DZAWADA'ENUXW FIRST NATION KINGCOME INLET

SOLAR HOT WATER PROJECT 2010 – 2012

Presented by Robin Dawson – Capital Projects / Policy Development Manager

DZAWADA'ENUXW FIRS NATION

The Dzawada'enuxw First Nation is a member of the Musgamagw Dzawada'enuxw Tribal Council.

GWAYI VILLAGE

e only year round village site in the DFN traditional rritory is located at Gwayi Village; which is on the right nk of the Kingcome River approximately 6 km upstream m the mouth at Kingcome Inlet. The village is located in lood plain.

e community is a remote isolated community where travel and from is by seaplane, helicopter or boat only and all is pendent on the weather. A plane ride from Campbell er or Port McNeill can be from 35 min to 2 hours pending on the number of stops and a boat ride from rt McNeill or Alert Bay is approximately 2 hours. You can ly get up the river on a smaller river boat which can be m 10 minutes to 30 minutes depending on the boat.

e current population is 85 people and rises to pproximately100 people during eulachon season and mmer.

VILLAGE PROFILE

The Buildings: Dependency on Electricity %

- Band Office / Finance Office – 100%
- 11,000 sq. ft. School / Gymnasium – 99.9% ; other source is propane for cooking only
- 4,000 sq. ft. Health Centre – 100%
- Land & Resource Building – 99.9%
- Old and New Big House – minimal, lighting only when needed
- Church – 100% only when in use during cold weather
- 46 Homes including a duplex and single unit Teacherage 75%; other sources of energy include: propane, wood burning and solar energy
- Well house – minimal -100%
- Telus Building – minimal – 100%

POWER / CONSUMPTION

WER: The Dzawada'enuxw First Nation worked towards ectrification in the late 70's; Power was introduced through a all generator in the early 80's when it was just half the size it is day; A hydro system was introduced in the late 80's through the d 90's. From 1987 – 1995 15 more homes were added.

he late 90's the village had a large expansion with a new hool/community centre; health centre; well system; other new nd buildings; 6 new homes; new Generator Building / system h 4 new generators. At that same time there was a feasibility dy being done to look at a new larger hydro project – it was entually deemed unfeasible by INAC due to the high cost of nstruction.

r Energy Consumption in 2010: Annual Electricity Production: 5 GWh; Average Winter Demand: (Jan-Mar): 250kW; Peak nter Demand: 315kW; Average Summer Demand: (Jul-Sept): kW

date the DFN is seriously in a deficit financially due to the eration of the diesel generators; which started in 2000. So we ve been desperately looking at alternative energy sources and utions. Including on going feasibility studies for run of river.

MOVE TO SOLAR ENERGY

vayi village is situated on a North / South direction therefore king advantage of Solar Energy is possible.

e first time the DFN applied for RCI (Remote Community plementation) funding was in 2009, we were not successful. The mpany we were introduced to at the time didn't yet have a solid undation with their product.

ough workshops and seeing the TSou-ke Nation Solar project, I s amazed at what they had accomplished. From there I was in mmunications with a province rep and she further got me in uch with Solar BC.

mid 2010 Danielle Myles from the province and Nitya Harris of ar BC and I were communicating about a possible project. Nitya tually visited our community and did a quick assessment and ve some feedback of what the possibilities were.

late 2010 I signed onto a Solar Mentorship program through Solar . My mentor was George Colgate of the Xeni Gwet'in who had eviously done similar work at his community.

MENTORSHIP

One of the requirements for the mentorship program was attending a Mentorship worksho that was done right at T'Souke Nation. Again I was in awe of what they had accomplished.

I also attended an Energy Conference in Vancouver that George was at, so we were a to meet and discuss the work that needed to done.

George and I further communicated through phone and email. He shared forms or gave feedback on what I worked on.

Going forward with the project was certainly made easier with the help of George as well Danielle and Nitya and of course Tanya from t Fraser Basin Council.

OLICIES

licies should have been in place that address ategic placement of the units; especially if it's a emonstration project; considering all the factors.

ecided myself that to get the best use of these stems, that they should be placed where the ggest families were located; logically the bigger milies use more hot water than singles or couples; other factor in the equation was that we wanted install a monitoring system as part of the project; so e did go with four big families, however one clined. For monitoring purposes the one unit ected was placed at my house.

ROCEDURES

ce locations were decided, the space for the units had to be ade, so additional work included removing 4 old oil furnaces.

orking on Applications;

dvocating for all the funding which also came from the band

etting funding approvals from several sources

udget put in place

erms of reference for the proposed work;

all for proposals from industry;

egotiating the work and signing contracts.

awbacks: the weather of course for a place like Kingcome can be a ctor in making or breaking your budget.

ure enough the day the guys arrived with the equipment , we were tually in flood preparation mode. Luckily the contractors were wn to earth and accepted the situation, it could have easily gone eways and cost a lot more.

- **REVENUE**
- Fraser Basin Council
- Solar BC
- DFN - SDA TESI, Other
- EcoEnergy Action Pla Solar Hot Water
- Live Smart BC - Solar Hot Water

EXPENSES

- Administration
- Contractor
- Training
- Sun Reports Monitor
- Electrician
- Energy Audit

CONSTRUCTION - RAINING

rt of the project included capacity ilding – training band members for ure work and to help reduce aintenance costs.

fortunately lack of human resources came a problem. I did post for inees however no one came forward til the last minute and they didn't get the training, we were supposed to clude our village maintenance worker – t for some reason he couldn't attend.

e weren't able to fully train anyone.

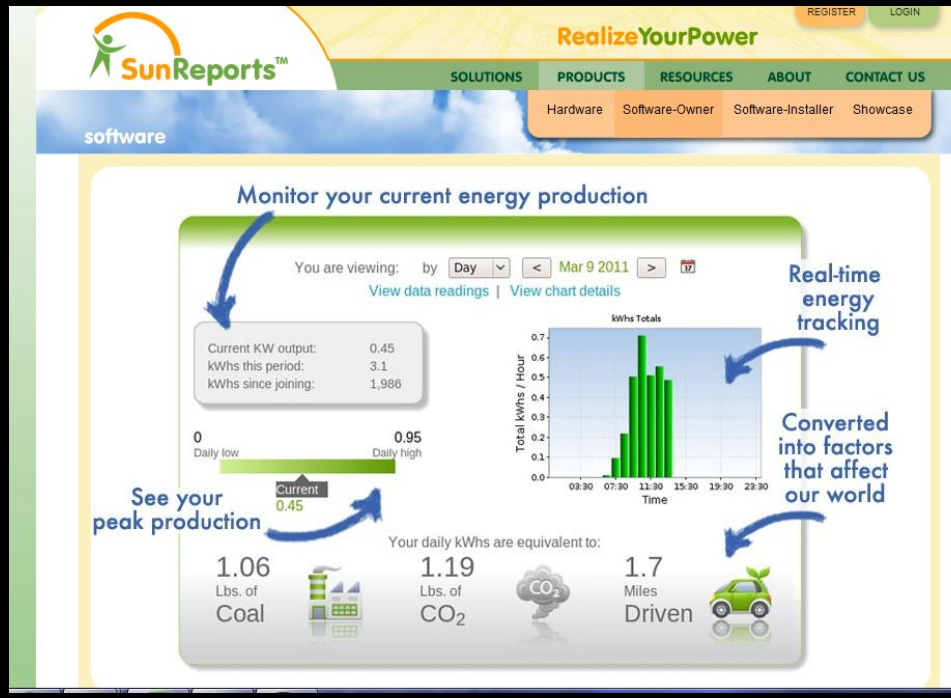
SUN REPORTS

cause we wanted to monitor how the system rked in our valley, to collect data for future jects, we added Sun Reports to the system.

great product for determining how much ergy the system produces and how much ergy you save.

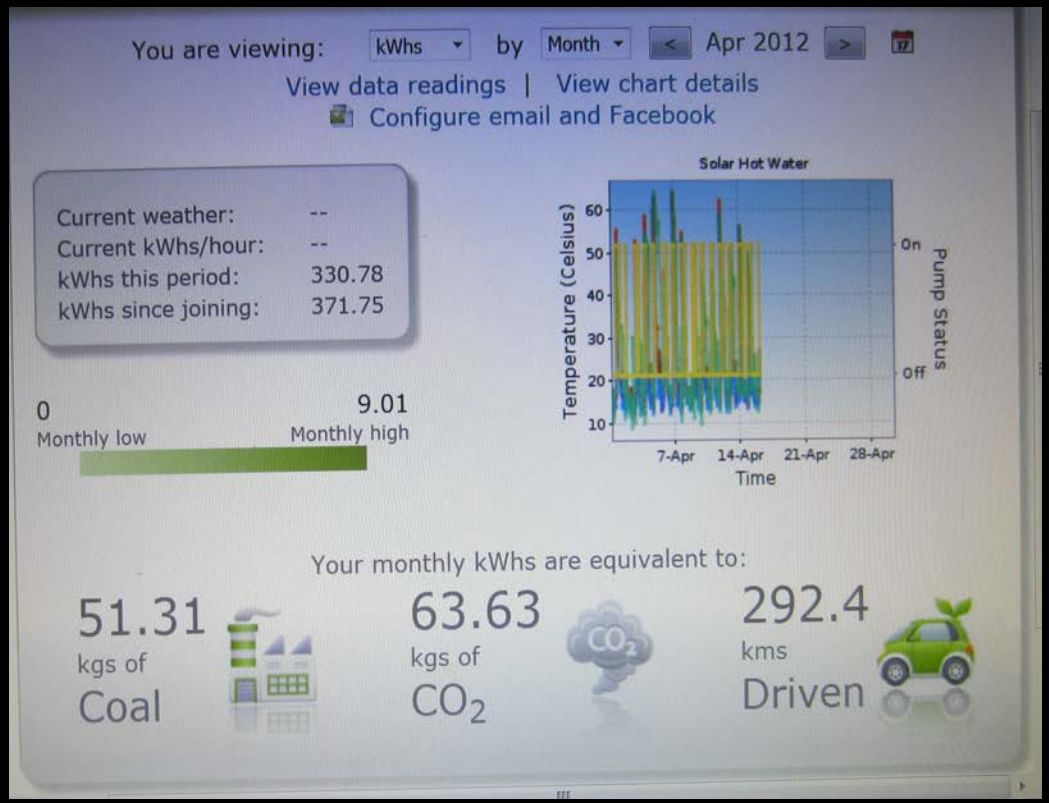
m the pictures in my presentation you can e that we have a wall panel and roof panels. m the initial data collected, is shows that the ll panel actually produced more energy, en though there is more shade.

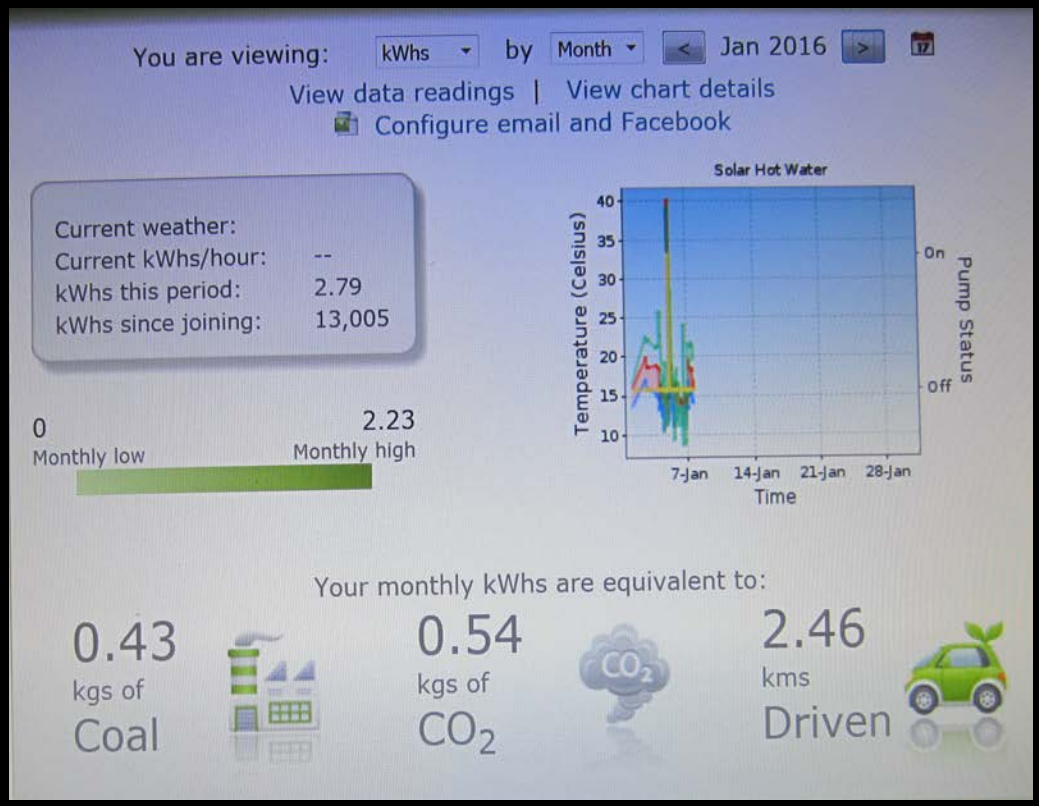
e weren't actually able to install them until the ing of 2012, so the figures shown on the next ge aren't accurate.



MONITORING – 2012 / 2015

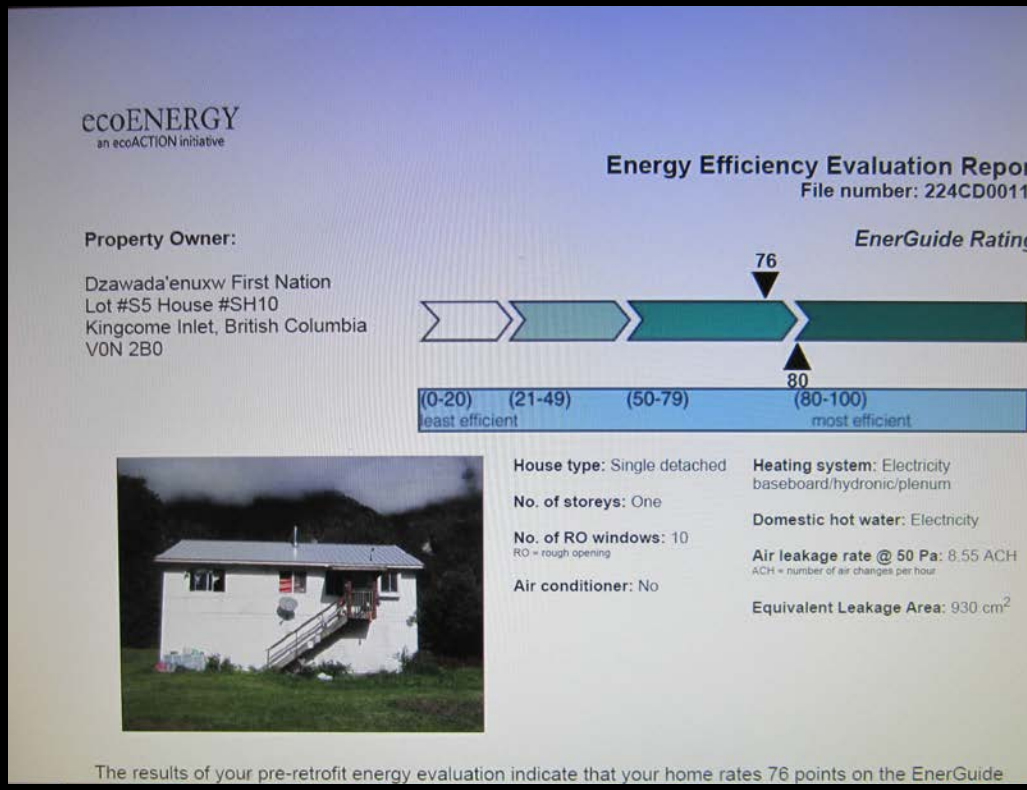
n reviewing the community energy use annually, the average home uses 15000 Kwh/year
The systems produce about 4000 kwh's / year. That's a pretty good savings. (the
13,000kwh shown below is low due to internet interruption on the monitor. The actual
dollars saved are $6,240 for the one home being monitored @ $0.48/kwh (actual
operating cost). **Would be great to have them on all the homes.**





ENERGY AUDIT / REBATES

- Not finished: more work was required to get all the revenue for the project. The requirement to get any Rebate is to get Energy Audits done at each home.
- Both the Province and the Federal Government have Rebates for Energy Saving Retrofits to your home.
- Quite a task in itself especially for Kingcome; in order to save money you really have to shop around. I was given some assistance from the province with names and I did searches on the internet.
- The end result was receiving over $7,000 in Rebates.



FUTURE WORK

Ve are still monitoring the system, believe we purchased 5 ears from SunReports. One thing for certain Solar Energy oes work here.

he best thing about these systems is they work even when 's cloudy with showers, so long as it's still bright.

n working with Koho Power for the past couple of years, ve've managed to reduce our power consumption further s reported by our Generator Maintenance personnel by oing demand side management work.

Ve've further submitted an application for another pilot roject that we really want to see happen. The project nvolves a Solar / Wood Stove Hot Water Heating system.

anyone has other ideas please share them with us.

his concludes my presentation; I'm sure I've missed a few hings as it's been over 4 years since the systems were nstalled.

Lilawagela School
We're hoping for a future pro for Solar Energy & Geo Exchange Heating.


ANY QUESTIONS?
01/03/2013