SOLAR POWER AND CONDOS

n this article, we want to explore a condominium solar panel project. To that end, we found Bruce Mackenzie, who in 2015 was the Central Park Condominium President in Victoria, BC. As a self-professed "energy geek", he decided the time was right to explore solar panels for his Victoria, BC condominium.

I spoke with Bruce and can attest he loves talking about energy and all things related.

Bruce believed solar would be viable in Victoria, and his 64 unit flat roof condominium would be a good test case. The planning began a few years before installing 60 solar panels on the roof of Central Park. At an AGM, he enquired with unit owners and received a go-ahead to explore the idea. Over a couple of years and lots of planning, the project went to a vote at their AGM and passed. With the unit owner's approval obtained, he worked with a local contractor experienced with solar panels.

If you are interested - and this is a huge endorsement - Bruce recorded the entire project in a blog. I highly recommend anyone interested in a condominium solar panel project to take the time to read his very well written and researched blog, *Solar Power on Your BC Strata*¹.

The panels were installed and began producing energy five years ago, in June of 2016. Since then, the panels have performed flawlessly. They have even achieved performance levels slightly beyond expectations.

Bruce offered a few insights gained from the project for anyone thinking of solar panel installation.

- After gaining approval to explore the project, he partnered with an experienced contractor to assist with the planning phase.
- Gaining approval for the project required that he produce a detailed presentation at his AGM and research every possible question he thought could be asked by unit owners, which proved very helpful at the AGM.
- At the AGM, he answered every question and presented a detailed cost analysis of the project.

- After installing all 60 panels on the condominium roof, an unexpected benefit was the shade the panels created. Top floor unit owners situated directly below the panels reported their units were somewhat cooler in the summer.
- The solar panels used in the project lay nearly flat and did not require the installers to puncture the roof to mount the panels on the roof.
- They secured the panels to the roof with concrete sidewalk blocks.
- The roof is perfectly flat, and they had very few obstructions to work around and most importantly, surrounding buildings, structures or trees do not shade the entire roof.
- In the past six years, there has been no damage to any of the panels, and they are still performing at or just beyond expectations for electricity production.
- Maintenance has never exceeded more than 1 hour a year for dusting the panels along with a quick inspection.
- Net metering allowed the condo corporation to sell excess electricity production to the provincial supplier, increasing their savings.

I was not able to locate a similar project in Manitoba. However, that doesn't mean a Manitoba project wouldn't work. For a local analysis of solar power in Manitoba, I strongly encourage interested readers to spend some time at the Energyhub.org website. From their site, you'll see that within Canada, southern Manitoba is one of the best locations in Canada.

One caveat of solar energy generation in Manitoba is the low cost of electricity in Manitoba. Manitoba has the 2nd lowest cost for domestic residential electricity. Currently, Manitobans pay about 9.9¢/kWh for residential rates. This low cost means that a breakeven point will be much longer than, say, Saskatchewan residents, who pay the highest provincial rate at 18.1¢/kWh.

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No one can accurately predict future electricity costs, but it's safe to say electricity costs will increase over time as demand increases. Some experts predict global electricity demand will double by 2050². At the same time, if trends continue, solar panels will be more efficient and less expensive³.

Since the development of the first modern solar panel in 1954 at Bell Labs ⁴, solar panels have improved significantly. According to EnergySage Founder and CEO, Vikram Aggarwal,

Prices for solar panels have dropped substantially over the past few decades, leading to a surge in consumer demand that has produced more than one million U.S. installations as of early 2016. In 1956, solar panels cost roughly \$300 per watt. By 1975, that figure had dropped to just over \$100 a watt. Today, a solar panel can cost as little as \$0.50 a watt. Consider this: since the year 1980, solar panel prices have dropped by at least 10 percent every single year. The plummeting cost of solar is largely responsible for the growing popularity of solar and the legitimacy of PV as a reliable energy source in today's world.⁵

Bruce Mackenzie monitored the electricity production and calculated costs and benefits for the project. A detailed

explanation of his analysis is available in his blog. The project cost \$47,000 and was paid back in monthly installments over five years. The panels generate about 16,000kwh of electricity a year. Bruce estimated that each unit owner paid about \$300 for the project after factoring in the cost savings over the payback period. The project, while still being relatively unique in BC, was considered a success by the unit owners and is a good example of how each of us can play our part in minimizing greenhouse gases. In the end and as Bruce has proven, there is no downside to harnessing the sun's inexhaustible energy in lieu of carbon-intense alternatives. We are all in this together, there is no Planet B to move to; we can all be part of a greener, cleaner planet.

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- ¹ https://www.bcsea.org/sites/default/files//2016-09-solar-on-your-stratav1.8.pdf
- ² https://www.energylivenews.com/2021/01/18/global-power-consumptionto-almost-double-by-2050/
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