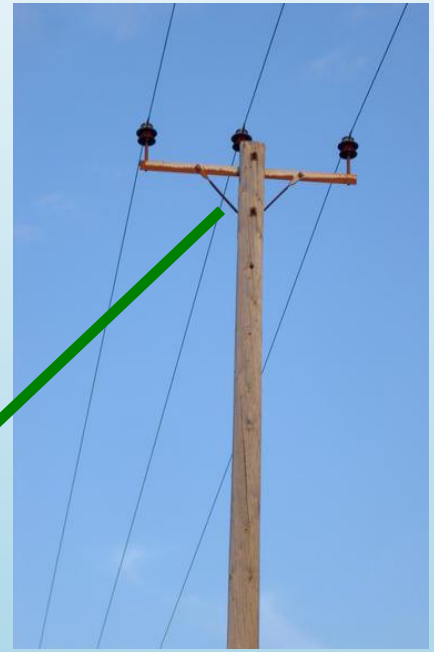
Solar Power on Central Park

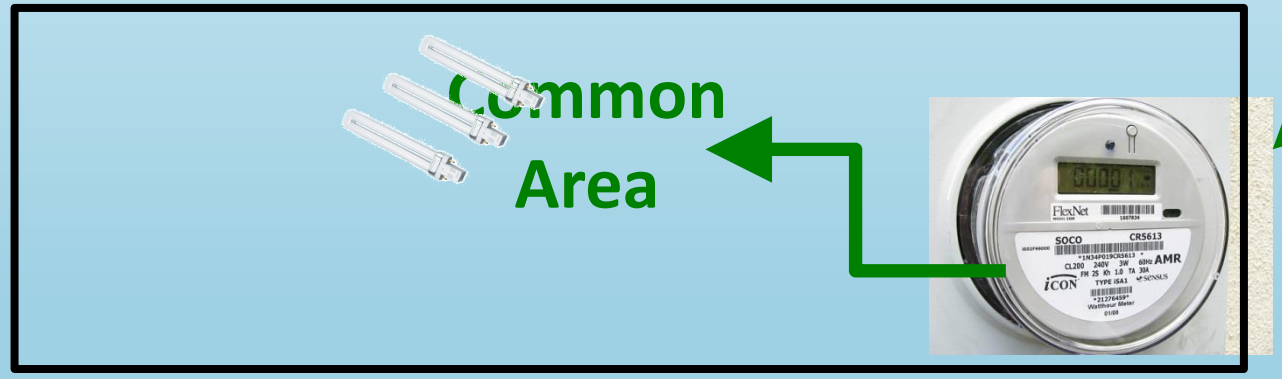
CENTRAL PARK STRATA AGM

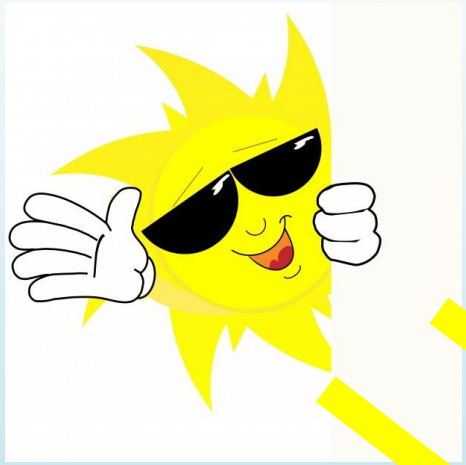
FEBRUARY 25, 2015

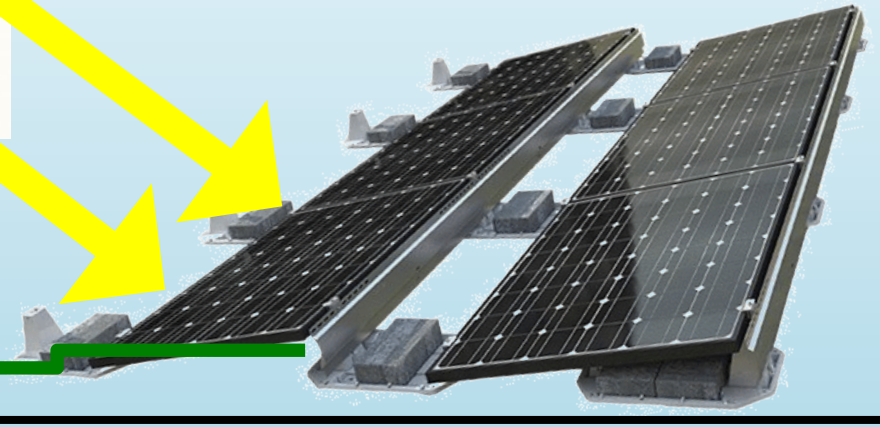
Common areas, not suites:

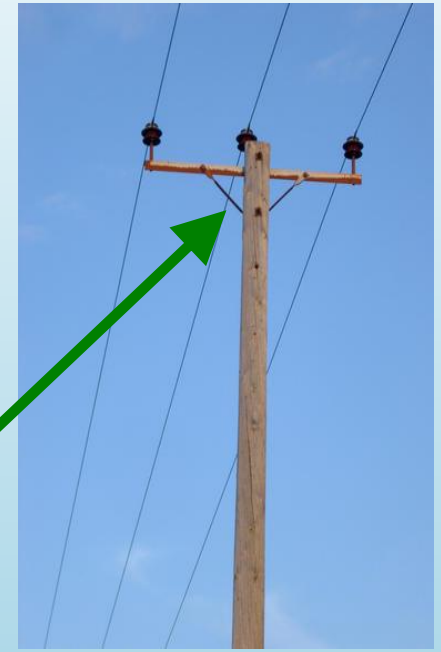
- Hallway lights
- Outdoor lights
- Ventilation fans
- Washing machines
- Baseboard heat (rarely)











Common Area

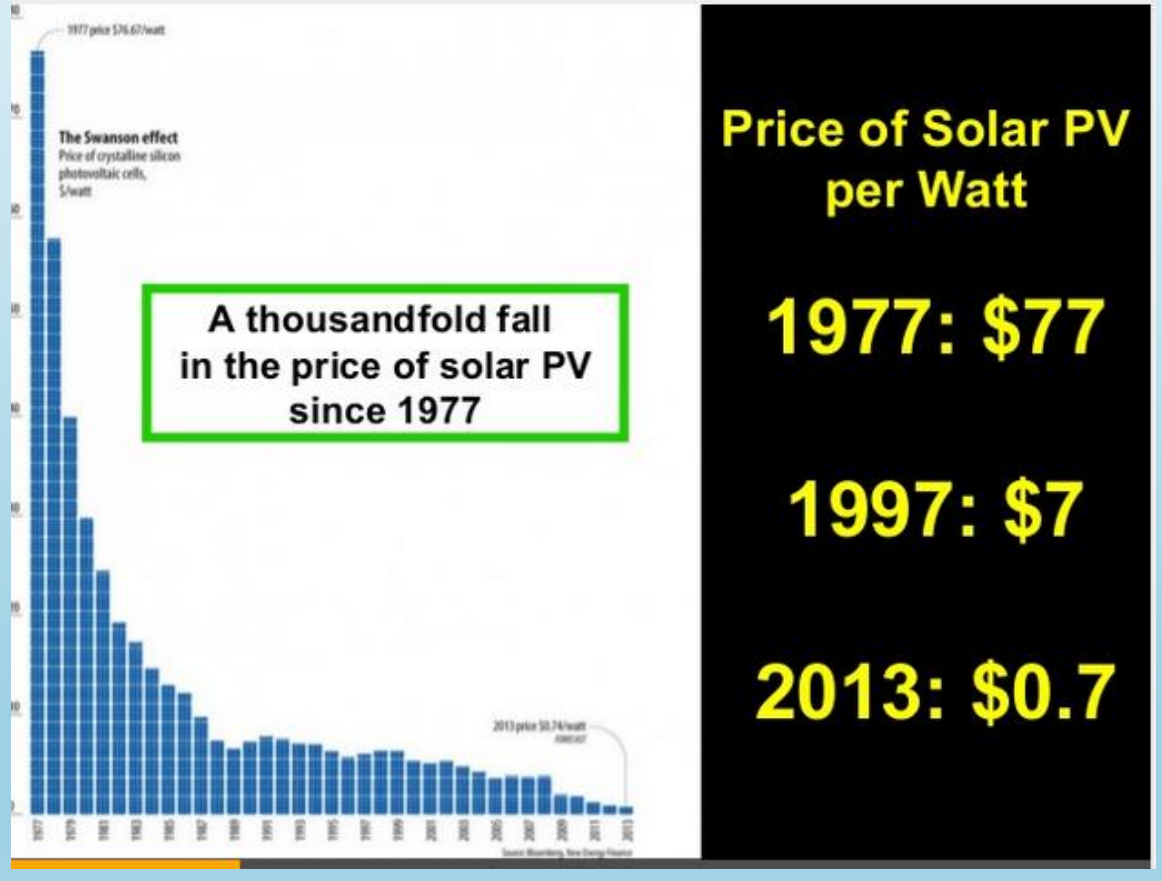
Inverter

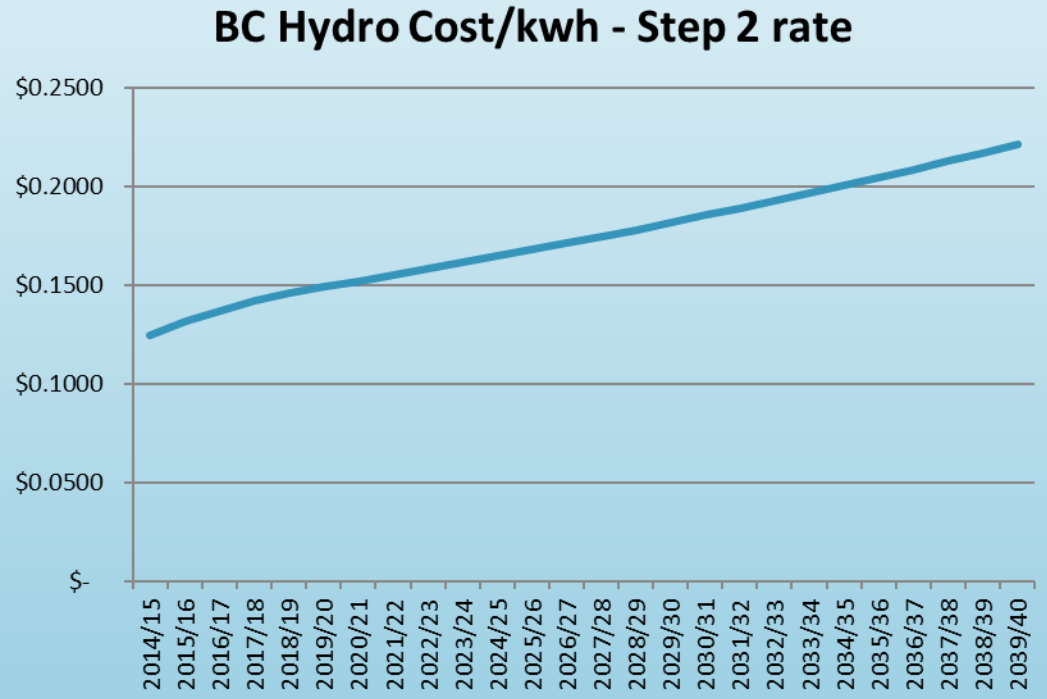
Meter

Why on Central Park ?

- Big flat roof
- NO shade
- Easy run down side of building
- Space in electrical room
- Roof shade for 414-418

Why now ?

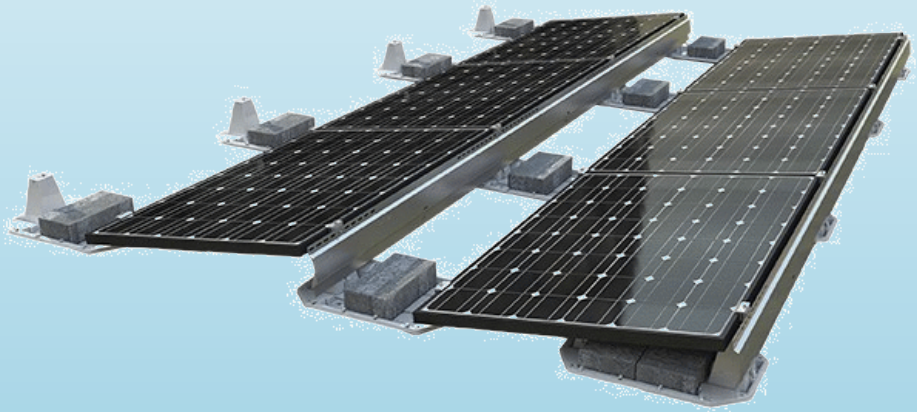




BC Hydro Net Metering Program

Maintenance

Wash once / year with the roof skylights



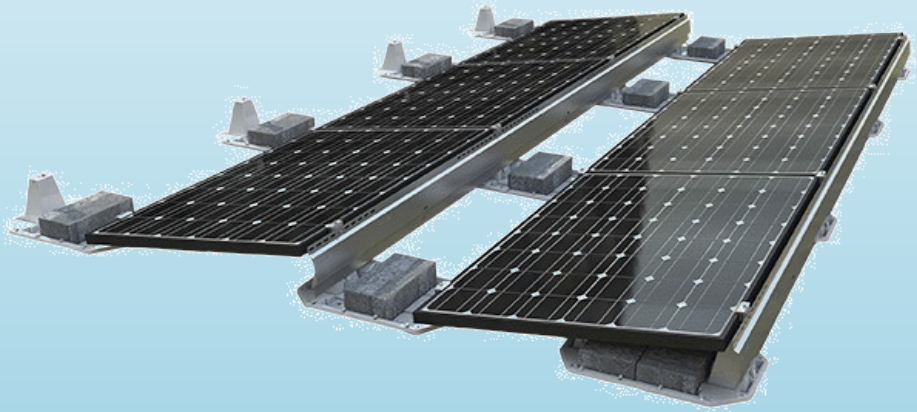
Warranty:

- Panels – 25 years
- Inverter – 15 years
- the rest is ‘just’ wiring

Replace the roof ?

Just unplug and lift the panels, move the brackets

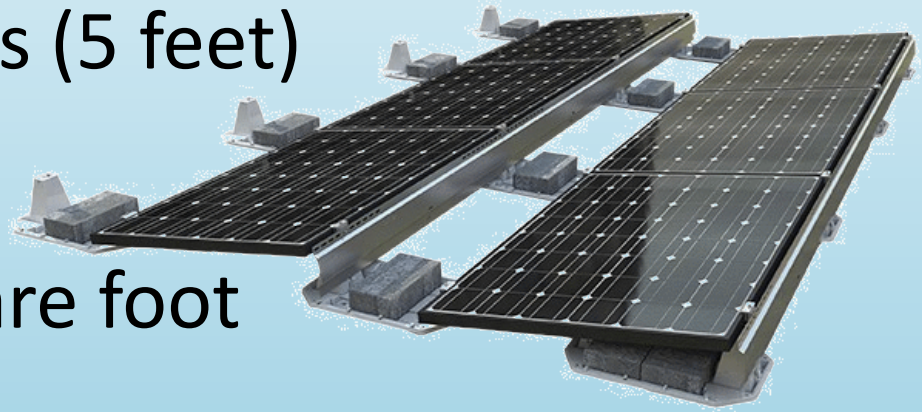
No holes in the roof



Weight

1 Panel: 18 kg (40 pounds)

1 Panel: 1 metre (3 feet) x 1.6 metres (5 feet)



About 4 pounds / square foot

Victoria snow: 40 – 60 pounds / square foot

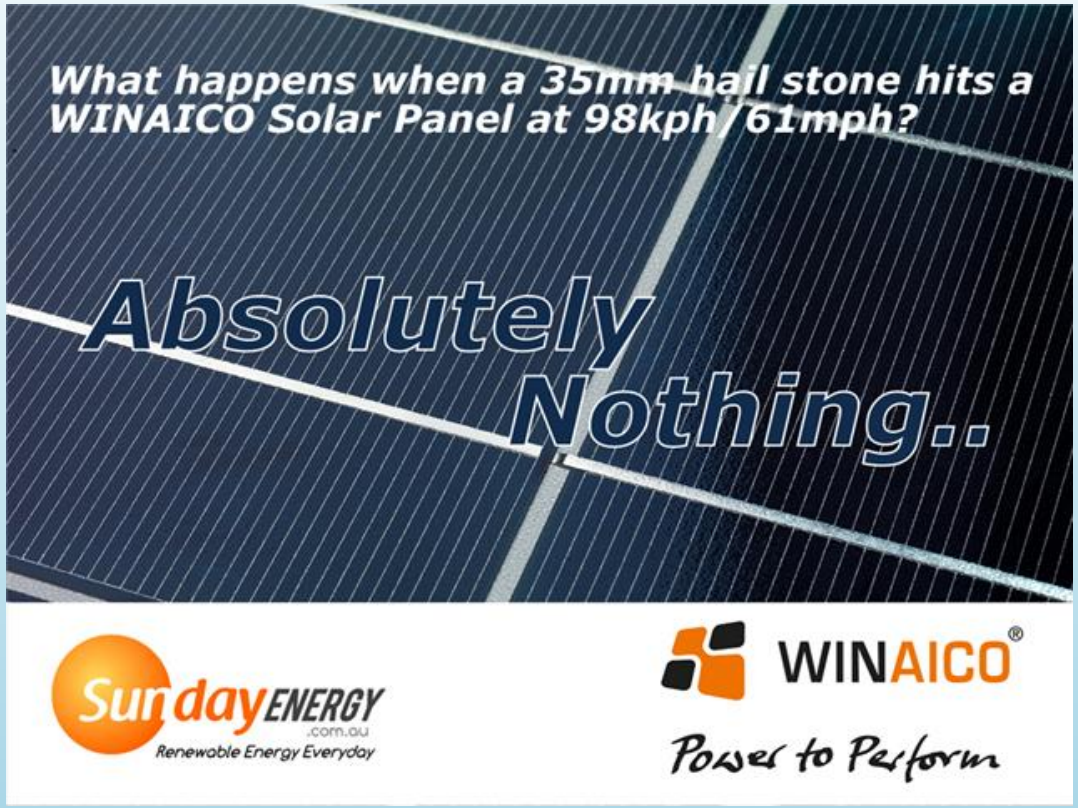
Damage

Rated for 1 inch hail stones

Rated for hurricane winds (low to the roof)

Mike ?

Earthquake rated by Structural Engineers Association of California



What's a watt ?

The *rate* of electricity use

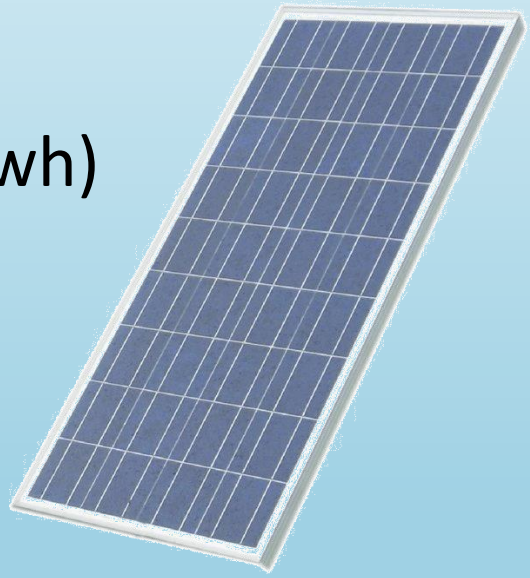
Regular hallway light bulb = 13 watts

Run it for one hour = 13 watt-hours

Run it for 77 hours = 1,000 watt-hours = 1 kilowatt-hour (kwh)

Solar panel = 245 watts at maximum output

60 Solar panels = 14,700 watts = 14.7 kilowatts



HES-PV: 16,170 kwh/yr

How much electricity ?

HES-PV ‘Round Number’ : 1,100 hours of max. power / year

14.7 kilowatts X 1,100 hours = 16,170 kilowatt-hours / year

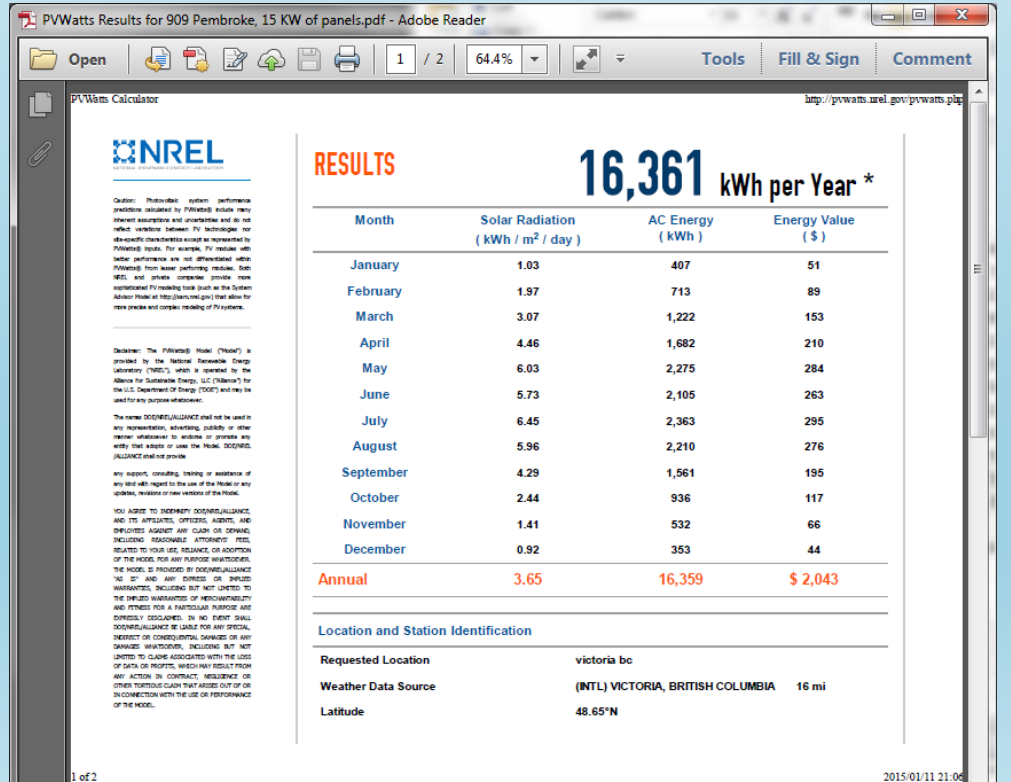
How much electricity ?

Estimate from ‘pvwatts’ detailed calculator from US Government:

Based on Victoria location, our weather, this proposed system

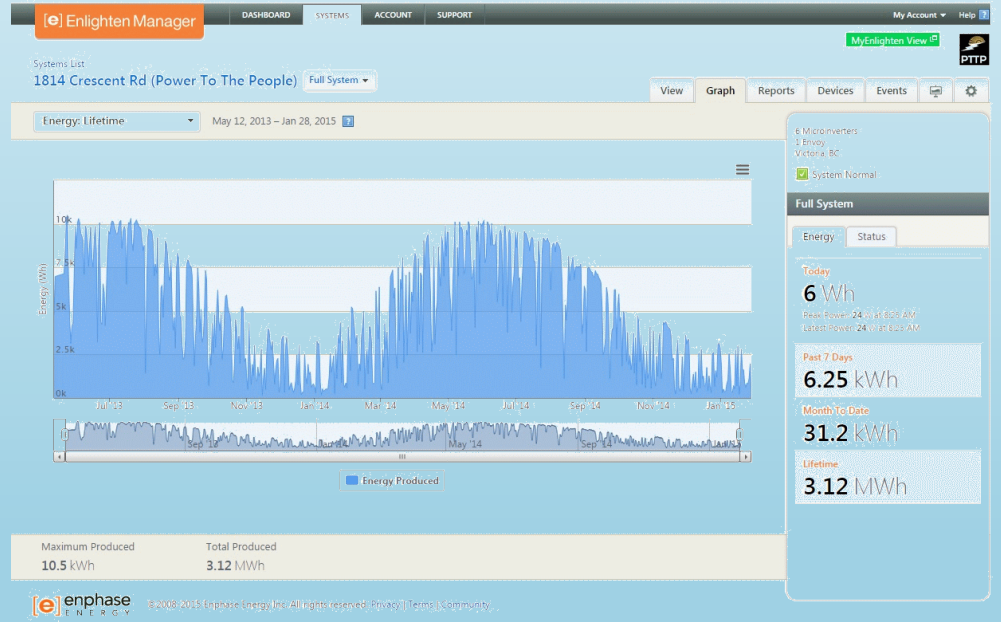
16,300 kwh / year

HES-PV: 16,170 kwh/yr



How much electricity ?

Actual 2014 results from 6 x 250w panels at 1814 Crescent Road, Ross Bay: 1,835 kwh / yr



Adjusted to 60 x 245w panels: 18,000 kwh/yr

How much annual savings ?

Electricity (kwh)/year X Cost per kwh = $Savings

2015: 16,225 kwh/year X $.1317 / kwh = $2,136

2019: 16,225 kwh/year X $.1489 / kwh = $2,369

2025: 16,225 kwh/year X $.1644 / kwh = $2,668

2015 Electrical Cost: $5,011.25

~~increasing 6% for~~ 2015: ~~$5,300~~ $3,200

Cost ?

$46,271.50 *Complete*

Includes panels, wiring, inverter

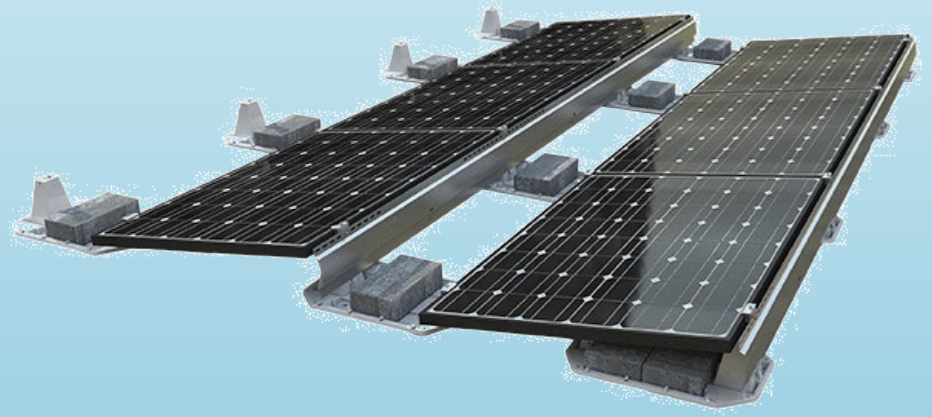
Includes 5% GST

Solar systems are PST Exempt

Includes electrical permit

Includes labour, installation

Includes mounting brackets, bricks to hold them down



How much per unit ?

System Size: 14.7 Kw (60 panels) - 11.4 kw Inverter Annual output: 16,225 kwh	Building Total	Per Unit (varies with unit area)
Total installed cost, with tax	$46,271.50	$555- $865
Install cost per month, repaid over 60 months	$771.97	$9.25 - $14.42
Forecast Annual Common Area Energy Savings in 2015 Simple Return on Investment (ROI): 4.9%	$2,100	$25-$39
Forecast Annual Common Area Energy Savings in 2030 Simple Return on Investment (ROI): 6.3%	$3,000	$35-$55

Investment in the Building

F**rom:** Donna Curtis [mailto:donna@lprealestate.ca]
Sent: 2015-Feb-17 17:35
To: 'Bruce Mackenzie'
Subject: RE: Solar at 909 Pembroke

You asked me to comment on the effect that installing the solar system as attached to your email would have on the saleability of a unit at 909 Pembroke.

It is my opinion the effect on a potential buyer would be a positive one in that this is a progressive and innovative strata that is obviously being proactive in its responsibilities as custodians of their building. I am also of the opinion that once potential buyers and their banks for financing became aware of this approach to managing the costs it would have a further positive effect on sales.

I believe that it will certainly make the suites easier to sell and as the general public become more familiar with the cost saving features of solar electricity it will have a positive effect on sales prices as well. I personally commend you to for taking this step and I encourage you to let other strata's know what you are doing and the positive effect it has on your bottom line.

As you are aware the market has not been kind to older condo buildings in the past few years so anything you do to improve the quality of life in your building will have a positive effect both in saleability and in prices

Warmly

Donna Curtis
Associate Broker, Partner
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2014 / 2015 Assessments Comparison

	2014	2015	Increase over 2014 total
Regular Operations	$148,925	$150,900	1.1%
Annual contribution to CRF to avoid special levies	$10,000	$29,000	12.0%
Solar System ($47,000 repaid over five years)		$9,400	5.9%
Total 2015 Assessments	$158,925	$189,300	19.1%

*Note: Does not include other income such as laundry, parking, lockers, etc.