

Town of Banff Solar Feed-in-Tariff Program

Session 4: Community Owned Renewables



Pembina Institute
2016 Alberta Climate Summit







100. Banff launches the first municipal solar feed-in tariff in Canada

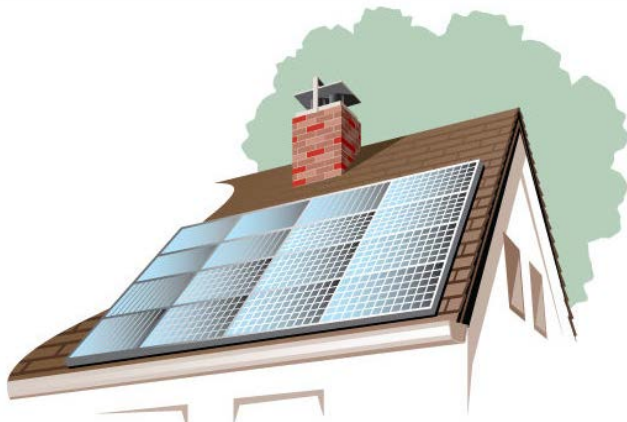
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Tags: Solar

Published February 27, 2015

Banff approves solar incentives

By Michelle Ferguson, Bow Valley Crag & Canyon
Thursday, February 26, 2015 4:43:57 MST PM



Local Canada World Odd Voices Scene Life Drive Sp

Trending New York Prison Break Stanley Cup Playoffs Calgary Flam

March 12, 2015

Updated : March 12, 2015 | 9:51 pm

Banff incentives



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Program Snapshot: Banff's Municipal Feed-In Tariff

After recent town council approval, Banff is now the first municipality in Canada to

Banff looks to power of sun

Thursday, Mar 27, 2014 06:00 am



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CBCnews | Calgary

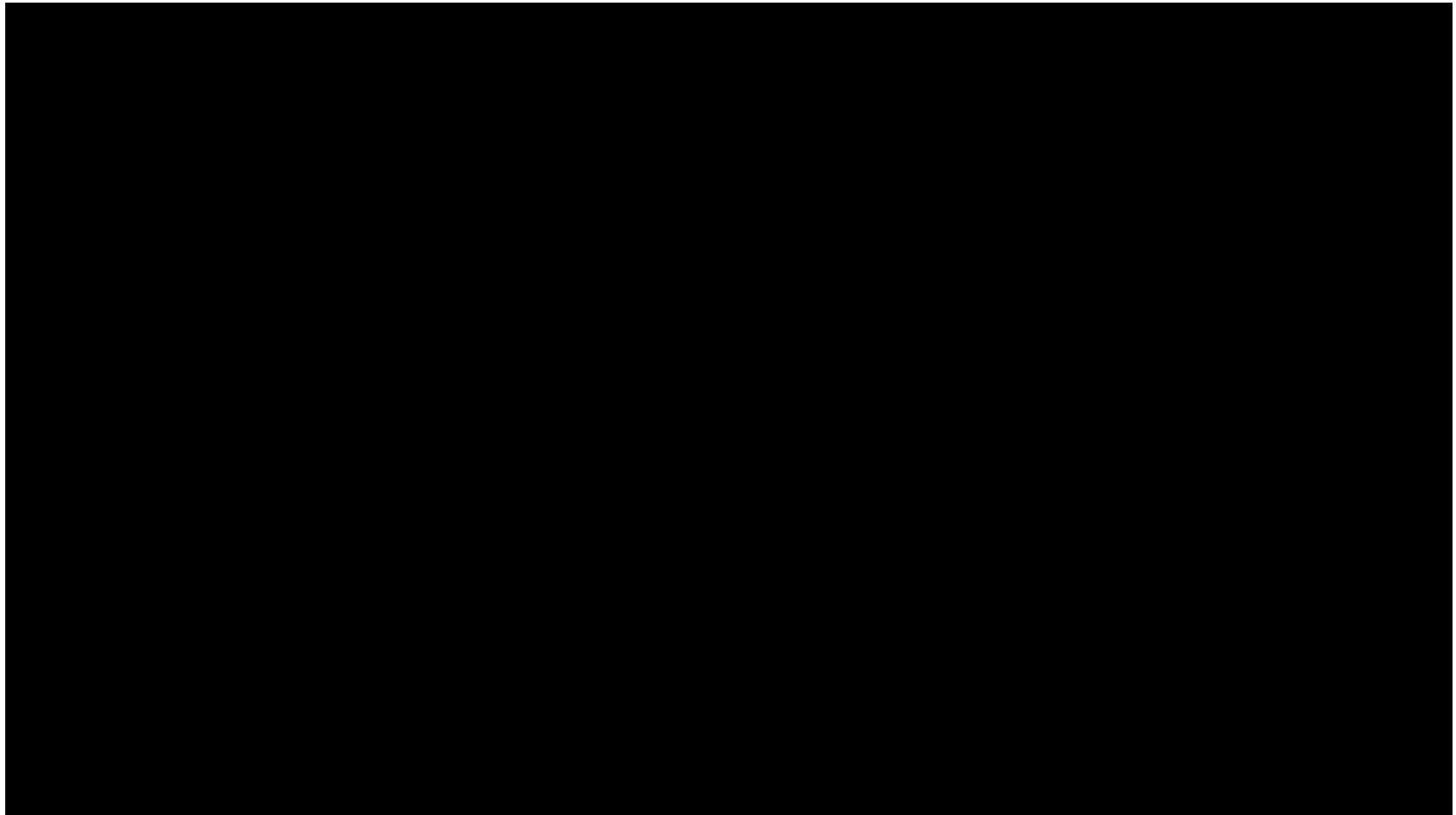


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Canada Calgary Photo Galleries

Banff solar panel incentive program

25th Annual Emerald Awards



Legislative Framework



CONSOLIDATION

Canada National Parks Act

S.C. 2000, c. 32

Current to February 15, 2016

Last amended on September 1, 2015

Published by the Minister of Justice at the following address:
<http://laws-lois.justice.gc.ca>

CODIFICATION

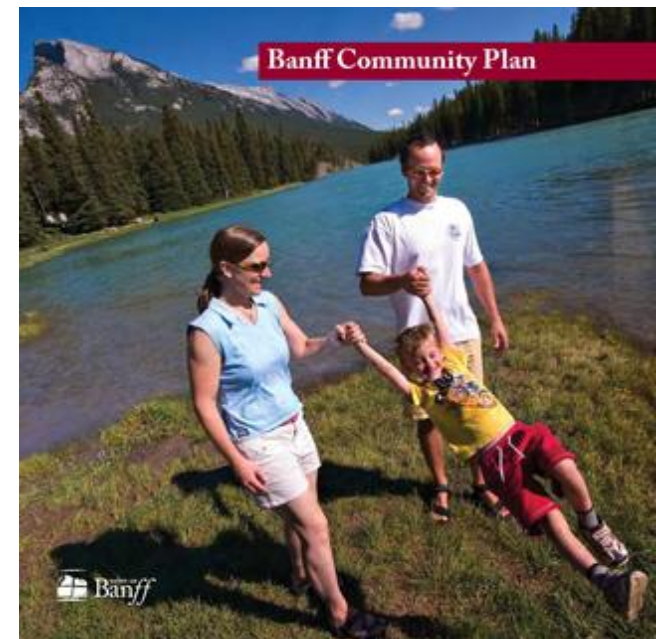
Loi sur les parcs nationaux du
Canada

L.C. 2000, ch. 32

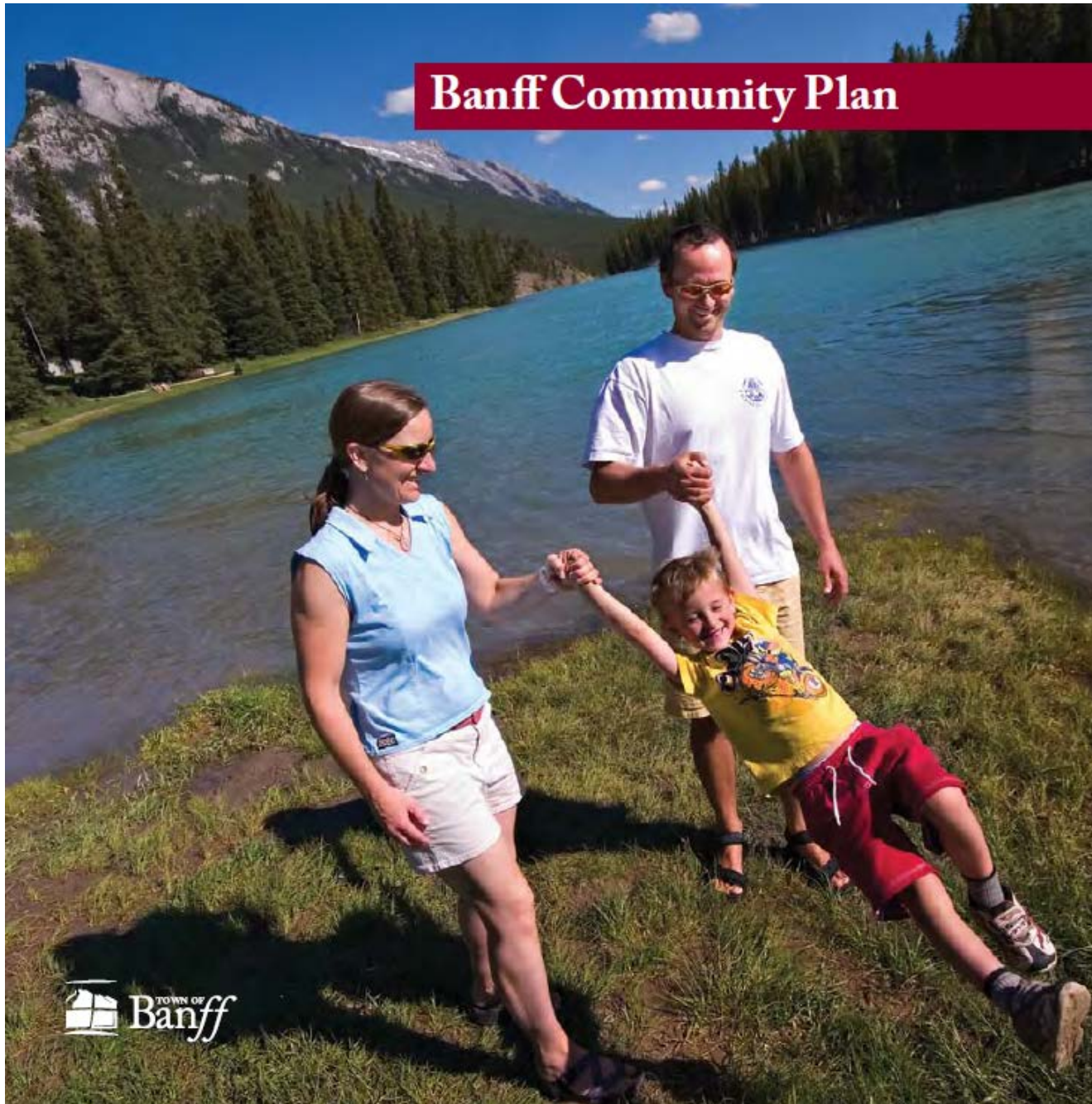
À jour au 15 février 2016

Dernière modification le 1 septembre 2015

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<http://lois-laws.justice.gc.ca>



Banff Community Plan





A MODEL ENVIRONMENTAL COMMUNITY

07

ENVIRONMENT



KEY PARTNERS IN THIS WORK INCLUDE:

- Parks Canada, as steward of our protected environment
- Provincial departments responsible for regulatory standards and oversight
- Our neighbouring municipalities, who partner in key initiatives such as the Bow Valley Waste Management Commission and transit
- Banff businesses active in recycling, water conservation and energy reduction programs
- Individual residents, whose interest in and compliance with environmental programs make them successful



OUTCOMES BY 2018:

- Existing environmental programs continue to be successful, as measured by waste diversion, effluent quality, water use reduction and uptake on environmental grants
- A new, comprehensive plan is prepared for the next set of environmental initiatives to be undertaken by the Town



STRATEGIES

- Continue emphasis on existing environmental programs
- Create a new master plan for future environmental programs



How We Started

- 2009 – excess collection of gas franchise fees used to fund rebate programs for residential water and energy efficiency
- Expanded to include commercial
- Critical decision – 2010 – collect new electrical franchise fee dedicated to Environmental Reserve



Environmental Reserve

- Started receiving monthly electrical franchise fee payments from Fortis 2011
- Enabling fund – allows development of significant environmental programs







Early Rebate Programs

- Water Use Reduction (dual flush toilets, energy star front loading washer or dishwasher, rain barrels)
- Energy Use Reduction (programmable thermostat, energy star replacement windows and doors, high efficiency furnace, solar hot water system, energy audit, high efficiency refrigerator)

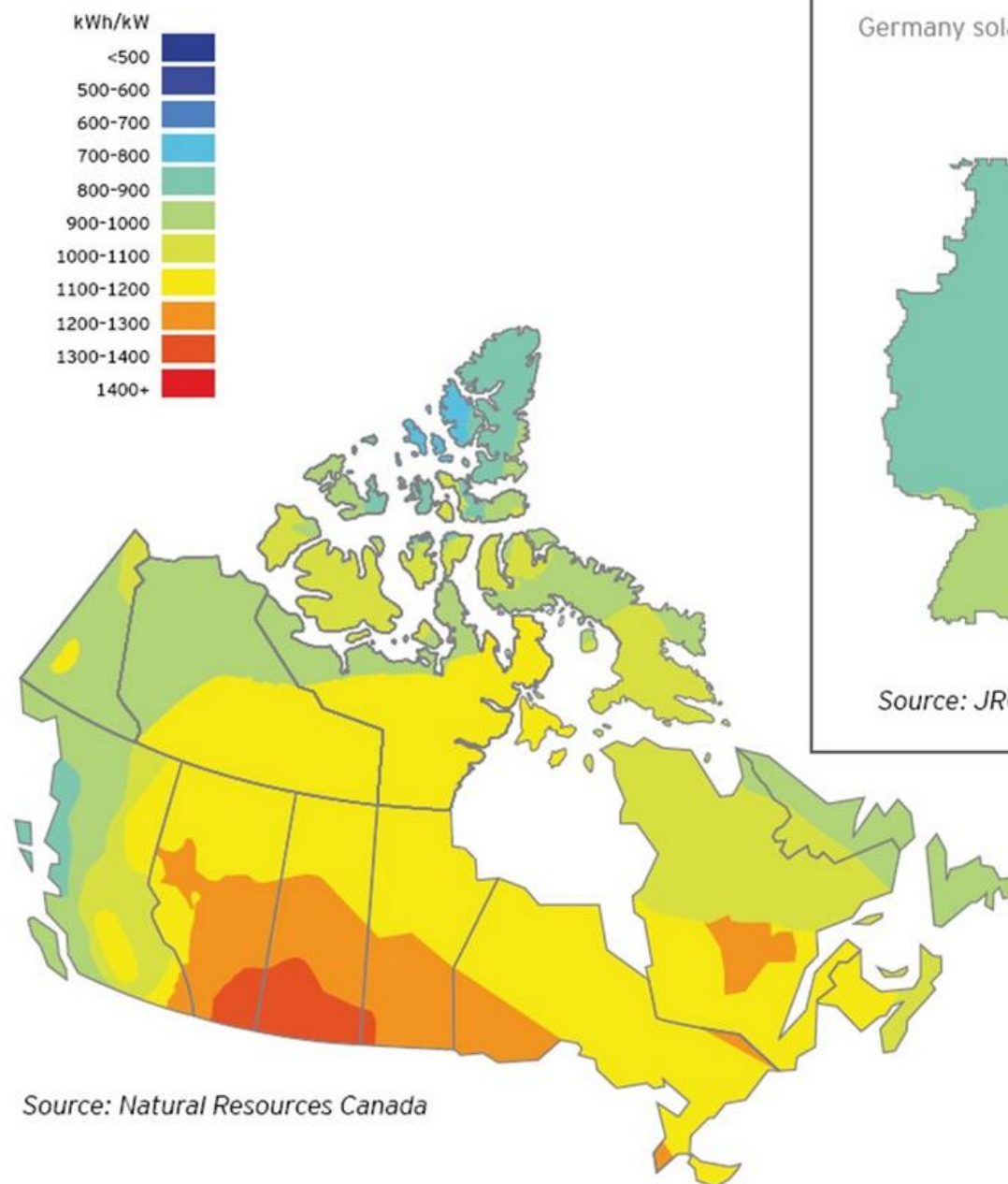


2014 First Steps

Solar Incentive Program

- Council asks for development of specific incentive program for private solar electricity generation systems
- Public event – list of property owners who might be interested
- Conducted 24 property-specific roof exposure assessments at locations across town
- Data informed potential incentive program





The Town of Banff's

SOLAR SYSTEM



Banff is a very sunny place. Yes, even in the winter. We put our sunny days to work for us powering the lights in buildings around town through rooftop solar power installations. These four downtown examples show how solar power is being used in town.



Sunny Side Up **Central Park Washroom**

Did You Know:
Banff experiences 15 hours of daylight in the summer and over nine hours in the winter. Even on cloudy days solar panels will generate power.

It may be dull inside, but it's bright on the roof, where eight solar panels are generating power.



Seat of Power **Banff Town Hall**

Did You Know:
You can see how much power Town Hall generates in real time at banff.ca/solar.

This is one of the largest solar power systems in the Bow Valley with 72 rooftop panels. It generates enough to power the equivalent of three Banff homes.

Rise and Shine **Banff Community High School**

50 panels on the roof of the high school reduce our dependence on power generated from burning coal.



Did You Know:
Students helped raise funds for the solar panels that generate green energy for the school.

Sunny and Glare **Wolf Street Washroom**

You can't miss seeing the 14 panels on this roof. They're a bright reminder of the 3,000 kilowatts this building generates each year.



Did You Know:
Using green energy sources is a priority for the Town of Banff to reduce our reliance on coal-generated power.

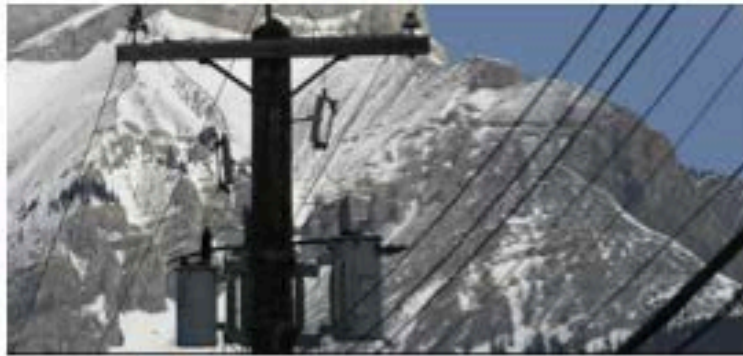
Did You Know:
About 80% of Alberta's electric power comes from fossil fuels, so the Town strives to be a leader in renewable energy.

Funding a Bright Future

The Town of Banff started Canada's first municipal solar feed-in tariff in 2015. Through it, the Town helps support homeowners and businesses switch to solar power.



2015



Small percentage franchise fee

per solar unit of energy

1 unit of energy

Top-up
payment

Value of energy
displaced

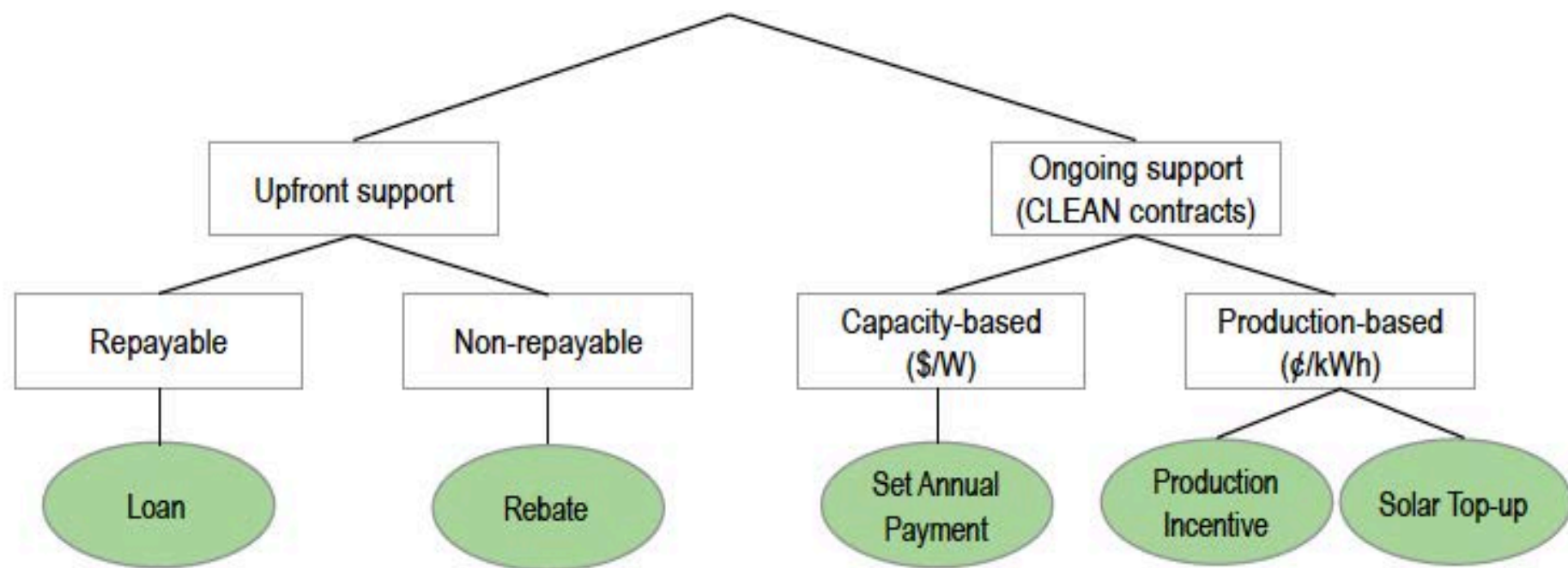
Total revenue
sufficient to
make initial
investment
economic



Home owner / business
installs solar system



Year	Comment	Beginning Balance	Additions	Withdrawals	Ending Balance
2012					\$203,410.59
2013	Town Hall Solar Panels	\$203,410.59		-\$53,000	\$150,410.59
2013	Fortis Franchise Fees	\$150,410.59	\$155,000		\$305,410.59
2014	Fortis Franchise Fees	\$305,410.59	\$149,000		\$454,410.59
2015	Fortis Franchise Fees	\$454,410.59	\$149,000		\$603,410.59
2016	Fortis Franchise Fees	\$603,410.59	\$149,000		\$752,410.59



Banff Town Council Motions

September 23, 2015

- Direct administration to continue exploring the solar incentive program with a target spending of \$300,000 from the Environmental Reserve and targeted payback period of seven (7) years.

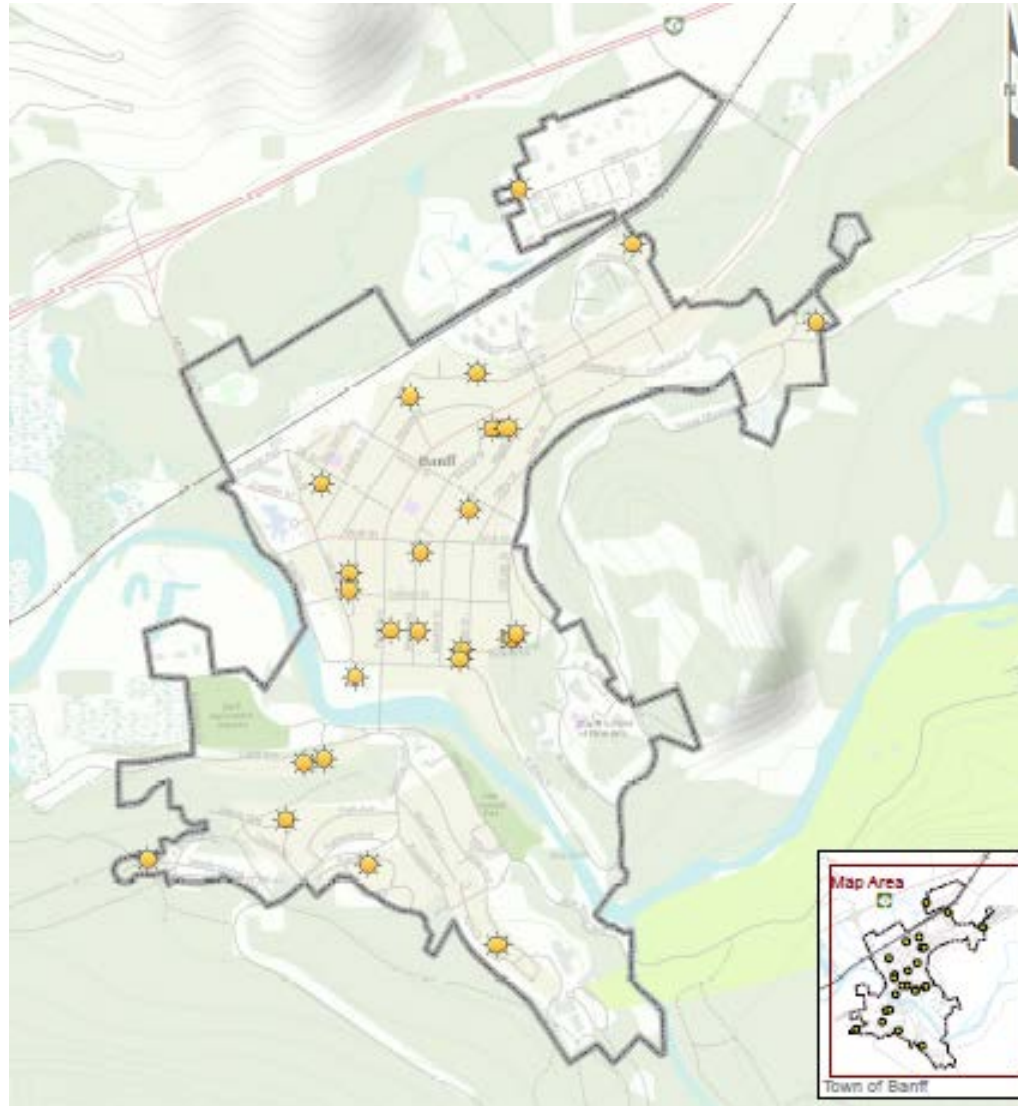
CARRIED

- That council approve an allocation of \$5,000 from the Environmental Reserve for further consultant research and program design of a community solar electricity production incentive.

CARRIED



Banff Solar Assessment Sites



Application Considerations

- Property Solar Assessment
- Structural Engineer Report
- Development Permit / Design Guidelines
- Solar Top-up Incentive Agreement
- Fortis Interconnection + Operating Agreement
- ENMAX Solar Lease Agreement
- ENMAX Pre-authorized Debit Agreement





Direct Energy.

Local Access Fee

MUSKRAT ST BANFF AB

Distribution Services provided by:
FORTIS ALBERTA INC

Meter Readings Provided By

FORTIS ALBERTA INC

Meter: 0000000000001430472

Last	Reading
Actual Feb 26	23,145

From	To	Distribution Usage	
Jan 29	Feb 26	634.00	

Current Distributor Charges	
Transmission Charge	19.62
Distribution Charge	32.10
Rate Riders	0.97
Local Access Fee	3.18
Sub-Total	55.87
GST	2.79
CURRENT DISTRIBUTOR BILLING	58.66

Total Charges for Site

128.17

Monthly Energy Production Report for Chip Olver

Enphase Energy maximizes your solar energy production and keeps you informed about your system. Your monthly energy report shows how your system performed and how much you contributed to offsetting the global carbon footprint.

Week	Peak Power	Energy Produced
08/01/2016 - 08/07/2016	2.64 kW	69.7 kWh
08/08/2016 - 08/14/2016	2.68 kW	80.8 kWh
08/15/2016 - 08/21/2016	2.61 kW	81.5 kWh
08/22/2016 - 08/28/2016	2.59 kW	48.8 kWh
08/29/2016 - 08/31/2016	2.47 kW	30.5 kWh
August 2016 Total:		311 kWh
Previous Month Total:		351 kWh
Year to Date:		2.05 MWh

For more details on these production results, please visit your [Enphase® system](#).

Your **Carbon Offset** for this month: 474 lbs

You have offset the equivalent of: **6 Trees**

14/9/2016 21:51 - 15/9/2016 21:51

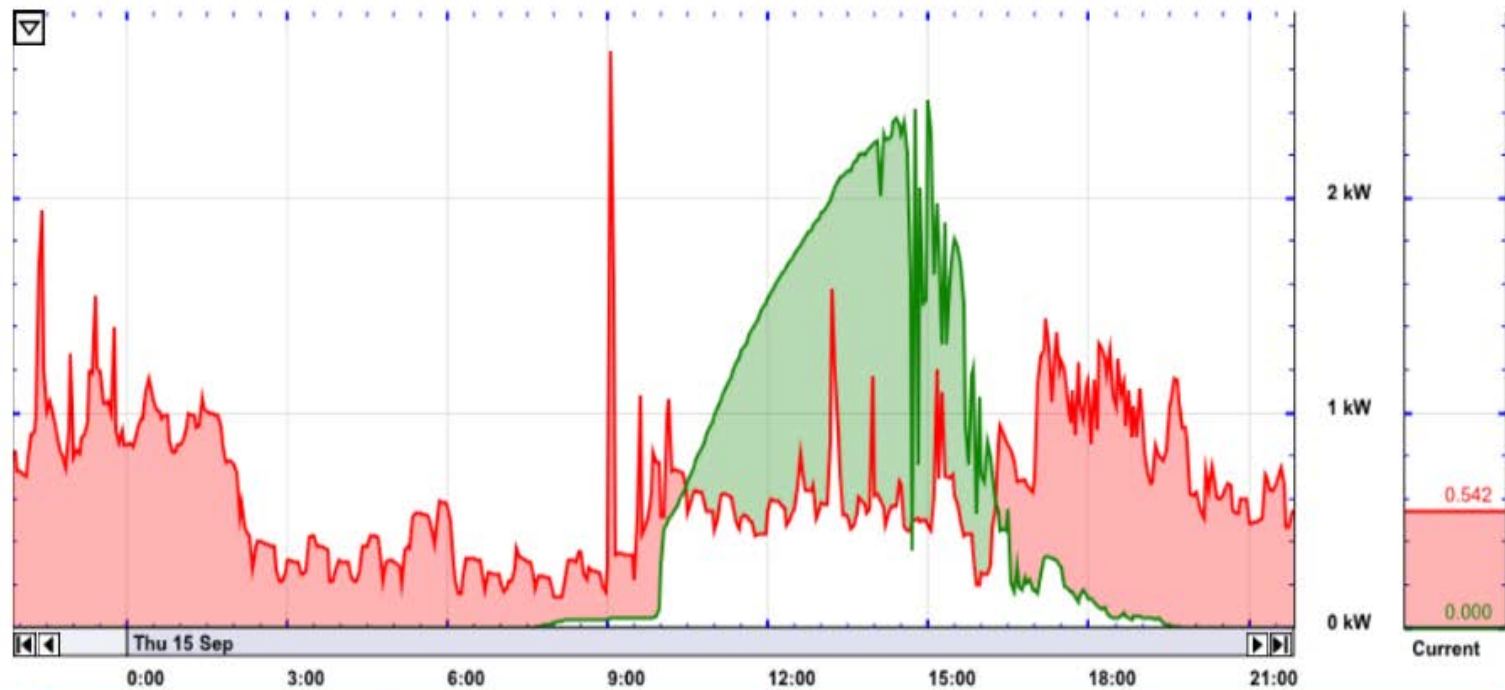
Summary for time-period shown in graph

Energy Used	15.4 kWh	(approx. \$2.00 used)
Energy Generated	9.97 kWh	(approx. \$1.30 saved)
Net	5.45 kWh bought	(approx. \$0.71 spent)

Summary over last 30 days

Energy Used	330 kWh	(approx. \$42.84 used)
Energy Generated	255 kWh	(approx. \$33.14 saved)
Net	74.6 kWh bought	(approx. \$9.70 spent)

All 1y 6M 3M 1M 3w 1w 3d 1d 12h 6h 3h 1h 10m Auto 500kW 100kW 50kW 10kW 5kW 1kW 500W 100W 50W



<input checked="" type="checkbox"/> Power used	<input checked="" type="checkbox"/> Energy from grid	<input checked="" type="checkbox"/> Power generated	<input checked="" type="checkbox"/> Energy to grid
<input type="checkbox"/> Grid gen./use	<input type="checkbox"/> Solar gen./use	<input type="checkbox"/> Solar+ gen./use	<input type="checkbox"/> Toggle all/none

17/9/2015 2:30 - 15/9/2016 21:30

Summary for time-period shown in graph

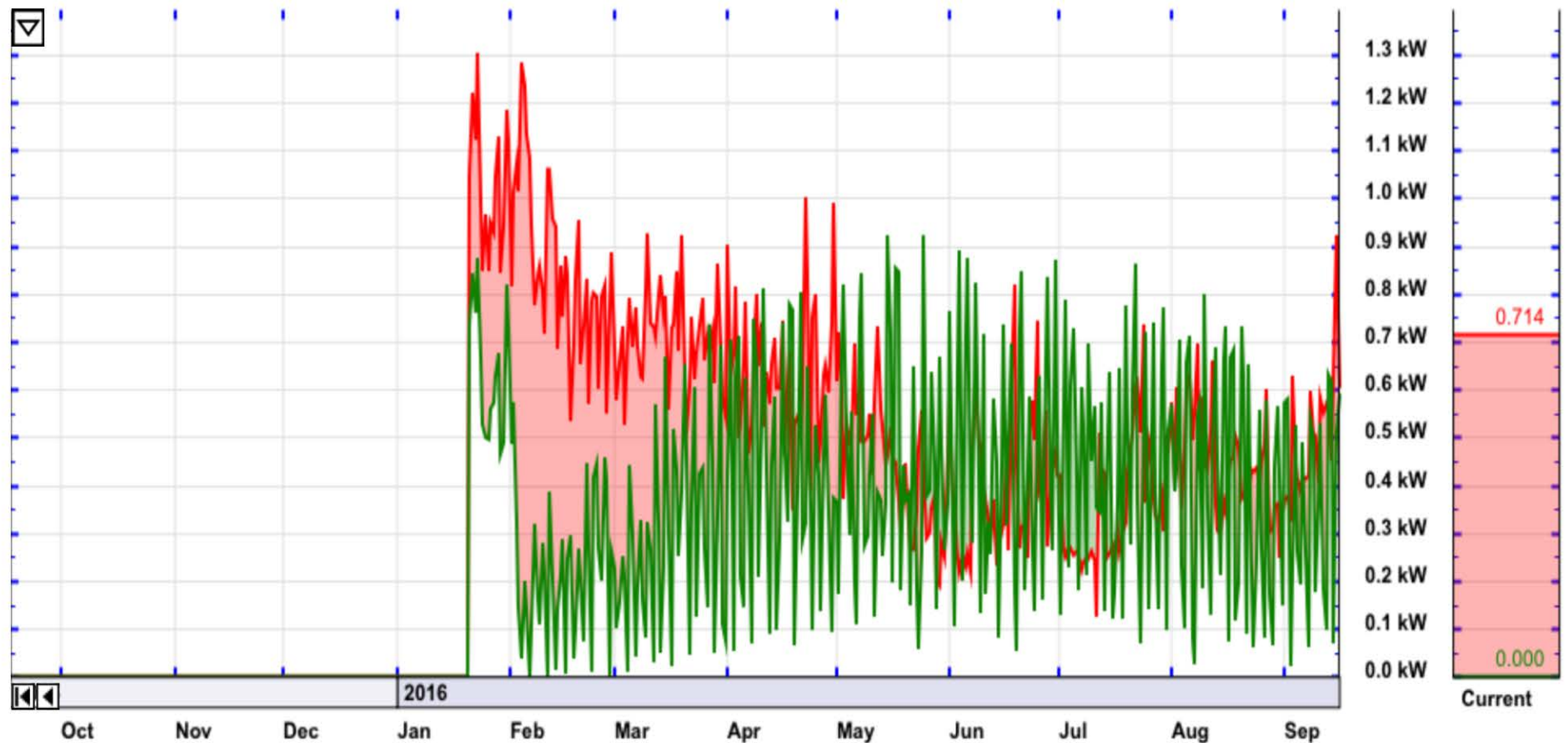
Energy Used	3.26 MWh	(approx. \$424.27 used)
Energy Generated	2.28 MWh	(approx. \$296.52 saved)
Net	983 kWh bought	(approx. \$127.74 spent)

Summary over last 30 days

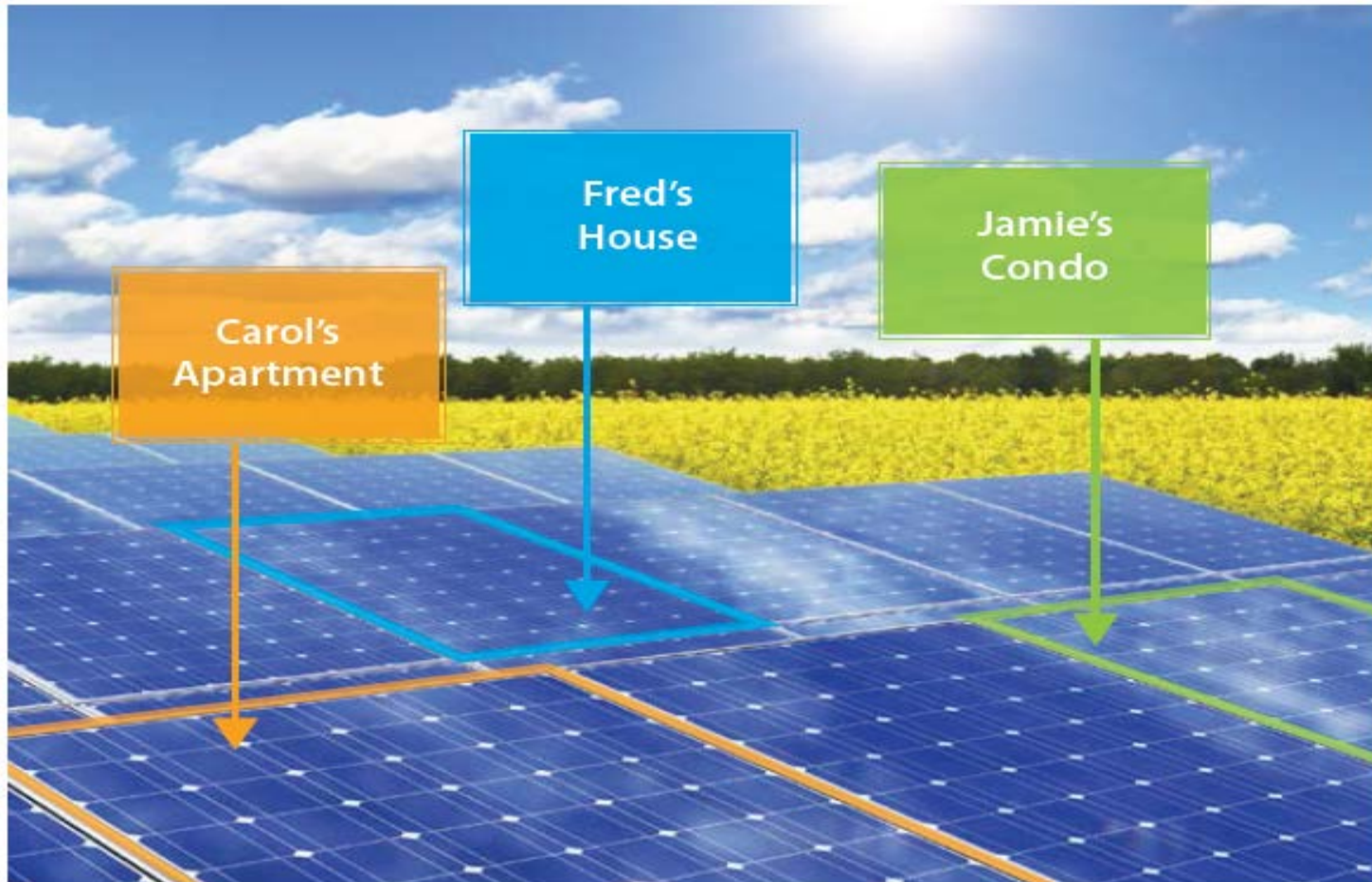
Energy Used	329 kWh	(approx. \$42.83 used)
Energy Generated	255 kWh	(approx. \$33.14 saved)
Net	74.6 kWh bought	(approx. \$9.69 spent)

All 1y 6M 3M 1M 3w 1w 3d 1d 12h 6h 3h 1h 10m

Auto 500kW 100kW 50kW 10kW 5kW 1kW 500W 100W 50W



What's Next?



Shared solar projects allow customers to buy or lease a portion of a shared solar system. *Photo by iStock, 28099878*



Ms. Chip Olver | Councillor Town of Banff

chip.olver@banff.ca









