 (low ballast factor) or 3-lamp (standard ballast factor).
- Change 2-lamp 4ft T12 to 2-lamp 4ft T8 (low ballast factor)

Ceiling Mounted Exhaust

Benewah Medical Center Energy Use Break Down



Benewah Medical Center Annual Electric Usage



McKinstry's Comments on the Wind and Biomass Feasibility Study by Cascade Inc., 2008 Report; Needs Further Study

- **Wind;** *Need a more detailed analysis for viable wind threshold.*
- **Biomass**; *Reducing heat costs by converting to inexpensive biomass fuel source such as woodchips or pellets.*
- **Geothermal heat pumps or ground source heat pumps, geoexchange, water-source, earth coupled, and earth energy heat pumps;** *Most efficient and durable options on the market to heat and cool your facilities. Average life span of 20+ years for heat pump and 25-50 years for underground infrastructure.*

NEW Energy Efficiency Feasibility Study

- Awarded a grant from the Department of Energy (DOE) for an Energy Efficiency Feasibility Study which picks up where the EECBG left off and includes the following components:
  - Conduct energy audits (*fill any gaps in McKinstry's work*).
  - Document current energy consumption (*fill gaps*).
  - Assess the economics (*help decide which measures to pursue*).
  - Conduct preliminary engineering (*for most promising work*).
  - Project energy savings or fossil fuel reduction and,
  - Assess potential financing options for implementation.

Contact Information

- If you would like more information, please contact me at (208) 686-1088 or sfox@cdatribe-nsn.gov.

- Thank you for your time today.