kWh Québec | SOLAR + STORAGE

PRELIMINARY STUDY

SOLAR + STORAGE

Vieux Québec

Québec, QC

Prepared for:

STROM Spa

YOUR BILL BEFORE / AFTER

3% reduction on your annual bill

TODAY

Current annual bill

290 527 $

/ year

WITH SOLAR

Estimated annual bill

281 291 $

/ year

9 236 $

Over 25 years, this represents estimated cumulative savings of 230 898 $.

PROJECT SNAPSHOT

Proposed 128 kWp system

Vieux Québec

515 boul. Champlain, Québec, QC

Annual consumption
2,953,589.2 kWh

Peak demand
651 kW

Proposed solar capacity
128 kWc

Proposed storage
Not included

Year-1 solar production

132,480 kWh

Self-consumption rate

5%

LEVELIZED COST OF ENERGY (LCOE)

0.020 $/kWh

CO , AVOIDED PER YEAR

0.1 tonnes

Vieux Québec

Québec, QC

STROM Spa

YOUR RESULTS

Net profit of 26 412 $ over 25 years

YEAR 1 SAVINGS	NET INVESTMENT	NET PROFIT (NPV)	RETURN (IRR)
9 236 $	73 689 $	26 412 $	9.7 %
		Over 25 years	25 years

DETAILED ANALYSIS

CONFIGURATION

Solar power:	**128 kWc**
Battery Capacity:	**0 kWh**
Battery Power:	**0.0 kW**
Total roof:	**10,243.064 pi²**
Solar potential:	**8,194.451 pi²**

FINANCE

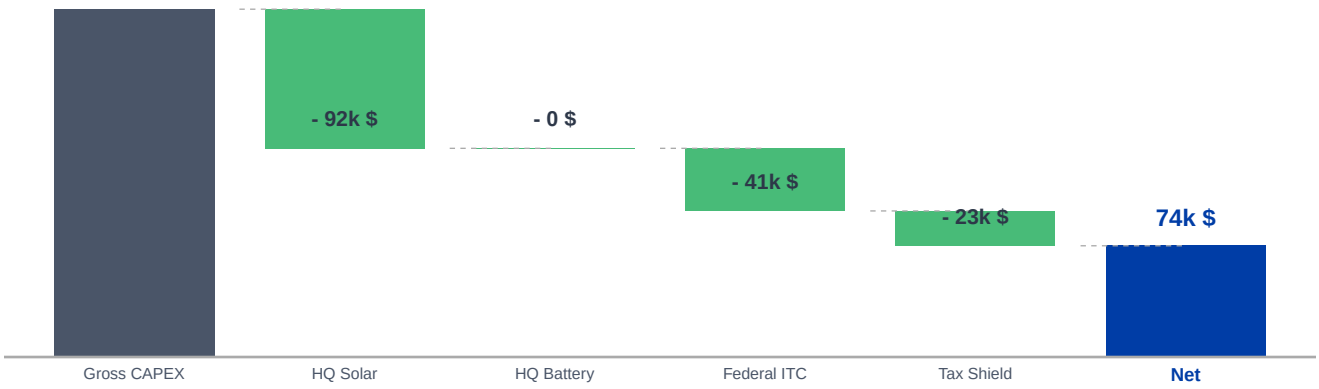
Gross CAPEX:	**230 400 $**
Total subsidies:	**- 156 711 $**
NPV (10):	**-255 567 $**
LCOE (Energy Cost):	**0.020 $/kWh**

Payback: 8.0 years | LCOE: 0.020 $/kWh

Trees planted (equiv.)	Cars removed (equiv.)	Homes powered (equiv.)
3	0.0	6.6

NET INVESTMENT

68% reduction through incentives



INCENTIVES BREAKDOWN

HYDRO-QUÉBEC SOLAR	HYDRO-QUÉBEC BATTERY	FEDERAL ITC	TAX SHIELD
$1,000/kW (max 40%)	$300/kW (max 40%)	30% of net CAPEX	CCA Class 43.2
92 160 $	**0 $**	**41 472 $**	**23 079 $**

Direct subsidies (Hydro-Québec + ITC):

156 711 $

Tax benefit (CCA):

23 079 $

TOTAL (SUBSIDIES + TAX BENEFIT):

179 790 $

ROOF CONFIGURATION

LEGEND

Usable solar areas: 952 m²

Constraint areas (HVAC, obstacles): 50 m²

Net usable area: 902 m² (9,705 sq ft)

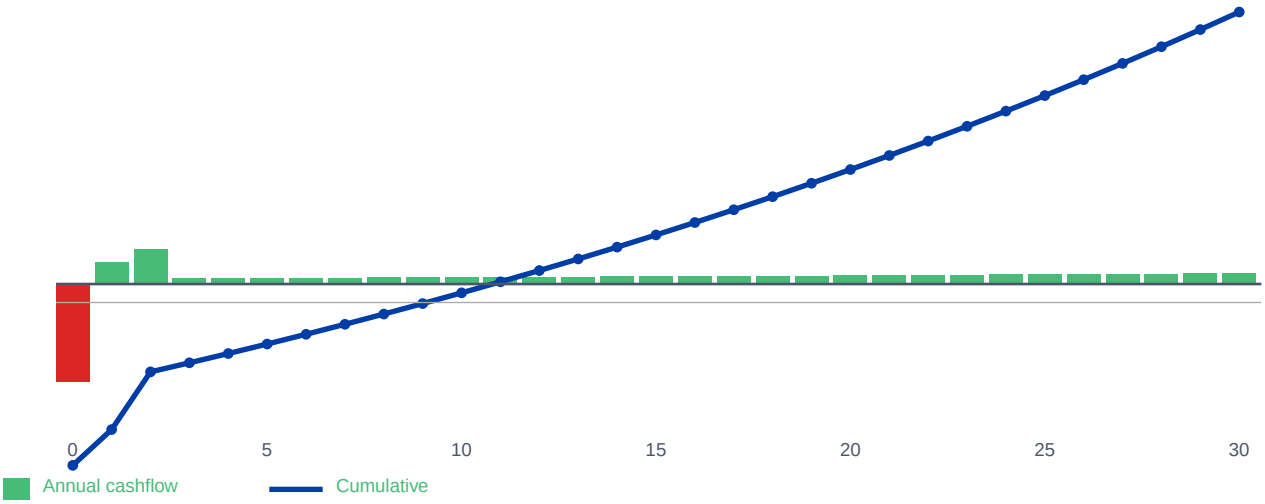
SIZING BY ZONE

Zone	Area (m²)	Orientation	Panels	kWp
Zone 1	154	N/A	51	25.5
Zone 2	503	N/A	169	84.5
Zone 3	223	N/A	75	37.5
Zone 4	71	N/A	24	12.0
Total	**952**		**319**	**159.5**

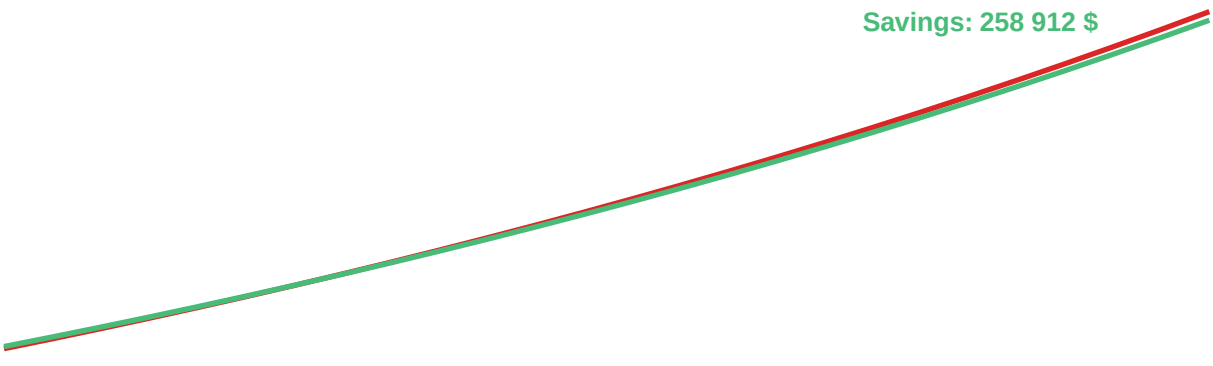
FINANCIAL PROJECTIONS

Profitable in 8.0 years

Cash flow and return on investment



Why now? (cost of inaction)



Without solar

With solar + storage

0.0h

FINANCING OPTIONS

CASH

Investment
73 689 $

Year 1 Savings
9 236 $

Payback
8.0 yrs

25-yr Profit (NPV)
26 412 $

& Recommended

LOAN

Rate / Term
5 % / 10 yrs

Monthly Payment
782 $

Year 1 Savings
9 236 $

Net Year 1
-143 $

LEASE

Rate / Term
7 % / 15 yrs

Monthly Payment
662 $

Year 1 Savings
9 236 $

Net Year 1
1 288 $

Rates and terms are indicative. Financing options will be detailed in the firm quote.

EQUIPMENT & WARRANTIES

Tier-1 solar panels

25 ans/years

warranty

CSA/UL certified inverters

10-15 ans/years

warranty

KB Racking mounting structure

25 ans/years

warranty

Certified workmanship

10 ans/years

warranty

Indicative equipment — final selection after detailed design

TYPICAL TIMELINE

Contract	Design	Permits & HQ	Installation	Commissioning
	2-4 sem.	8-12 sem.	2-4 sem.	1-2 sem.

Timelines subject to Hydro-Québec approval and structural conditions

KEY ASSUMPTIONS

Assumption	
Utility price escalation	3.5%/an
Panel degradation	0.5%/an
System lifespan	25 ans
HQ Program	Autoproduction
Est. self-consumption	~90%
Discount rate (WACC)	7%
Solar O&M (% CAPEX)	1.0%/an
Storage O&M (% CAPEX)	0.5%/an

EXCLUSIONS

The following items are not included in this preliminary estimate:

- Prior roof work
- Electrical upgrades (if required)
- HQ interconnection fees (TBC)
- Battery storage (optional, if not included)
- O&M contract (optional)
- Crane or specialized lifting fees

Note: These items can be assessed and priced during the detailed design phase.

NEXT STEPS

What the design fee covers ($2,500 + taxes)

- Complete site visit
- Preliminary engineering
- HQ interconnection application prep
- Detailed firm quote

What you need to provide

- Hydro-Québec bills (12-24 months)
- Roof information (age, condition)
- Single-line diagram (if available)
- Ownership / lease confirmation

What you receive

- Firm quote with guaranteed pricing
- Detailed implementation schedule
- Clarified scope and exclusions
- File ready for HQ application

Contact us to schedule your site visit

info@kwh.quebec | 514.427.8871 | www.kwh.quebec

THEY TRUST US

15+
Years of experience

120
MW installed

25+
C&I Projects

> *« The detailed analysis allowed us to make an informed decision. The expected ROI proved accurate within 2%. »*
>
> — Operations Director, Manufacturing Company

NEXT STEP

Contact us to schedule your free site visit

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APPENDIX A

SCENARIO COMPARISON

This analysis compares multiple simulated configurations for this site.

Scenario	PV (kW)	Battery	NPV 25yr	IRR	Payback
Variant 0	400	120 / 60	231 370 $	12.7 %	7.0 yr
Variant 1	980	120 / 60	219 687 $	9.7 %	9.0 yr
Variant 2	980	120 / 60	219 687 $	9.7 %	9.0 yr
Variant 3	400	120 / 60	210 752 $	12.4 %	7.0 yr

Note: Another scenario shows a higher NPV.

APPENDIX B

FINANCIAL CASH FLOW TABLE

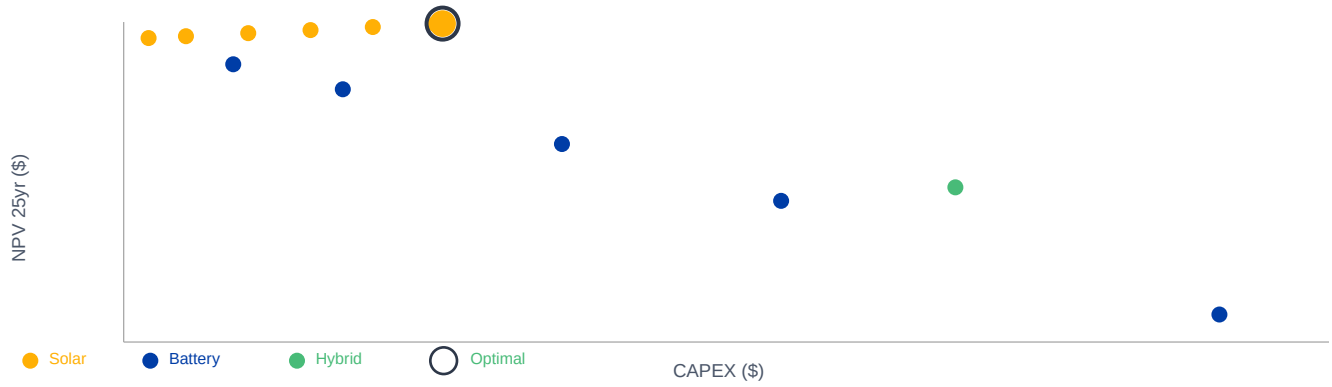
Year	Rev	O&M	Invest	Tax	NET	CUMUL
0			-74k $		-138k $	-138k $
1					30k $	-108k $
2					49k $	-59k $
3					8k $	-51k $
4					8k $	-43k $
5					8k $	-35k $
6					8k $	-27k $
7					8k $	-18k $
8					9k $	-10k $
9					9k $	-911 $
10					9k $	8k $
11					9k $	18k $
12					10k $	27k $
13					10k $	37k $
14					10k $	47k $
15					10k $	57k $
16					11k $	68k $
17					11k $	79k $
18					11k $	90k $
19					11k $	101k $
20					12k $	113k $
21					12k $	125k $
22					12k $	137k $
23					13k $	150k $
24					13k $	162k $
25					13k $	176k $

APPENDIX C

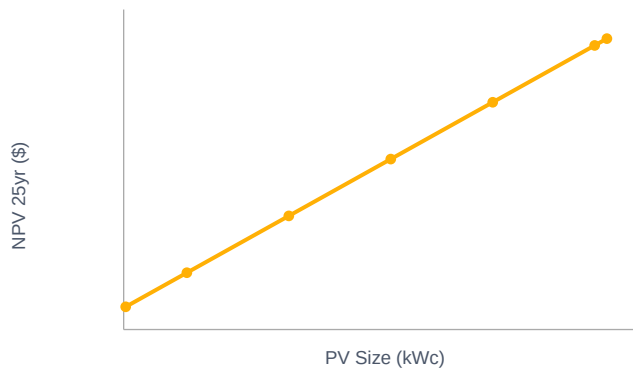
OPTIMIZATION ANALYSIS

The charts below show how NPV varies with different system configurations. The optimal point is identified.

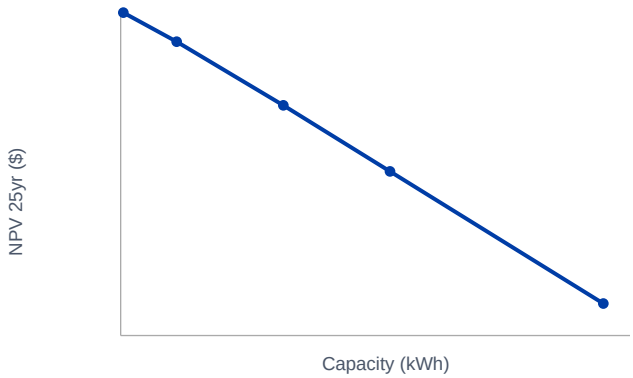
Efficiency Frontier (CAPEX vs NPV)



Solar Optimization



Battery Optimization



Recommended optimal configuration

Optimal PV size	**128 kWc**
Optimal battery capacity	**0 kWh / 0 kW**
Self-sufficiency achieved	**5.2 %**
Payback period	

8.0 years