

Community Sustainability Advisory Committee Meeting to be held via Zoom

**Public attendance at committee meetings continues to be restricted due to limited space and the physical distancing requirements. If you'd like to watch or listen to the live Committee meeting, please email Committees@Penticton.ca 24-hours prior to the commencement of the meeting for the Zoom meeting participation details. You will have an opportunity to ask questions related to the agenda at the end of the meeting.*

**Wednesday, January 20, 2021
at 9:00 a.m.**

1. **Call Regular Committee Meeting to Order**
2. **Adoption of Agenda**
3. **Adoption of Minutes**
 - 3.1 Minutes of November 18, 2020 Community Sustainability Advisory Committee 1-4
Staff Recommendation:
THAT the Community Sustainability Advisory Committee adopt the minutes of the November 18, 2020 meeting as presented.
4. **New Business**
 - 4.1 Committee Membership Update & Roundtable Introductions – Chris Allen, Chair Verbal
 - 4.2 Election of Committee Chair & Vice Chair – Chris Allen, Chair Verbal
 - 4.3 Step 3 of BC Energy Step Code and Home Energy Loan Program Presentation – Ryan Smid, Assistant Building Official 5-25
 - 4.4 Build Green Discussion – Ken Kunka, Deputy Director Development Services Verbal
 - 4.5 Update on the Climate Action Planning Process – David Kassian, Community Sustainability Coordinator Verbal
5. **Next Meeting** 26
6. **Public Question Period**
7. **Adjournment**

Community Sustainability Advisory Committee Meeting

to be held via Zoom
Wednesday, November 18, 2020
at 9:00 a.m.

Present: Chris Allen, Chair
Margaret Holm
Nicolas Stulberg
Randy Boras

Council Liaison: Julius Bloomfield, Councillor

Staff: Mitch Moroziuk, General Manager of Infrastructure
Blake Laven, Director of Development Services
David Kassian, Community Sustainability Coordinator
Shawn Filice, Electric Utility Manager
Alysa Wardley, Legislative Assistant
Paula McKinnon, Legislative Assistant

Regrets: Philip Hawkes
Jacqueline Duncan

Guest(s): Jonathan Palmer, CIMA+
Wesley Nygaard, CIMA+
Brett Moore, CIMA+
James Borthwick, CIMA+
Katya Irwin, Word Count Consulting

1. **Call to Order**

The Community Sustainability Advisory Committee was called to order by the Chair at 9:01 a.m.

2. **Adoption of Agenda**

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee adopt the agenda for the meeting held on November 18, 2020 as presented.

CARRIED UNANIMOUSLY

3. **Adoption of Minutes**

3.1 Minutes of August 19, 2020 Community Sustainability Advisory Committee

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee adopt the minutes of the August 19, 2020 meeting as presented.

CARRIED UNANIMOUSLY

3.2 Minutes of September 28, 2020 Special Community Sustainability Advisory Committee

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee adopt the special minutes of the September 28, 2020 meeting as presented.

CARRIED UNANIMOUSLY

4. **New Business**

4.1 Committee Membership Update – Chris Allen, Chair

The Chair informed the Committee that there have been three recent resignations from the Committee: Brad Dollovoet (Vice Chair), Brian Rippy and Ryan Smid. The vacant positions were recently advertised and newly appointed members will be joining the Committee in the new year.

Committee members were also informed that Katya Irwin, Word Count Consulting, has been attending most Committee meetings as well as she has been engaged by the City to prepare monthly blog posts focusing on the behind the scenes workings of the City's Council Committees.

4.2 Election of Vice Chair – Paula McKinnon, Legislative Assistant

The Legislative Assistant informed the Committee that the position of Committee Vice Chair is currently vacant with the recent resignation of Brad Dollovoet. Members were informed that an election of both Chair and Vice Chair will take place in January for anyone who is interested in volunteering.

4.3 2021 Community Sustainability Advisory Committee Meeting Schedule – Paula McKinnon, Legislative Assistant

The Legislative Assistant introduced to the Committee the draft 2021 meeting schedule.

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee 2021 meetings be held on January 20, February 17, March 17, April 21, May 19, June 16, July 21, August 18, September 22, October 20, November 17 and December 8 at City Hall or via Zoom at 9:00 a.m. unless otherwise specified.

CARRIED UNANIMOUSLY

4.4 Electric Vehicles: Clean BC Application & Bylaw Amendment – David Kassian, Community Sustainability Coordinator

The Community Sustainability Coordinator provided the Committee with a brief update regarding Council's November 3, 2020 resolution to direct staff to submit a grant application to Clean BC Community Fund to secure funding for the purchase and installation of four Direct Current Fast Electric Vehicle Charging Stations and also reviewed the associated Electric Vehicle charging rates (\$2.00/hour approved by Council) with the Committee.

Members at large inquired about the associated parking fee and where the funds go, annual maintenance and monitoring and the rate differences between fast charge stations (owned and operated by Fortis) and the current level 2 charging stations (owned and operated by City of Penticton).

A brief discussion ensued by members at large regarding cost recovery.

4.5 City of Penticton Electric Utility Master Plan – Shawn Filice, Electric Utility Manager & Jonathan Palmer, CIMA+

The Electric Utility Manager provided the Committee with a brief overview of the City's master plan review process.

Jonathan Palmer and Wesley Nygaard of CIMA+ presented the draft master plan which included the project scope, an introduction reviewing the existing electric utility system, methodology and each of the proposed recommendations and their associated timelines and costs.

The Committee was informed that the next steps include receiving feedback from the Committee on the provided report, developing a presentation to Council followed by any necessary revisions to the plan based on all the received feedback and final presentation of the master plan report to Council for approval.

Members at large inquired about rate settings and demand charges, how the BC Step Code fits into the Master Plan, capacity levels for substations, how the master plan projects are worked into budget considerations, the dynamic in the years to come in adjusting or changing the load on the system, projections for future electric vehicles, trucks and bus fleets, urban design aspects of the utility and what City departments would be involved and how the master plan addresses climate resiliency.

Members at large were asked to provide any comments/feedback to the Chair regarding the presented Electric Utility Master Plan report to be then circulated for further consideration to the Electric Utility Manager.

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee receive the report titled 'City of Penticton Electric Utility Master Plan', prepared by CIMA+, for information purposes.

CARRIED UNANIMOUSLY

5. **Next Meeting**

The next Community Sustainability Advisory Committee meeting is tentatively scheduled to be held on January 20, 2021 at 9:00 a.m. via Zoom.

6. **Public Question Period**

7. **Adjournment**

It was MOVED and SECONDED

THAT the Community Sustainability Advisory Committee meeting held on Wednesday, November 18, 2020 adjourned at 10:45 a.m.

CARRIED UNANIMOUSLY

Certified Correct:

Paula McKinnon
Legislative Assistant



Community Sustainability

Welcome!

Ryan Smid

Qualified level 1 Building Official

Sustainable Construction Technologist

ryan.smid@Penticton.ca

~Position with City of Penticton~

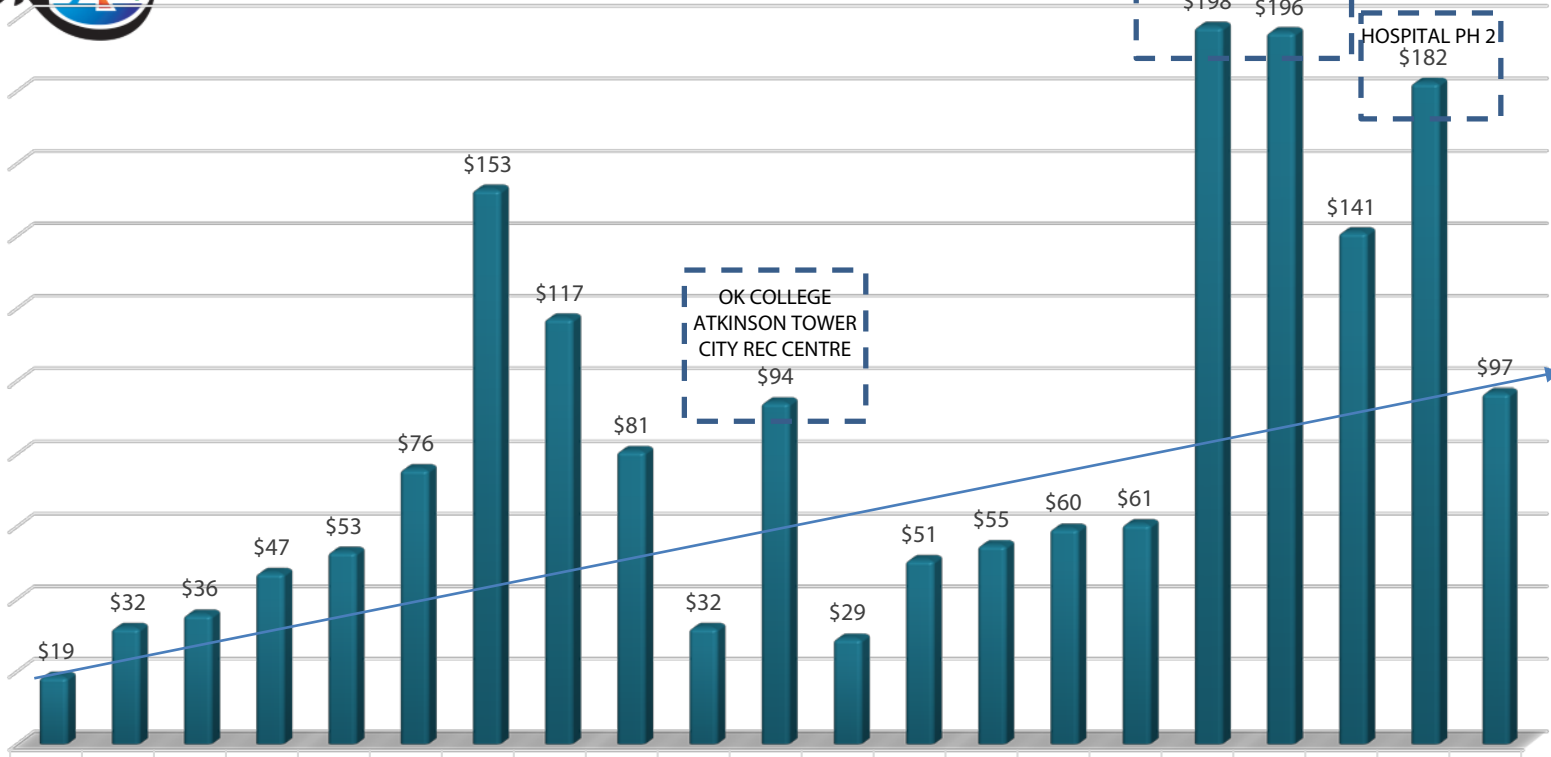
~Goals and objectives for 2021 and beyond~



Total Construction Value

Millions

\$200.00
\$180.00
\$160.00
\$140.00
\$120.00
\$100.00
\$80.00
\$60.00
\$40.00
\$20.00
\$0.00



Total Construction Value

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
\$18,6	\$32,1	\$35,7	\$47,2	\$53,1	\$75,9	\$152,	\$117,	\$80,9	\$32,1	\$94,3	\$29,1	\$50,8	\$54,9	\$59,5	\$60,7	\$197,	\$196,	\$141,	\$182,	\$96,9

BC Energy Step Code ⁻⁷⁻

PAN-CANADIAN FRAMEWORK



on Clean Growth
and Climate Change



Timeline for Energy Efficiency Regulatory Requirements in the BC Building Code

Here's what the province's CleanBC plan will mean for new-construction requirements.

2032

STEP 5

STEP 4

NET-ZERO ENERGY-READY

UP TO:
80%

2027*

STEP 4

STEP 3

40%

2022*

STEP 3

STEP 2

20%

* NEW TIMELINES



PART 9
BUILDINGS



PART 3
BUILDINGS

Energy-efficiency improvement
above 2018 BC Building Code
requirements

Implementation

- Step 1 for part 9 residential introduced *March 15th, 2019*
- Penticton at the forefront!



2021 <https://www.dreamstime.com/illustration/thumbs-up-earth.html>



What Have We learned?

- Higher steps of the code are achievable
- A collaborative approach is best
- Education is key
- Attention to details!



Integrated Design Process (IDP) ^{- 11 -}



<https://caddispc.com/our-integrated-design-process/>



Building Bylaw Updates¹²⁻

Referencing Step 3 of the BC Energy Step Code

- *Originally scheduled for March 15, 2020*
- *Effective Jan 1, 2021 Step 3 is required for Part 9 Residential Buildings*

Goal- mid year 2021, STEP 1 required for:

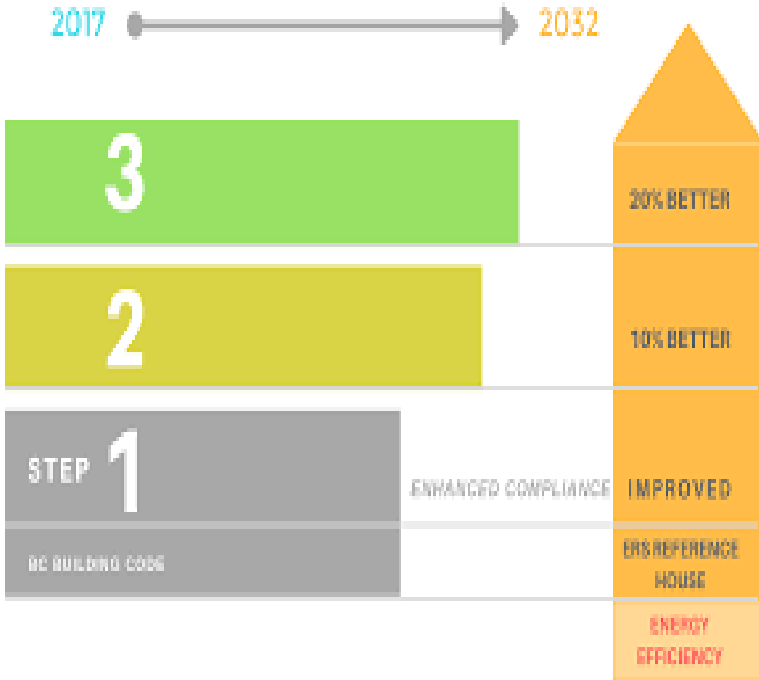
- *Part 9 light commercial & ALL types of Part 3 structures*

A few minor text amendments Will be needed

- *Minor fee adjustments to the Fees & Charges Bylaw on average 2.5%*
- *Zoning Bylaw amendments & fees changes coming in early 2021*



Changes we can Expect for part 9 buildings January 1st 2021?



Minimum of 2.5 ACH @ 50P, pre occupancy

Mid Blower Door Testing (Recommended but not mandatory), Incentive of \$500.00 per building (max 3 bldgs./year)

MEUI to Comply with BCBC Table 9.36.6.3.-G or $\geq 20\%$ better than reference house

TEDI $\leq 44 \text{ kWh}(\text{m}^2 \cdot \text{year})$ or $\geq 10\%$ performance improvement over reference house

TEDI

- Metric is kWh/m² (1 kWh ~ 3,400 BTU)
- Heat loss + heat gain + internal gains + heat recovery + energy loss due to Air leakage

Factors directly affecting TEDI

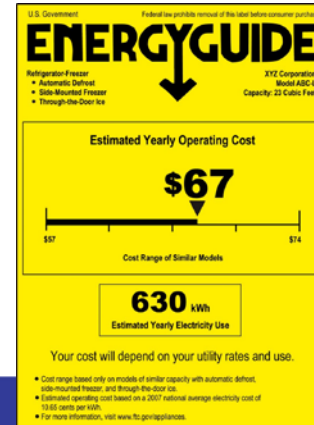
- Thermal values of the building assembly
- **House architype** – envelop transitions impact
- Orientation, solar facing direction
- Windows





Mechanical Energy Use Intensity (MEUI) – Building Equipment & Systems

- (MEUI) a measure of the modelled amount of energy used by space heating and cooling, ventilation, and domestic hot water systems
- Efficiency of HVAC is key
 - AC/Furnace or Heat Pump
 - HRV/ERV or principal fan ventilation
 - Core efficiency
 - Power consumption



Step Code – MEUI/TEUI

Financial implications key concern \$\$\$\$\$

- Initial Investment versus Annual operating costs
- Step 3 house attainable with positive energy savings
- Operating costs are equal

Natural Gas or Electric?

- GAS-GHG generation
- Low Carbon Energy Systems (LCES)- lower GHG's



Incurring Costs for High Performance Buildings

How much will high performance cost?

- RDH Passive House projects 2020: 0% to 9%
- SWA Passive House projects 2020: 2% to 8%
- Passivhaus Trust 2019: 4% to 9%
- B.C. Energy Step Code 2016: 2% to 10%
- PHFA 2015-2018: -2% to +3%

- Approximate midpoint: **5.5%**
- *Utility savings may exceed amortized cost*



"Hitting Milestones & Budgets" presentation by Lois Arena to North American Passive House Conference, June 4, 2020.
"Passivhaus Construction Costs" published by Passivhaus Trust, October 2019. www.passivhaus-trust.org.uk
"BC Energy Step Code Costing Studies Analysis." energystepcode.ca, Pennsylvania Housing Finance Agency data via phfa.org



Building Modeling Tools



Validation & Planning

Full assessment in minutes.

Basic Building Info:

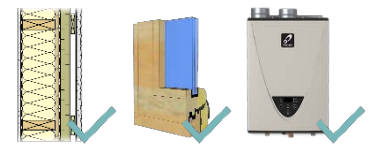
- Address
- Spaces
- Square Footage

<https://StepWin.ca>

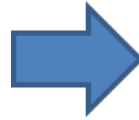


Typical BC home (Okanagan)	Business-As-Usual	StepWin
Energy-Related Construction Cost	C\$198,750	C\$181,250
Standard Operation Cost Per Year	C\$596	C\$531
BC Step Reached	3	4 (Better)
Rebates		C\$3,000

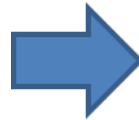
The recipe for high-performance + Saved weeks and \$\$\$\$ on insights



Rebates!!!



Double the Rebate Offer
<https://betterhomesbc.ca/rebates/double-the-rebate/>

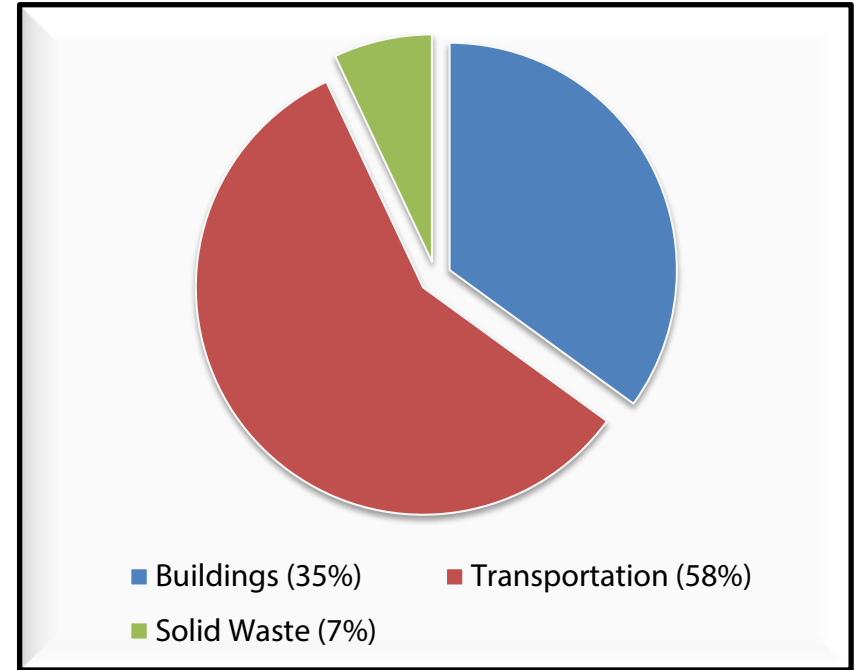


Home performance rebate	Energy advisor support rebate ²
Step 3 <i>EVEN BIGGER!</i> Was \$2,000 - now \$4,000	We provide \$500 total in energy advisor support: <ul style="list-style-type: none"> • the energy advisor receives \$100 • the builder receives \$400
Step 4 <i>EVEN BIGGER!</i> Was \$4,000 - now \$6,000	
Step 5 <i>EVEN BIGGER!</i> Was \$8,000 - now \$10,000³	

- Buildings Heating and Cooling Demand accounts for 35% of community GHG's

Reduce Energy Demand & GHG's

- New builds- higher efficiency (BC Energy Step Code)
- Retrofit existing Buildings (HELP Program)

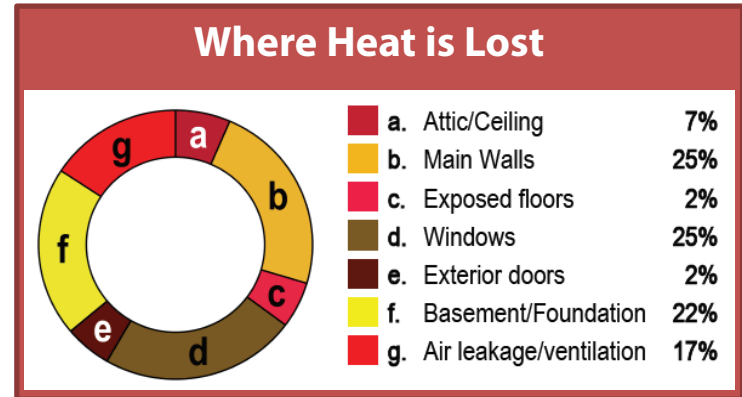
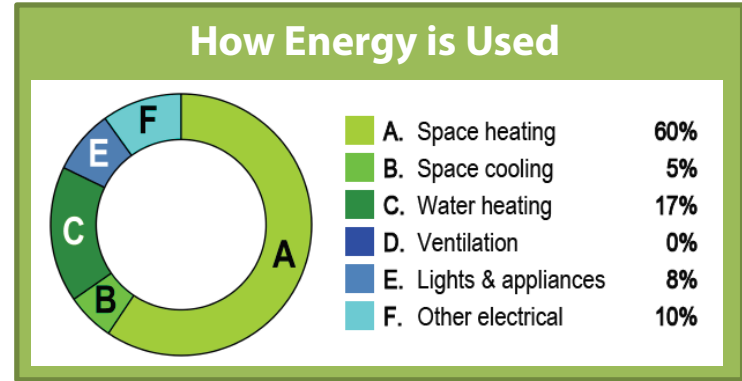


The **Home Energy Loan Program**:

- Available through the Electric Utility for residential customers
- Loans of up to \$10,000 for energy efficiency upgrades
 - Repayable on utility bill
 - Prime + 0.5% interest
 - 10 year amortization
- Loan can be used to improve:
 - Air sealing
 - Insulation (exterior wall, crawl space, attic)
 - Windows and doors
 - Ventilation
 - Space and water heating



- Energy assessment + EnerGuide ranking (\$35)
 - Annual energy consumption minus on-site renewable energy
 - How energy is used (space heating or cooling, water heating, etc.)
 - Where home loses heat
 - Analysis of envelope and mechanical systems
- Post energy assessment (\$200) to determine energy savings and GHG reductions after retrofit
- Combine with current Fortis rebates



Pre-Assessment

Energy Sources	Rated Consumption (GJ/year)	Equivalent Units (per year)	Greenhouse Gas Emissions (tonnes/year)
Natural gas	111	2992.1 m ³	5.8
Electricity	33	9274.5 kWh	0.2
Total	145		6.0

Post-Assessment

Energy Sources	Rated Consumption (GJ/year)	Equivalent Units (per year)	Greenhouse Gas Emissions (tonnes/year)
Natural gas	82	2201m ³	4.3
Electricity	32	8895kWh	0.1
Total	114		4.4

YOUR RATED GREENHOUSE GAS EMISSIONS CALCULATION:

Total greenhouse gas emissions 6.0 tonnes/year
 Minus emissions offset by on-site renewables - 0.0 tonnes/year
 Equals your **rated greenhouse gas emissions = 6.0 tonnes/year**

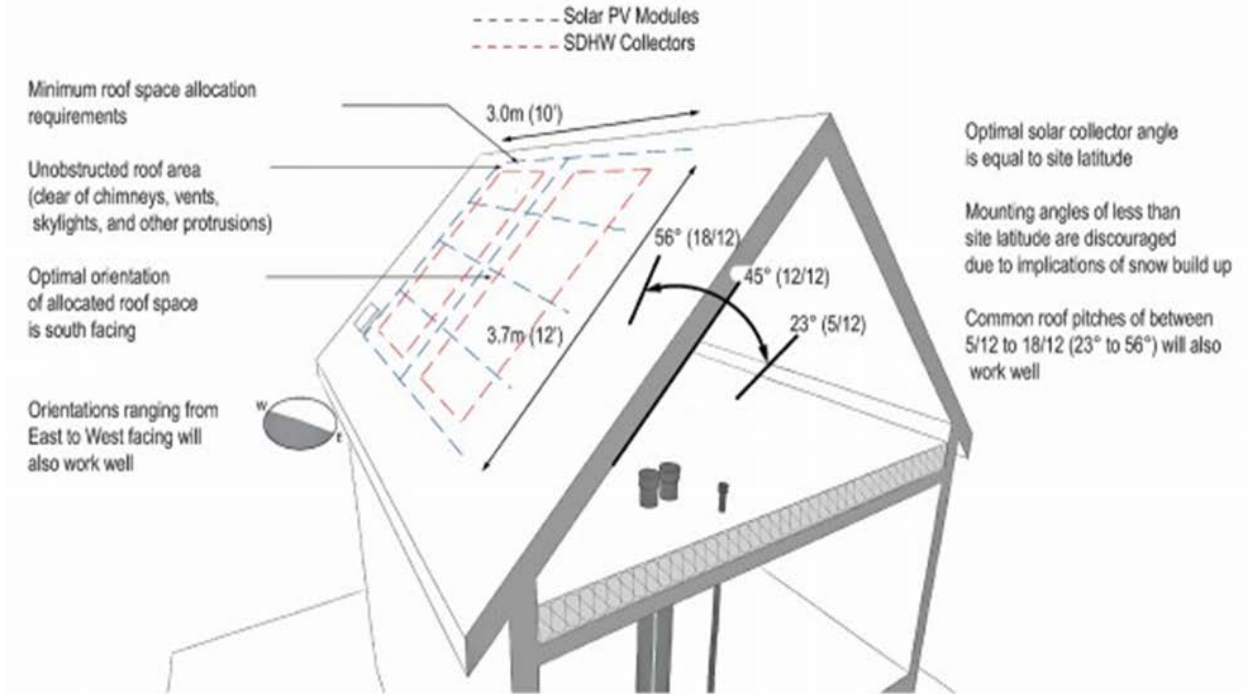
YOUR RATED GREENHOUSE GAS EMISSIONS CALCULATION:

Total greenhouse gas emissions 4.4 tonnes/year
 Minus emissions offset by on-site renewables - 0.0 tonnes/year
 Equals your **rated greenhouse gas emissions = 4.4 tonnes/year**

Penticton, A Solar Ready City? ²⁴

Roof Space, Orientation and Mounting Angle

- Solar hot water considered a Low Carbon Energy System (LCES)
- Reduced GHG's and costs when offsetting natural gas
- Cheaper to build solar ready than to retrofit later





Resources:

<https://www.penticton.ca/>

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2021 Community Sustainability Advisory Committee Meeting Dates

Meeting commences at 9:00 a.m.

Council Chamber, City Hall, 171 Main Street (Second Level) or via Zoom

Month	Date
January	20
February	17
March	17
April	21
May	19
June	16
July	21
August	18
September	22
October	20
November	17
December	8