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Features

- Load bearing two story cob building (Cob is clay, sand and straw)
- Engineered and fully permitted, completed December 2008 – Earthquake resistant
- 2 kW solar array with grid tie to BC hydro
- 60 solar evacuated tubes for heating hot water
 - for hydronic in floor space heating
 - for potable domestic use
- Wood gasification wood stove for winter heating
 - 85% efficient, smokeless
- Living roof benefits: beauty, quiet, fire proof, habitat replacement, water filtration
- Rain water harvesting: 10,000 Gal for irrigation of food gardens
- Resource recovery:
 - Grey water: filtration of organic solids into worm castings
 - Water re-used for fruit tree irrigation
 - Composting odorless toilet (no water)
- Earthen floors, earthen counters, natural non-toxic finishing – No VOC's
- Passive solar design, high efficiency fiberglass frame windows
- High flyash concrete – reduces carbon footprint
- 80% of wood used was recycled
- Exterior lime plaster – carbon neutral
- Lower cob wall built by hand in 7 weeks with two people
 - Cob mixed with rototiller using 25 litres of gas
- Integrated systems design: house, land, water, energy, and lifestyle

Section	Total	Notes	\$/ft2% of total	
Infrastructure	6,572	not including septic system completion	2.63	1.8%
Foundation	7,277		2.91	2.0%
house wiring	19,576	ac and dc	7.83	5.3%
house plumbing	9,011		3.60	2.4%
structure	51,762	includes \$3729 for 42 yards of pumice	20.70	14.0%
finishing	44,584	includes \$14,932 for appliances	17.83	12.0%
living roof	12,994	a bit more to come	5.20	3.5%
Communications	1,464	running wires for phone/internet/ etc	0.59	0.4%
Solar Electrical	45,016	Includes grid intertie	18.01	12.1%
Heating and hot water	34,778	Hydronic heating, tubes, boiler, etc	13.91	9.4%
Water system	11,714	storage tanks, pumps, irrigation, etc	4.69	3.2%
Professional	9,712	Engineer, CAD plans, permits, HPO	3.88	2.6%
Hired Labour	14,575		5.83	3.9%
Our Labour	101,600	20 months	40.64	27.4%
TOTALS	370,635		148.25	100.0%

Benefits of earthen architecture

- Extended life span – cob is about 500 years
- Small carbon footprint – embodied energy in the materials is very low
- Almost fireproof
- Non-toxic - healthy indoor air quality
- No vapour barriers required – limited manufactured materials
- Natural humidity control with NO mold growth
- Greater stimulus to local economy due to higher percentage of labour to materials cost than conventional construction
- Resiliency – Value added premium for energy, water, fire, storm, food security

Affordability - Cob House Expenses

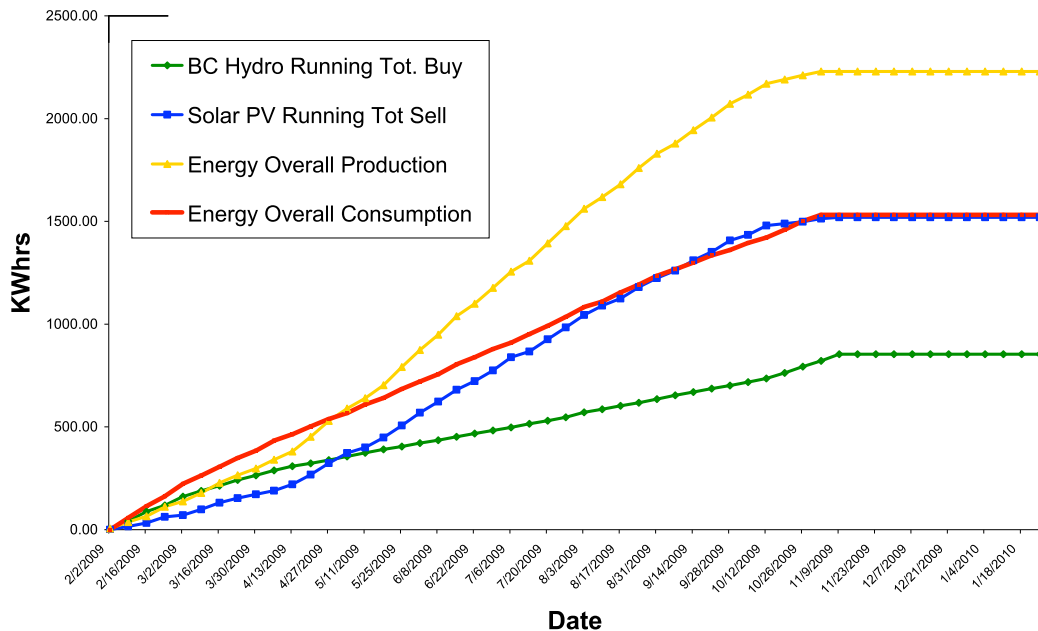
2,500 ft² outside, 2,150 ft² inside

Includes suite for parents – total 5 bedroom, 2 bath, 2 kitchen

Energy

- Net Zero Energy
- No monthly energy bills
- 47% more efficient than R2000 house, 75% more efficient than average house

Eco-Sense Cumulative Energy Charting



Living Building Challenge

Eco-Sense is a registered project and assessment is pending