



Saving Dollars on Energy

Community Success Stories Housing Policy & Renovations

Kwadacha Nation Pilot & Lessons Learned

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Dawn Bursey, Executive Director, Kwadacha Nation

Areef Abraham, President & CEO, Quality Program Services

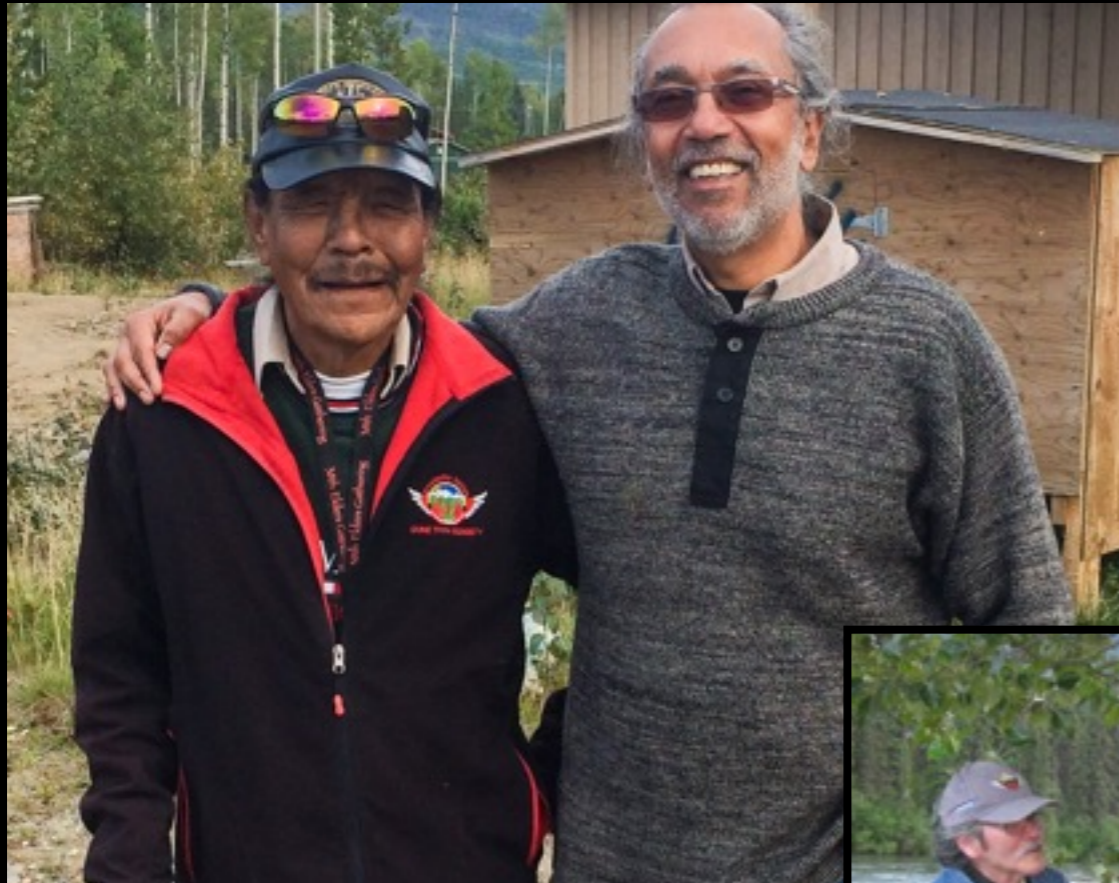
About



- Founded in 2008
- Deliver Energy Efficiency Programs, Integrated Housing Policies, Training and Implementation Tools
- Worked with 80 First Nation Communities
- In over 10,000 homes



Kwadacha Nation



The Team

Project Funding

- BC Hydro
- INAC
- Ministry of Energy
- Vancity

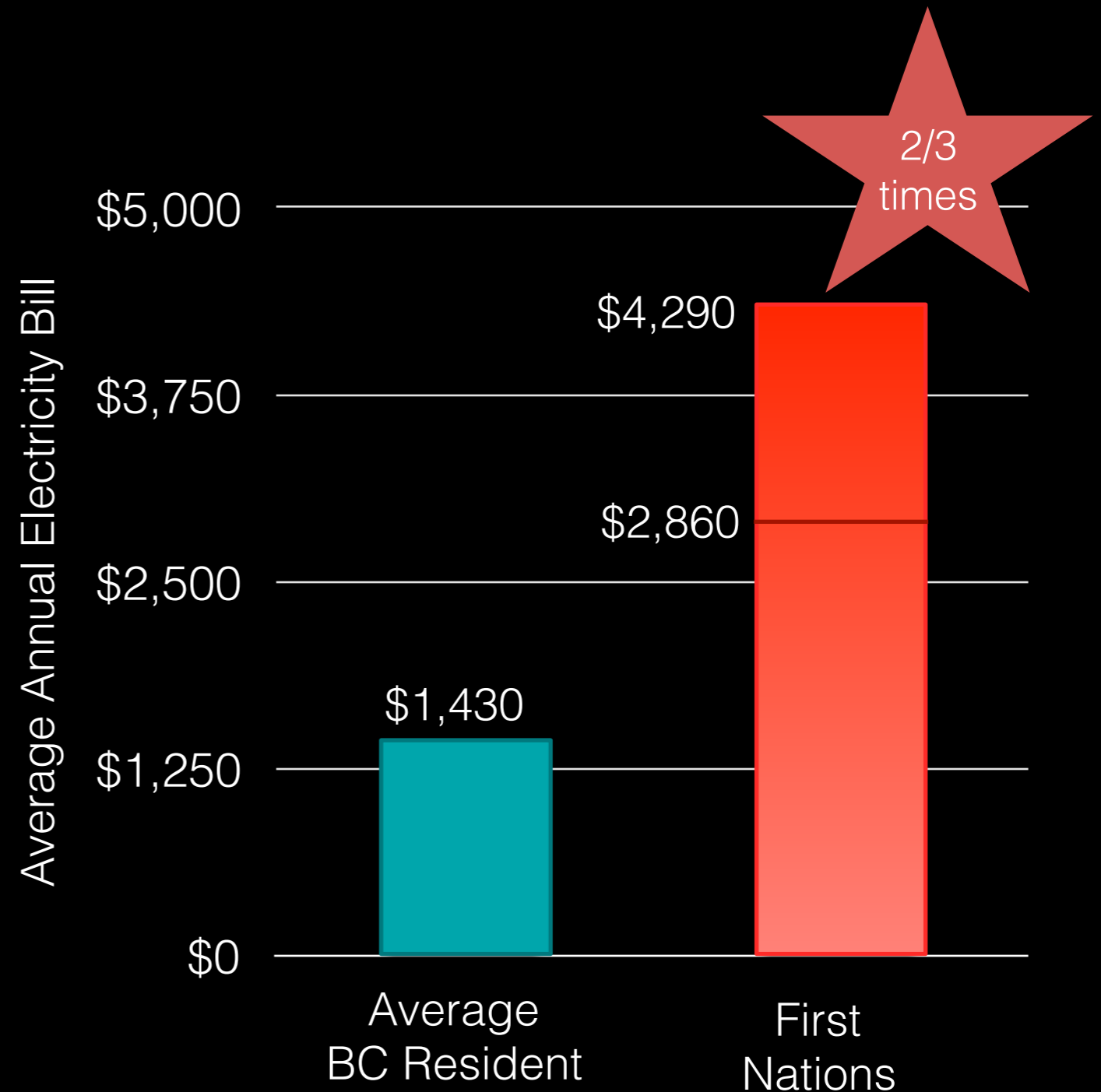
The Worker Bees

- Kwadacha Staff
- Fraser Basin Council
- BC Hydro AR Staff
- Quality Program Services



First Nations face High Electricity Bills

- Poor Construction
- Poor Maintenance
- Not recognizing which in-home actions increase consumption



Kwadacha Electricity Consumption Analysis 2012

- Approx 90 homes
- A quarter of homes faced bills of \$4,000 to \$9,000 a year
- Community average \$2,750 a year
- Total money going out of the community in electricity bills **over \$600,000**



**based on 2013 electricity prices*

Our Approach

7. Measure results and validate investment

6. Implement

5. Pool Financial Resources

4. Build Capacity - QPS & Community

3. Actions, costs, and savings forecasts

2. Collect housing information, analyze and diagnose

1. Engage, listen and look

Community Energy Steward: Tracy Charlie



Engagement



Trc Charlie · Kwadacha Nation

HERES SOMETHING EVERYONE CAN THINK OF WHEN YOU WANT TO SAVE \$\$\$\$\$ ON HYDRO BILL!

A clothes dryer uses about 5,000 watts of electricity. If a load of laundry takes an hour to dry, that means that 5 kilowatt/hours [kwh] of electrical energy was used. People should understand that that is the equivalent of 80, 60-watt light bulbs, left on for an hour. Looking at it another way, if a family dries two loads of laundry per day - 10 kwh's - it is the equivalent of leaving 7, 60-watt light bulbs burning for 24 hours.

See More

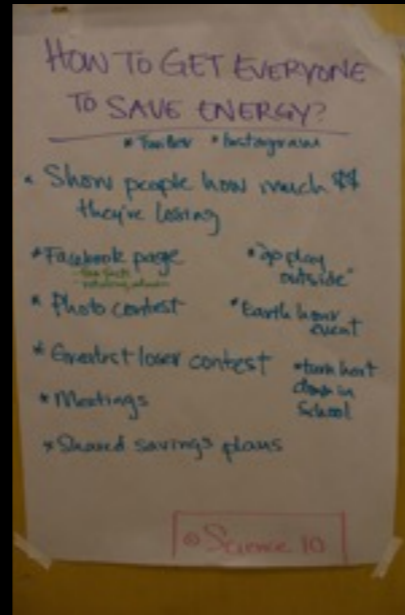
Unlike · Comment · 11 hours ago near Fort Ware, British Columbia ·

You, Trc Charlie and 4 others like this.

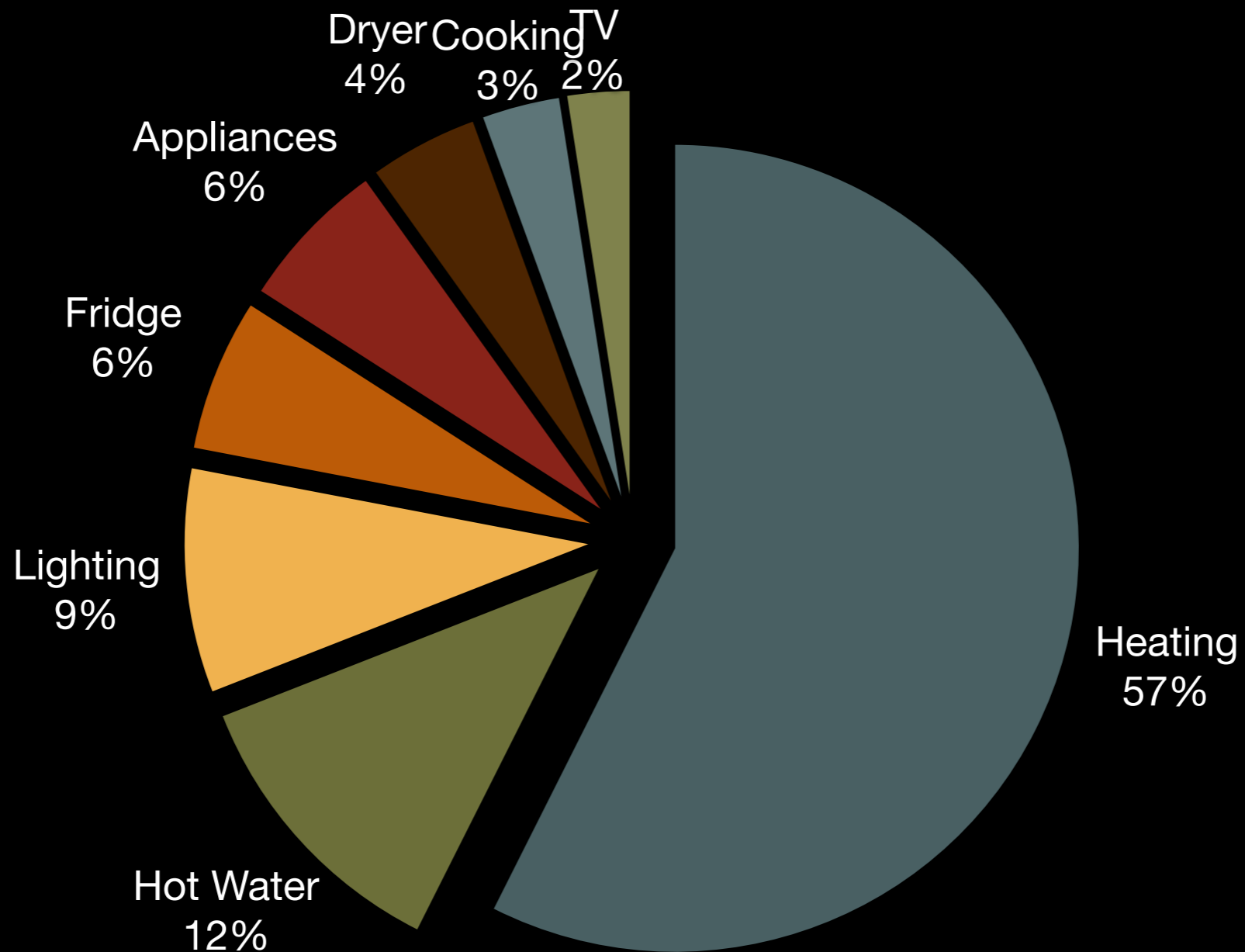
Dawn Neufeld Bursey The first 1500 kilowatt hours of energy costs the consumer \$0.0827/kWh; anything in excess of 1500 kWh's costs \$0.1455/kWh...if you're an average consumer, one hour of dryer time costs \$0.4135; leaving just one light on for 24 hours costs \$0.1181; do that every day for a month and you're at \$3.54 (for one light); one hour of dryer time per day for a month will cost \$12.40
11 hours ago · Like · 1

Carolyn Mccook hang them outside ,like the old day's...don't be lazy...
10 hours ago · Like

Angela Marie Hocken What do you suggest for the winter



Prioritize Actions

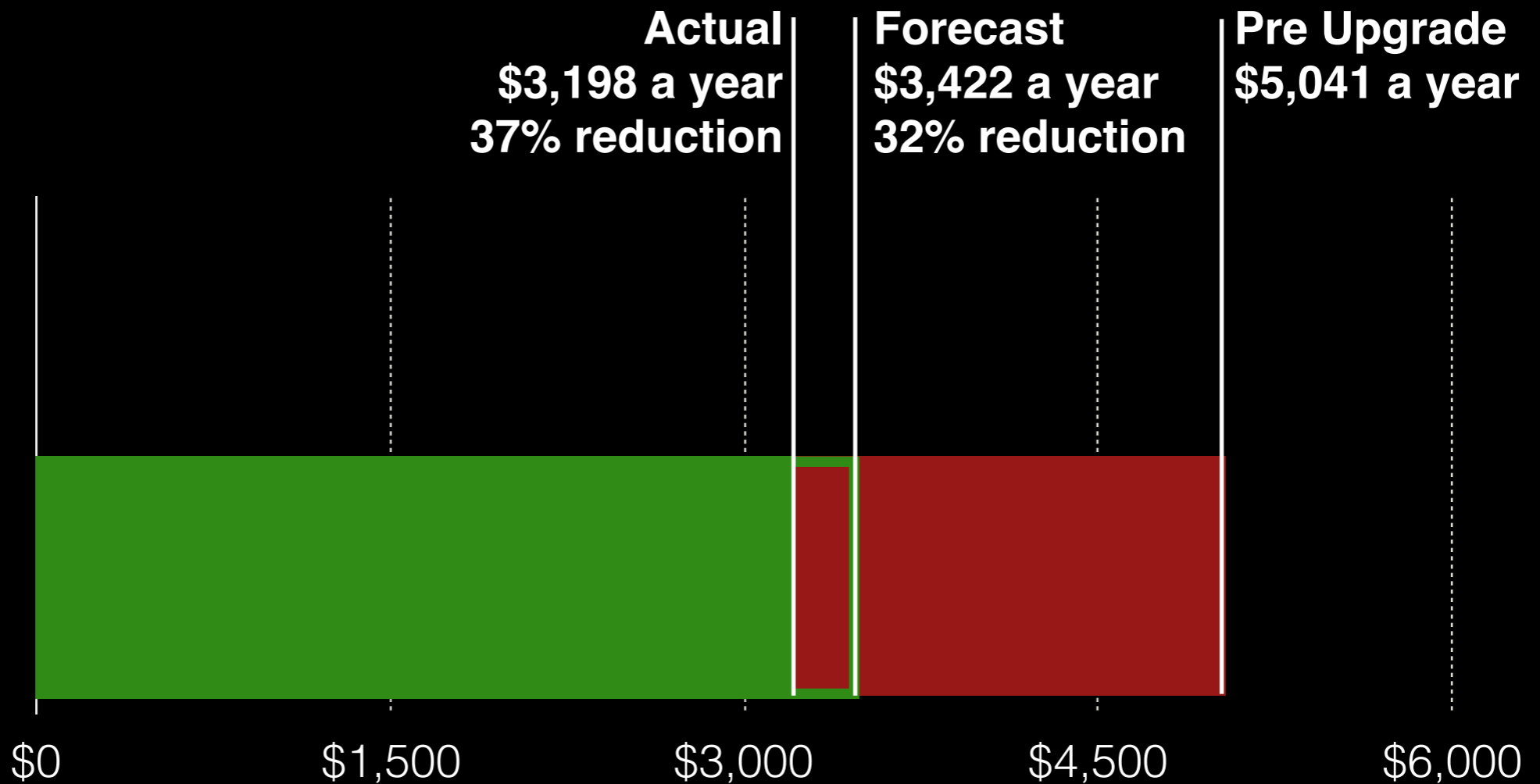


Actions for the 11 Pilot Homes

- Heating systems
- Air sealing
- Insulation
- Ventilation



Results at the meter one year Later

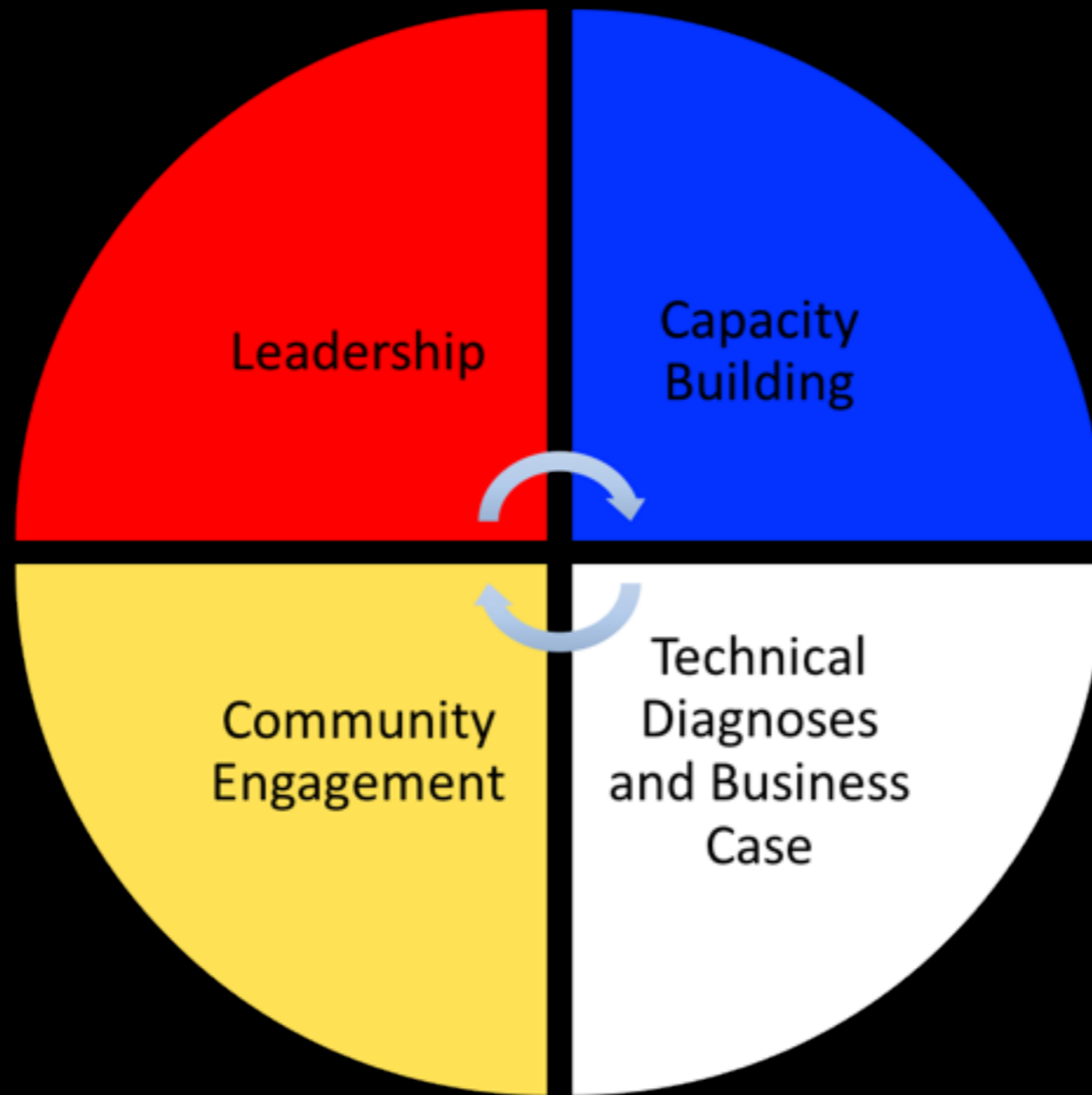


Savings

- Residents - \$2,110 per home per year
- BC Hydro - \$4,962 per home per year
- GHG emissions -12.8 tonnes CO₂e per home per year
- Project payback based on diesel savings - 5.6 years



Components of Success in Kwadacha



Lessons Learned

- Uncomplicated solutions can yield significant savings
Know where and how much to invest
- Energy efficiency is a process not an event
Decide what is possible - Catch Up, Keep Up or Get Ahead
- Customer education and capacity building are also processes and not an events
Need to be tailored, specific to the community's circumstances, not generic and abstract - dollars not percentages
- Longterm funding needs to be considered when launching pilots
Consider other available investment sources

Conclusions

- Energy costs are a significant burden for communities
- Long term thinking is essential
- View energy related upgrades as investments
- Investments require accurate forecasting of savings and returns
- Pre and post upgrade measurement and verification of energy consumption are critical components

Thank you