



URBAN SOLAR GARDEN

Public Information Session
October 19, 2017

Royal City *Green City*

OCTOBER 25, 2017

ANVIL CENTRE

7:00PM

A NIGHT OF INSPIRING SPEAKERS + YOUR IDEAS

FOR THE CITY OF NEW WESTMINSTER'S

ENVIRONMENTAL STRATEGY & ACTION PLAN



Welcome and Introduction

The New West Context

The State of the Solar Industry

The Urban Solar Garden

Discussion

Pre-Sales Open



Why an Urban Solar Garden in New Westminster?

**New Westminster wants to be a leader in
renewable energy and energy efficiency**



***Cities play a central role in the
transition to sustainable energy***

-UNEP District Energy in Cities Report

New Westminster Supports...



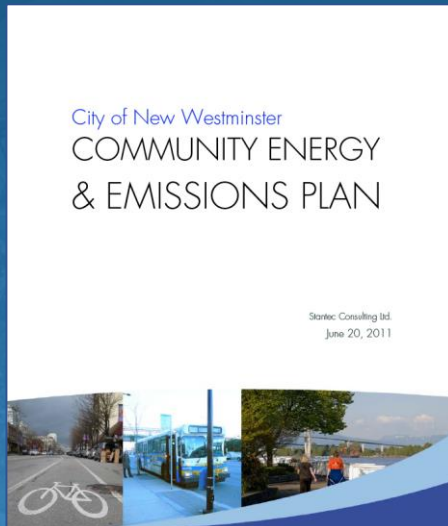
**Renewable
Energy
Development**



**Sustainable
Infrastructure
Investment**



**Reducing GHG
and fossil fuel
emissions**



A Diversified Electric Utility

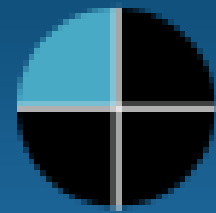


**Sapperton District
Energy System**



**Intelligent City
Initiative**

The State of the Solar Industry







Reconsulting

Planning with Renewable Energy in Mind

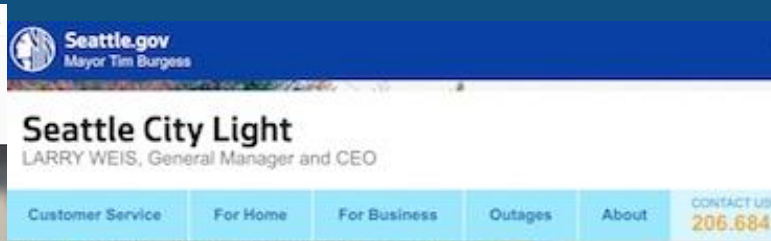
Urban Solar Garden – Independent Consultant Introduction

“Reconsulting provides highest quality specialized consulting advice to aspirational local governments and public sector organizations, in integrated energy efficiency and conservation (EEC) and renewable energy solutions, at affordable costs.”

Urban Solar Garden – Independent Consultant Introduction

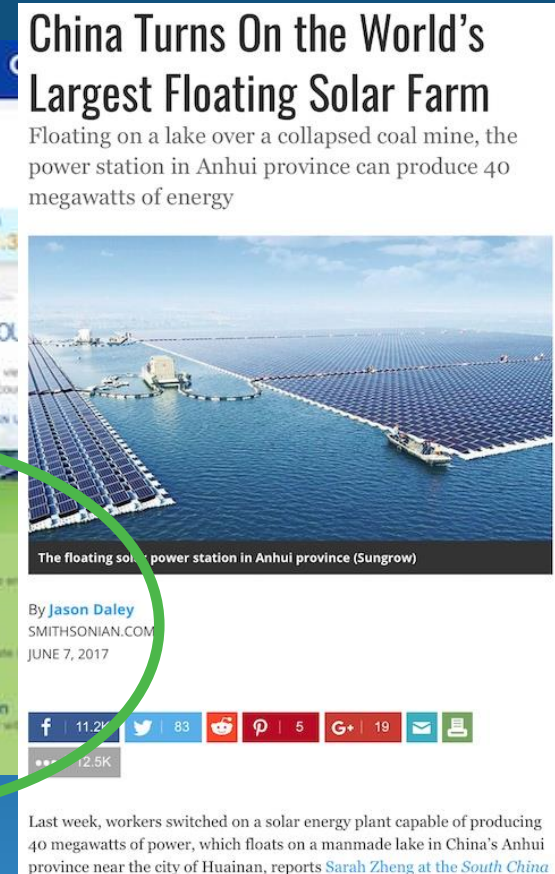
Lead Solar Consultant		Advisory Team		
Solar PV Design & Risk Specialist		Advisor – Community Electrification & Grid-Interconnection in B.C.	Advisor – Grand Forks City-Owned Utility and Electrical Engineering	Advisor – BCIT Solar Parkade Project in Burnaby
				
Richard Siegenthaler, Principal, Reconsulting		Nick Hawley, P.Eng., CEng, FIMechE, PMP, BBA Inc.	Gordon Howell, P.Eng., Senior Solar Electrical Engineer, HME Inc.	Minnoo Shariat-Zadeh, P.Eng.

Urban Solar Garden Context – Market Forces & Drivers

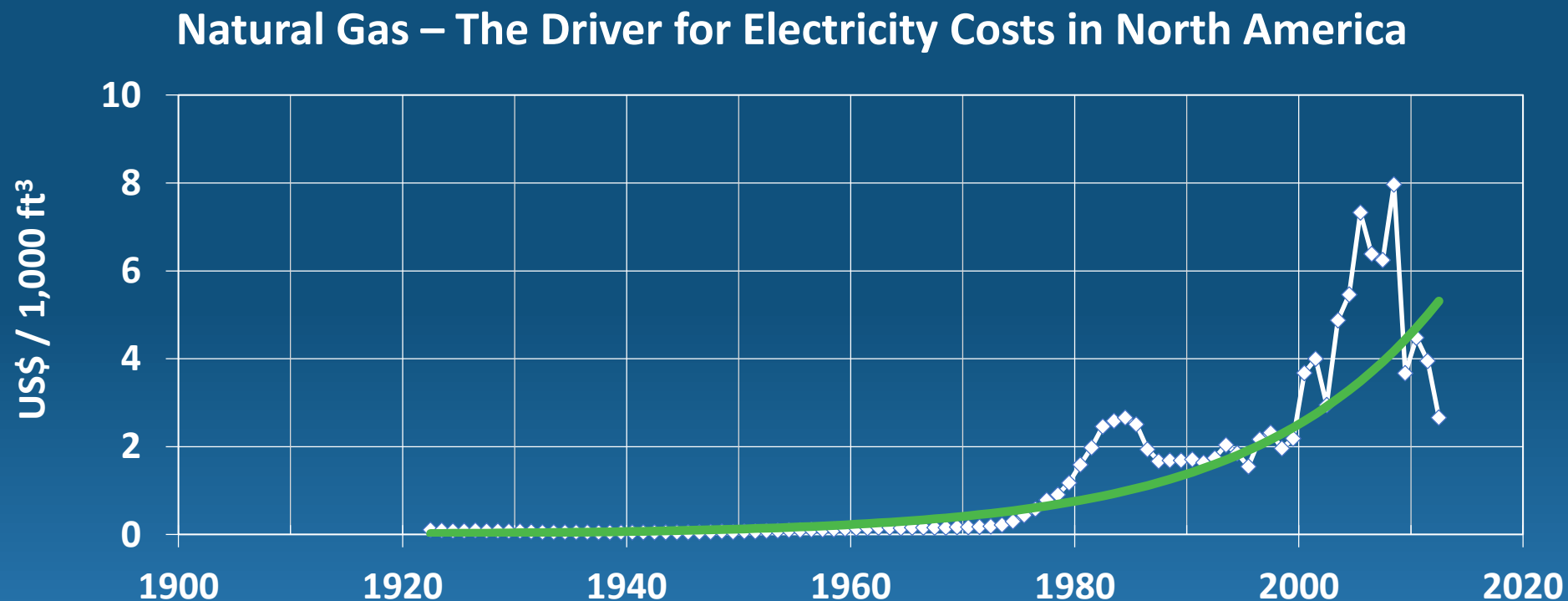


The most powerful sub-national leader in the world says he, Ontario Premier Kathleen Wynne and Quebec's Philippe Couillard are "insurgent forces" in the global fight to curb climate change.

California Gov. Jerry Brown, whose state has the world's sixth-largest economy — larger than that of Canada, France or India — said it does not matter what President Donald Trump or the U.S. Congress does to try to derail efforts to reduce greenhouse gas emissions.

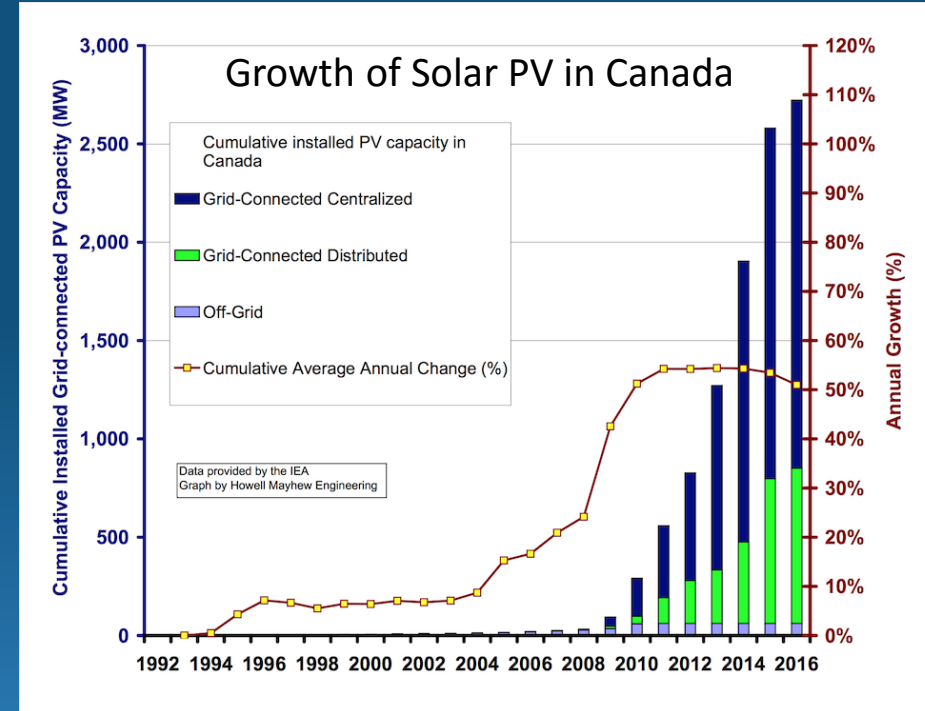
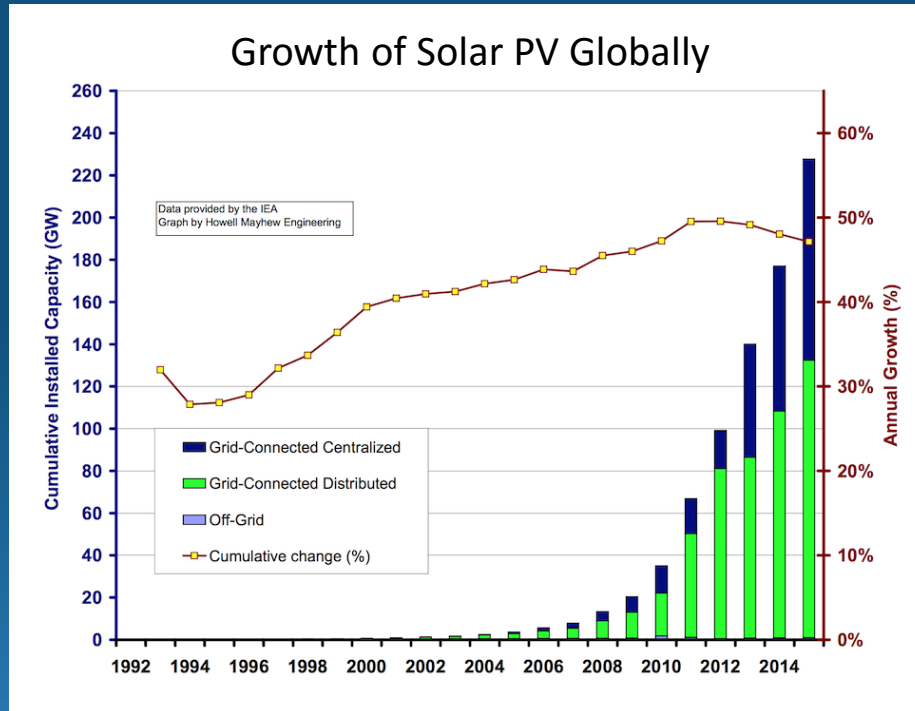


Urban Solar Garden Context – Market Forces & Drivers



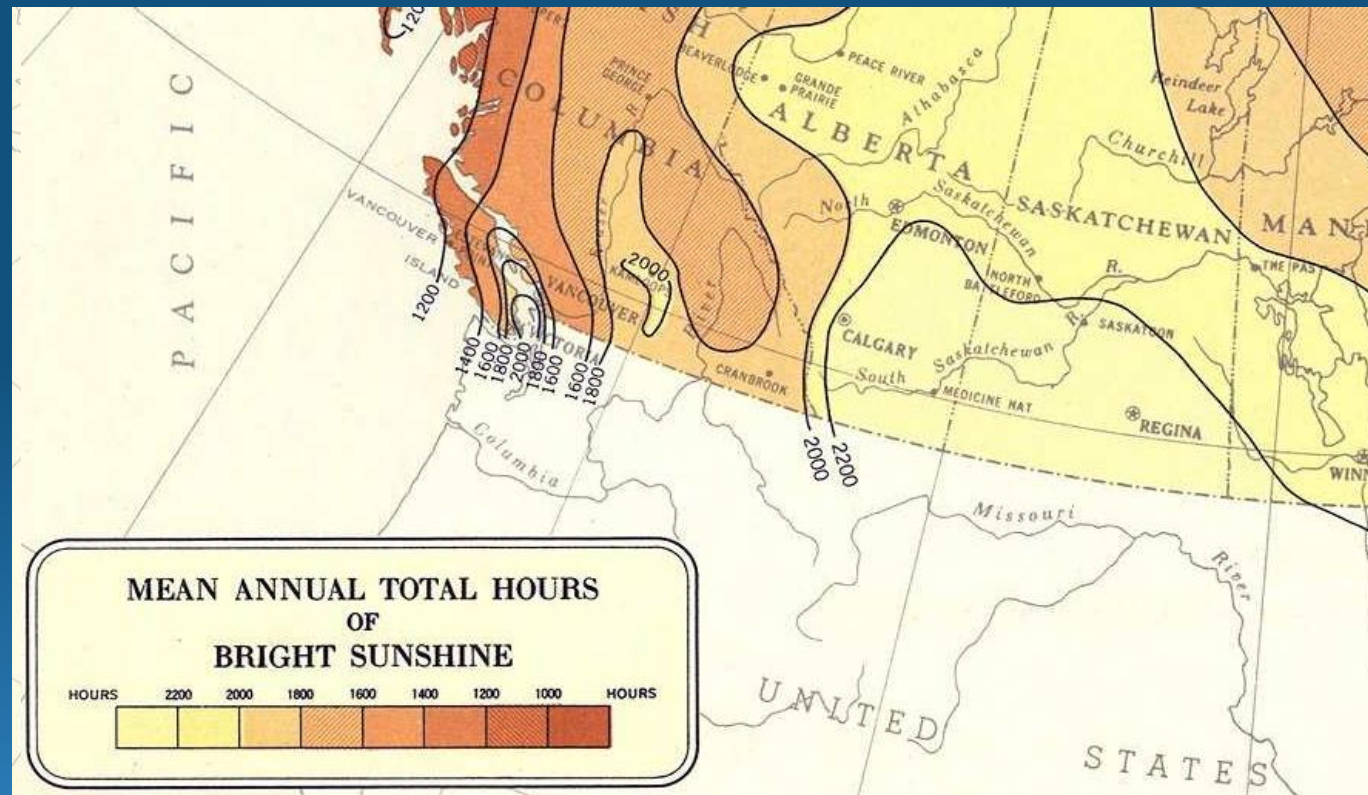
As the driver for electricity costs in North America, natural gas costs have escalated in average 6% annually (1922-2012)

Urban Solar Garden Context – Why Now?



Canada has recently caught up in Solar PV growth – does New Westminister want to be on the solar bandwagon?

Solar Resource Potential in Canada



At 1,920 hours of bright sunshine, New Westminster exhibits 90% of the resource potential of the sunniest regions in Canada

The Urban Solar Garden



70%

have considered installing solar panels on their roof

92%

would participate in a community energy project because of the environmental benefits

96%

believe developing local, renewable energy is important

See Urban Solar Garden Video Here

Made in New West, For New West



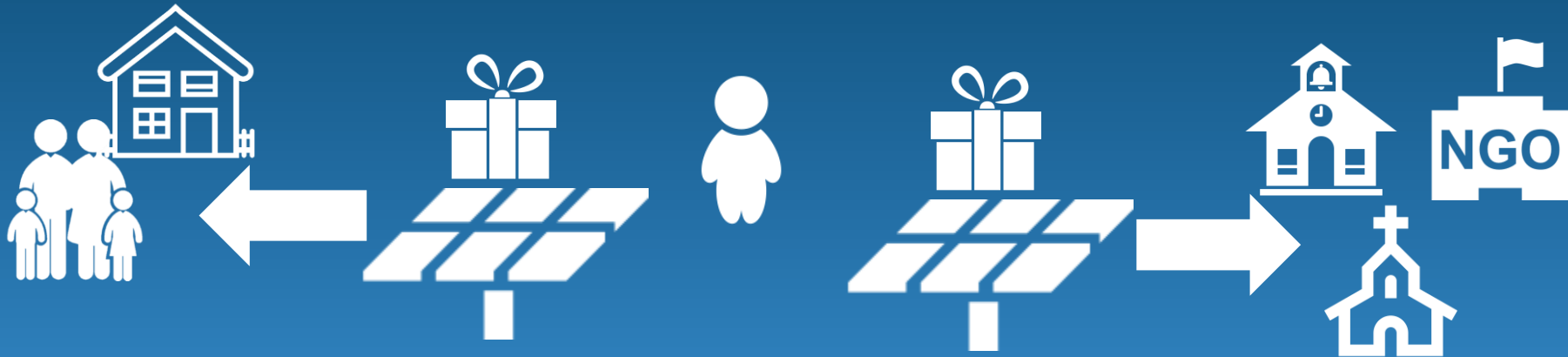
Accessible

**No Installation or
Maintenance**

Transferable

Exclusive to New West Electric Utility Customers

A Community Energy Pilot Project



Maximizing Community Impact



Solar PV tours



Solar Education



Real time
Production Online

City of Nelson Community Solar Garden

Ribbon Cutting Event – June 24 2017





Photo Courtesy of City of Nelson Councilor Janice Morrison



Photo Courtesy of City of Nelson Councilor Janice Morrison

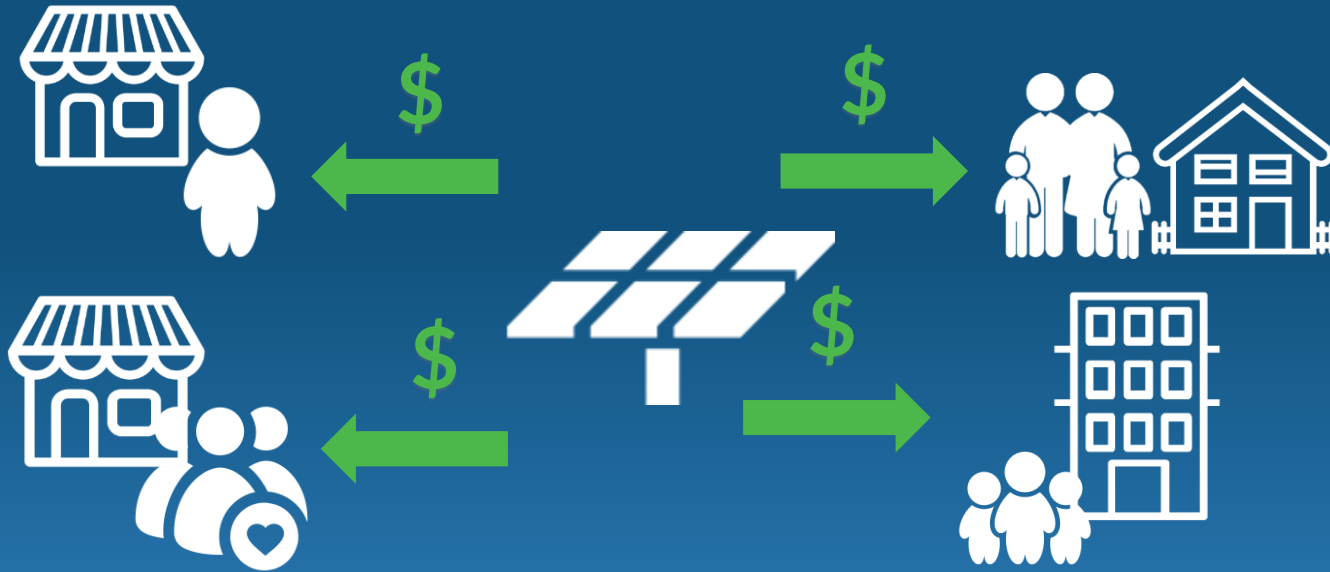


Photo Courtesy of City of Nelson Councilor Janice Morrison



Photo Courtesy of Councilor Janice Morrison

New Westminster Urban Solar Garden



50kW Pilot Project
150-200 Panels
City Owned Rooftops

Solar Resource Potential – Preliminary Site Review

Site 1 – Works Yard

- Installation location: roof, metal construction
- Orientation: south-east, sloped roof
- Available area: considerable (for community-scale)
- Obstructions: none, wide-open exposure



Site 2 – City Hall

- Installation location: roof, torch-on
- Orientation: south-east, flat-roof staged
- Available area: considerable (for community-scale)
- Obstructions: none, wide-open exposure



Two potential sites for the USG project have been identified that may be suitable to implementing a community-scale solar array

References – Solar PV Projects In British Columbia




	Indicative Per-Panel Pricing				
Reference:	College of the Rockies	Creekside Paddling Ctr.	Parc Elise Residences Solar-Shares	Community Solar Garden	Urban Solar Garden
Location:	Cranbrook, B.C.	Vancouver, B.C.	Vancouver, B.C.	Nelson, B.C.	New Westminster, B.C.
Total Size:	80 kW	20 kW	23 kW	60 kW	30-50 kW
Cost / Panel:	\$890 / Panel	\$920/ Panel	\$940 / Panel	\$935 / Panel	\$820-\$940 / Panel

Based on Reconsulting's present estimates, Urban Solar Garden subscriber cost-per-panel may fall between \$820-940

Next Steps – Proposed Urban Solar Garden Quality Assurance & Quality Control (QA/QC)

- 1) Confirm Solar Array Installation Location (QA)**
- 2) Develop Detailed Project Design and Cost Estimates (QA)**
- 3) Installation Contractor Procurement (QA)**
- 4) Implementation (QC)**
- 5) Project Commissioning & Verification (QA)**

Urban Solar Garden – Independent Consultant Conclusion

- Are you going to lose money – No 
- Are you going to earn lots of money – No 
- Are you going to save money – Yes 



Subscription Details





Pre-Subscribe: Oct 19th to Nov 17th

Subscription Limits:

Oct 19th to Oct 26th: Max 3 panel subscriptions

Oct 26th to Nov 27th : Max 10 panel subscriptions

Payable at the event and at City Hall



\$500/panel pre-subscription payment

1 panel = 360 kWh/year

25 year agreement

Final costs invoiced close to project completion

Available to New West Electric Utility customers



**Panels
Purchased**

**Estimated Annual
Energy Production
(kWh)**

**Usage Match
Home (%)**

**Usage Match
Condo (%)**

3

1080

11%

24%

5

1800

18%

40%

10

3600

36%

81%



=



x



x



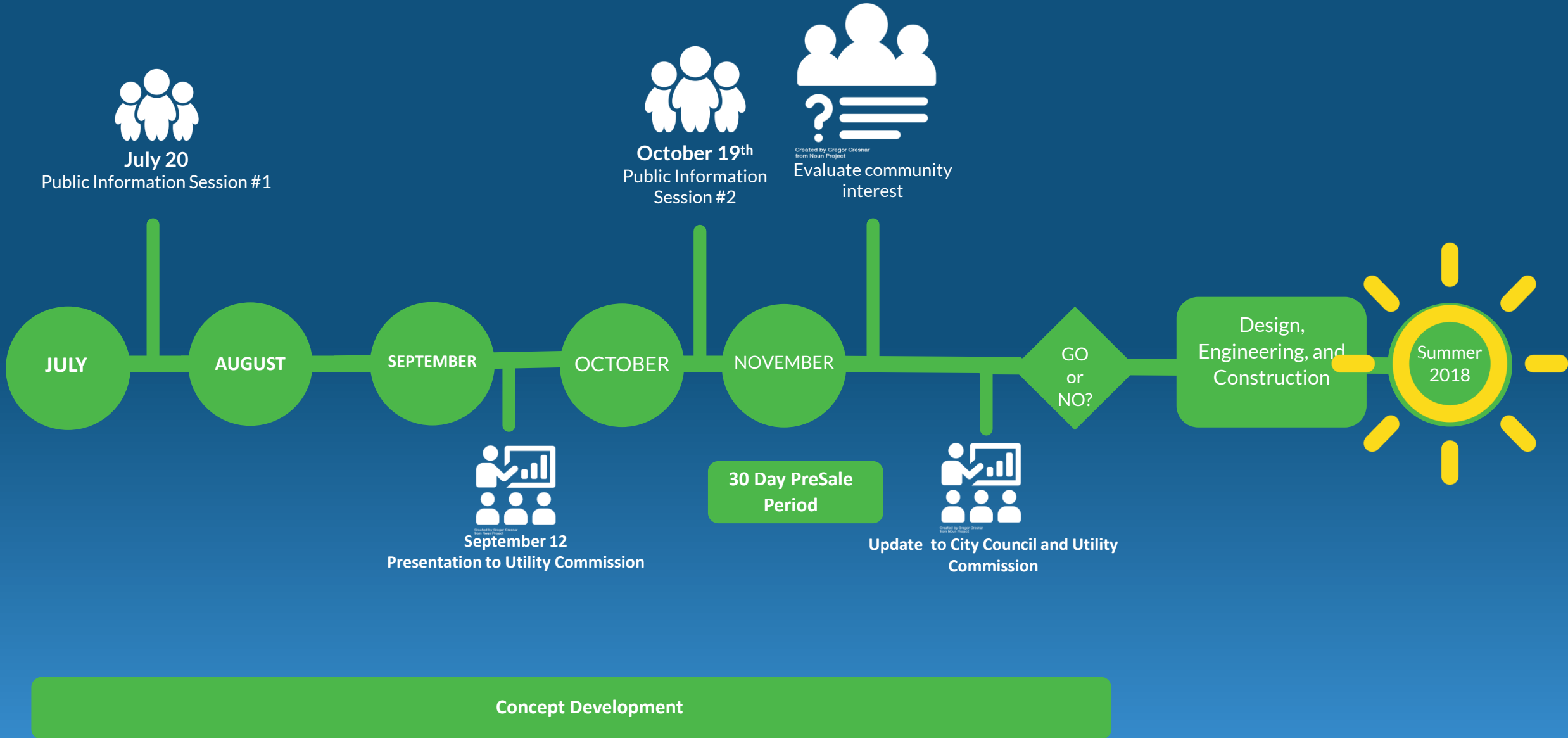
Solar Credit

**Solar
Electricity
Produced**

**Electricity rate
(per kWh)**

**Your Share of
Solar Garden**

Solar credit deducted annually from utility bill





Break and Discussion



Get some food!



**Read the FAQ and
Subscription
Documents**



**Post questions on the
flipchart**

PRE-SUBSCRIBE



URBAN SOLAR GARDEN



Thank You!

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