

# Canadian Solar Expansion Sensitivity Analysis

Presented by  
Sangita Dasgupta

## MEMORANDUM

TO: Canadian Solar Executives and Board of Directors

FROM: Sangita Dasgupta

DATE: 12/02/2024

SUBJECT: Recommendation for SME Project Expansion

As requested, we have developed a model to evaluate whether Canadian Solar should consider entering a new line of business focused on providing solar power solutions to small and medium-sized enterprises (SMEs) in the USA. The analysis examines the profitability of the proposed expansion project starting in 2025 over a 10-year period and assesses its potential impact on the company's share price. Below, we present our recommendations, conclusions from the analysis, and the key assumptions that support these findings.

### **Recommendation:**

We recommend pursuing the SME expansion project in both Washington (WA) and California (CA). Both states demonstrate positive operational NPV and attractive financial returns. However, the expansion should prioritize WA due to lower tax rates and infrastructure requirements, while CA offers higher long-term profitability but requires greater upfront investment.

### **Conclusions from the Analysis:**

The analysis indicates that Washington offers a positive operational NPV of \$ 96,773.74 over the project period (2024–2038), with a fair price per share (FPPS) contribution of \$378.26. The state also benefits from strong synergy potential with minimal additional capital expenditure requirements. Electricity cost savings for SMEs in WA are projected to grow steadily, reaching \$103,389.19 annually by 2038. Meanwhile, California demonstrates a significantly higher operational NPV of \$359,193.17 and an FPPS contribution of \$256.64 over the same period. However, California requires greater upfront investment due to additional supply chain and operational complexities. SMEs in CA stand to benefit from higher tax rebates (76% compared to WA's 56%) and greater energy production, making the systems highly lucrative in the long run.

### **Key Assumptions:**

The recommendation relies on several key assumptions. Federal tax rebates are expected to remain constant at 26%, while WA and CA offer 30% and 50% state rebates with no upper limits, respectively. Electricity rates are assumed to increase annually by 3.56% in WA and 7.56% in CA, enhancing SME cost savings. Capital expenditure requirements are minimal in WA due to existing infrastructure, whereas CA requires more significant investment. Energy production is another differentiator: WA systems are expected to cover 97% of energy needs, with 15% returned to the grid, while CA systems produce 100% of energy needs, with 25% returned to the grid.

## Table of Contents

Appendix 1: DCF Model Output and NPV Calculation for California.....	4
Appendix 2: Free Cash Flow Calculation for California.....	5
Appendix 3: CapEx and Depreciation Calculations for California .....	6
Appendix 4: DCF Model Output and NPV Calculation for Washington .....	7
Appendix 5: Free Cash Flow Calculation for Washington .....	8
Appendix 6: CapEx and Depreciation Calculations for Washington.....	9
Appendix 7: Maintenance Cost Calculations for CA and WA.....	10
Appendix 8: Weighted Average Cost of Capital (WACC).....	11
Appendix 9: Balance Sheet .....	12
Appendix 9A: Balance Sheet Value Driver Analysis.....	13
Appendix 10: Income Statement.....	14
Appendix 11: Statement of Cashflows .....	15
Appendix 12: Data for California .....	16
Appendix 13: Data for Washington .....	17

## Appendix 1: DCF Model Output and NPV Calculation for California

### Value drivers: Operations

Table 1 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
STATE	CA															
Starting maintenance cost	\$9,000.00	9000														
Rebate in maintenance cost in 2028	50%															
Fixed cost (annual)	\$0.00	\$739.73	\$9,000.00	\$9,000.00	\$9,000.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00
Operational Days		30														
Current electricity expense	\$32,000.00															
Expected annual increase in electricity	8%															
Expected annual increase in consumption	5%															
System production (% of consumption)	100%															
Electricity Buyback (% of consumption)	25%															
Variable costs (as % of production)	1%															
Starting ONWC	\$700.00															
Expected annual increase in ONWC	2%															
Cost of equity	12%															
WACC	10%															
Tax rate	21%															
Tax credit (% of cost; federal & state)	76%															
Tax savings	\$410,400.00															

### Model: Unlevered Operating FCFs

Table 2 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Expected annual electricity needs	\$0.00	\$2,630.14	\$36,141.78	\$40,819.62	\$46,102.93	\$52,070.05	\$58,809.50	\$66,421.25	\$75,018.18	\$84,727.82	\$95,694.18	\$108,079.93	\$122,068.76	\$137,868.18	\$155,712.53	\$175,866.48
<b>Revenue</b>																
Expected annual self production (savings)	\$0.00	\$2,630.14	\$36,141.78	\$40,819.62	\$46,102.93	\$52,070.05	\$58,809.50	\$66,421.25	\$75,018.18	\$84,727.82	\$95,694.18	\$108,079.93	\$122,068.76	\$137,868.18	\$155,712.53	\$175,866.48
Revenue from electricity buyback	\$0.00	\$657.53	\$9,035.44	\$10,204.91	\$11,525.73	\$13,017.51	\$14,702.38	\$16,605.31	\$18,754.55	\$21,181.95	\$23,923.55	\$27,019.98	\$30,517.19	\$34,467.05	\$38,928.13	\$43,966.62
<b>Expenses</b>																
Purchased electricity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Variable costs	\$0.00	\$26.30	\$361.42	\$408.20	\$461.03	\$520.70	\$588.10	\$664.21	\$750.18	\$847.28	\$956.94	\$1,080.80	\$1,220.69	\$1,378.68	\$1,557.13	\$1,758.66
Maintenance (fixed) costs	\$0.00	\$739.73	\$9,000.00	\$9,000.00	\$9,000.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00
Depreciation	\$0.00	\$1,651.07	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$19,170.74	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00
<b>EBIT</b>	<b>\$0.00</b>	<b>\$870.58</b>	<b>\$15,727.80</b>	<b>\$21,528.33</b>	<b>\$28,079.63</b>	<b>\$39,978.86</b>	<b>\$48,335.78</b>	<b>\$57,774.34</b>	<b>\$68,434.54</b>	<b>\$80,474.50</b>	<b>\$94,072.79</b>	<b>\$110,348.37</b>	<b>\$137,937.27</b>	<b>\$157,528.55</b>	<b>\$179,655.54</b>	<b>\$204,646.43</b>
Taxes	\$0.00	\$182.82	\$3,302.84	\$4,520.95	\$5,896.72	\$8,395.56	\$10,150.51	\$12,132.61	\$14,371.25	\$16,899.64	\$19,755.29	\$23,173.16	\$28,966.83	\$33,081.00	\$37,727.66	\$42,975.75
Tax rebate	\$0.00	\$410,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Net operating income</b>	<b>\$0.00</b>	<b>\$411,087.75</b>	<b>\$12,424.96</b>	<b>\$17,007.38</b>	<b>\$22,182.91</b>	<b>\$31,583.30</b>	<b>\$38,185.27</b>	<b>\$45,641.73</b>	<b>\$54,063.29</b>	<b>\$63,574.85</b>	<b>\$74,317.50</b>	<b>\$87,175.21</b>	<b>\$108,970.44</b>	<b>\$124,447.55</b>	<b>\$141,927.87</b>	<b>\$161,670.68</b>
Depreciation	\$0.00	\$1,651.07	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$20,088.00	\$19,170.74	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00
Capital expenditure	-\$540,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$169,280.80
Change in ONWC	\$700.00	\$14.00	\$14.28	\$14.57	\$14.86	\$15.15	\$15.46	\$15.77	\$16.08	\$16.40	\$16.73	\$17.07	\$17.41	\$17.76	\$18.11	-\$923.64
<b>FCF</b>	<b>-\$540,700.00</b>	<b>\$412,724.82</b>	<b>\$32,498.68</b>	<b>\$37,080.82</b>	<b>\$42,256.05</b>	<b>\$51,656.15</b>	<b>\$58,257.81</b>	<b>\$65,713.97</b>	<b>\$74,135.21</b>	<b>\$83,646.45</b>	<b>\$94,388.77</b>	<b>\$106,328.89</b>	<b>\$117,881.03</b>	<b>\$133,357.80</b>	<b>\$150,837.76</b>	<b>\$340,803.12</b>
<b>XNPV of Operations</b>	<b>\$359,193.17</b>															

## Appendix 2: Free Cash Flow Calculation for California

### Value Drivers

Sales Growth	8.62%
Sales growth increase (starting 2028)	1.00%
<b>Directly related to sales</b>	
Reduction in Operating Expenses	0.50%
Operating Expenses (Excluding Deprecia	89.62%
Operating Current Assets	29.54%
Operating Current Liabilities	36.90%
Capital Expenditures	10.61%
<b>Not directly related to sales</b>	
FA Useful Life (Years)	11
Interest Rate on Debt	2.31%
Interest Rate on ST Investments	1.44%
Tax Rate	13.80%
Long-term Growth Rate	3.00%

### CSIQ Projected Unlevered Free Cash Flows

FYR Ending (in USD 1,000s)	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034
Sales	8,269,972	8,982,900	9,757,287	10,598,432	11,512,088	12,504,509	13,582,482	14,753,384	16,025,226	17,406,710	18,907,286
Expansion Sales		549,000	558,000	567,000	571,500	576,000	580,500	585,000	589,500	594,000	598,500
<b>Total Sales</b>	<b>8,269,972</b>	<b>9,531,900</b>	<b>10,315,287</b>	<b>11,165,432</b>	<b>12,083,588</b>	<b>13,080,509</b>	<b>14,162,982</b>	<b>15,338,384</b>	<b>16,614,726</b>	<b>18,000,710</b>	<b>19,505,786</b>
Operating Expenses	7,411,699	8,495,002	9,141,595	9,839,181	10,587,859	11,395,976	12,321,795	13,344,394	14,454,812	15,660,618	16,970,034
Inc operating expenses		444,364	396,937	340,674	270,517	189,209	148,928	122,144	92,713	60,408	24,981
Depreciation	409,919	488,265	583,994	687,603	799,740	921,114	1,024,063	1,133,289	1,241,465	1,309,816	1,490,722
<b>Earnings Before Interest And</b>	<b>448,354</b>	<b>548,633</b>	<b>589,698</b>	<b>638,648</b>	<b>695,989</b>	<b>763,418</b>	<b>817,125</b>	<b>860,701</b>	<b>918,449</b>	<b>1,030,276</b>	<b>1,045,030</b>
Taxes	61,881	75,722	81,390	88,146	96,060	105,366	112,779	118,793	126,763	142,198	144,234
<b>Net Income</b>	<b>386,472</b>	<b>472,911</b>	<b>508,309</b>	<b>550,503</b>	<b>599,929</b>	<b>658,052</b>	<b>704,346</b>	<b>741,908</b>	<b>791,686</b>	<b>888,078</b>	<b>900,796</b>
Depreciation	409,919	488,265	583,994	687,603	799,740	921,114	1,024,063	1,133,289	1,241,465	1,309,816	1,490,722
Capital Expenditures	712,151	1,011,457	1,094,585	1,184,796	1,282,224	1,388,010	1,502,874	1,627,600	1,763,036	1,910,107	2,069,815
Additional Capex	-	190,638	206,306	223,309	241,672	261,610	283,260	306,768	332,295	360,014	390,116
<i>DNWC</i>	(608,044)	(700,826)	(758,424)	(820,930)	(888,437)	(961,735)	(1,041,323)	(1,127,743)	(1,221,585)	(1,323,489)	(1,434,148)
Change in DNWC	(594,889)	(92,782)	(57,598)	(62,506)	(67,507)	(73,298)	(79,588)	(86,421)	(93,842)	(101,903)	(110,660)
<b>Free Cash Flows</b>	<b>679,129</b>	<b>42,501</b>	<b>55,316</b>	<b>115,816</b>	<b>184,952</b>	<b>264,454</b>	<b>305,122</b>	<b>334,018</b>	<b>363,957</b>	<b>389,691</b>	<b>432,363</b>
Terminal Value											26,846,540
<b>PV of FCFs</b>	<b>19,518,917</b>										
<b>Equity Value</b>	<b>16,982,075</b>										
<b>Fair Price Per Share (FPPS)</b>	<b>256.64</b>										
<b>Investment Recommendation</b>	<b>Buy</b>										

## Appendix 3: CapEx and Depreciation Calculations for California

### Value drivers: Capital Expenditure and Depreciation

#### Solar panel (per panel)

Purchase cost	\$1,500.00
Useful life for panel (years)	25
Salvage value	\$570.00
Annual depreciation	\$37.20
Age at resale	15
Book value at resale	\$942.00
Resale value	\$400.00
ATRVA	\$513.82
Tax rate	21.00%
Solar tax credit	76.00%
Number of panels	240

#### Batteries (per battery)

Purchase cost	\$18,000.00
Useful life (years)	10
Salvage value	\$6,840.00
Annual depreciation	\$1,116.00
Age at resale	15
Book value at resale	\$6,840.00
Resale value	\$4,000.00
ATRVA	\$4,596.40
Number of batteries	10

### Model: Annual Capital Expenditure Flows

Table 3 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Panels	-\$360,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$123,316.80
Batteries	-\$180,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45,964.00
<b>Total CapEx</b>	<b>-\$540,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$169,280.80</b>

### Model: Annual Depreciation Flows

Table 4 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Panels depreciation	\$0.00	\$733.81	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00	\$8,928.00
Batteries depreciation	\$0.00	\$917.26	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$11,160.00	\$10,242.74	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total depreciation</b>	<b>\$0.00</b>	<b>\$1,651.07</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$20,088.00</b>	<b>\$19,170.74</b>	<b>\$8,928.00</b>	<b>\$8,928.00</b>	<b>\$8,928.00</b>	<b>\$8,928.00</b>

## Appendix 4: DCF Model Output and NPV Calculation for Washington

### Value drivers: Operations

Table 1 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
STATE	WA															
Starting maintenance cost	\$9,000.00	9000														
Rebate in maintenance cost in 2028	50%															
Fixed cost (annual)	\$0.00	\$739.73	\$9,000.00	\$9,000.00	\$9,000.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00
Operational Days	30															
Current electricity expense	\$32,000.00															
Expected annual increase in electricity	4%															
Expected annual increase in consumption	5%															
System production (% of consumption)	97%															
Electricity Buyback (% of consumption)	15%															
Variable costs (as % of production)	1%															
Starting ONWC	\$700.00															
Expected annual increase in ONWC	2%															
Cost of equity	12%															
WACC	10%															
Tax rate	21%															
Tax credit (% of cost; federal & state)	56%															
Tax savings	\$302,400.00															

### Model: Unlevered Operating FCFs

Table 2 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Expected annual electricity needs	\$0.00	\$2,630.14	\$34,796.08	\$37,836.48	\$41,142.54	\$44,732.47	\$48,646.53	\$52,897.14	\$57,519.16	\$62,545.05	\$68,010.08	\$73,952.64	\$80,414.44	\$87,440.86	\$95,081.23	\$103,369.19
<b>Revenue</b>																
Expected annual self production (savings)	\$0.00	\$2,551.23	\$33,752.20	\$36,701.38	\$39,908.26	\$43,395.35	\$47,187.13	\$51,310.23	\$55,793.59	\$60,668.70	\$65,969.78	\$71,734.06	\$78,002.01	\$84,817.63	\$92,228.79	\$100,287.52
Revenue from electricity buyback	\$0.00	\$394.52	\$5,219.41	\$5,675.47	\$6,171.38	\$6,710.62	\$7,296.98	\$7,934.57	\$8,627.87	\$9,381.76	\$10,201.51	\$11,092.90	\$12,062.17	\$13,116.13	\$14,262.18	\$15,508.38
<b>Expenses</b>																
Purchased electricity	\$0.00	\$78.90	\$1,043.88	\$1,135.09	\$1,234.28	\$1,342.12	\$1,459.40	\$1,586.91	\$1,725.57	\$1,876.35	\$2,040.30	\$2,218.58	\$2,412.43	\$2,623.23	\$2,852.44	\$3,101.68
Variable costs	\$0.00	\$25.51	\$337.52	\$367.01	\$399.08	\$433.95	\$471.87	\$513.10	\$557.94	\$606.69	\$659.70	\$717.34	\$780.02	\$848.18	\$922.29	\$1,002.88
Maintenance (fixed) costs	\$0.00	\$739.73	\$9,000.00	\$9,000.00	\$9,000.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00
Depreciation	\$0.00	\$1,917.37	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$22,262.79	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00
<b>EBIT</b>	<b>\$0.00</b>	<b>\$184.24</b>	<b>\$5,262.21</b>	<b>\$8,546.75</b>	<b>\$12,118.28</b>	<b>\$20,501.89</b>	<b>\$24,724.84</b>	<b>\$29,316.78</b>	<b>\$34,309.95</b>	<b>\$39,739.42</b>	<b>\$45,643.29</b>	<b>\$53,128.24</b>	<b>\$72,003.72</b>	<b>\$79,594.36</b>	<b>\$87,848.25</b>	<b>\$96,823.34</b>
Taxes	\$0.00	\$38.69	\$1,105.06	\$1,794.82	\$2,544.84	\$4,305.40	\$5,192.22	\$6,156.52	\$7,205.09	\$8,345.28	\$9,585.09	\$11,156.93	\$15,120.78	\$16,714.82	\$18,448.13	\$20,332.90
Tax rebate	\$0.00	\$302,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Net operating income</b>	<b>\$0.00</b>	<b>\$302,545.55</b>	<b>\$4,157.14</b>	<b>\$6,751.93</b>	<b>\$9,573.44</b>	<b>\$16,196.50</b>	<b>\$19,532.62</b>	<b>\$23,160.26</b>	<b>\$27,104.86</b>	<b>\$31,394.14</b>	<b>\$36,058.20</b>	<b>\$41,971.31</b>	<b>\$56,882.94</b>	<b>\$62,879.54</b>	<b>\$69,400.12</b>	<b>\$76,490.44</b>
Depreciation	\$0.00	\$1,917.37	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$23,328.00	\$22,262.79	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00
Capital expenditure	-\$540,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$160,964.80
Change in ONWC	\$700.00	\$14.00	\$14.28	\$14.57	\$14.86	\$15.15	\$15.46	\$15.77	\$16.08	\$16.40	\$16.73	\$17.07	\$17.41	\$17.76	\$18.11	-\$923.64
<b>FCF</b>	<b>-\$540,700.00</b>	<b>\$304,448.92</b>	<b>\$27,470.86</b>	<b>\$30,065.37</b>	<b>\$32,886.59</b>	<b>\$39,509.34</b>	<b>\$42,845.17</b>	<b>\$46,472.49</b>	<b>\$50,416.78</b>	<b>\$54,705.73</b>	<b>\$59,369.47</b>	<b>\$64,217.04</b>	<b>\$67,233.53</b>	<b>\$73,229.79</b>	<b>\$79,750.01</b>	<b>\$248,746.88</b>
<b>XNPV of Operations</b>	<b>\$96,773.74</b>															

## Appendix 5: Free Cash Flow Calculation for Washington

### Value Drivers

Sales Growth	8.62%
Sales growth increase (starting 2028)	1.00%
<b>Directly related to sales</b>	
Reduction in Operating Expenses	0.50%
Operating Expenses (Excluding Deprecia	89.62%
Operating Current Assets	29.54%
Operating Current Liabilities	36.90%
Capital Expenditures	9.61%
<b>Not directly related to sales</b>	
FA Useful Life (Years)	11
Interest Rate on Debt	2.31%
Interest Rate on ST Investments	1.44%
Tax Rate	13.80%
Long-term Growth Rate	3.00%

### CSIQ Projected Unlevered Free Cash Flows

FYR Ending (in USD 1,000s)	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034
Sales	8,269,972	8,982,900	9,757,287	10,598,432	11,512,088	12,504,509	13,582,482	14,753,384	16,025,226	17,406,710	18,907,286
Expansion Sales		549,000	558,000	567,000	571,500	576,000	580,500	585,000	589,500	594,000	598,500
<b>Total Sales</b>	<b>8,269,972</b>	<b>9,531,900</b>	<b>10,315,287</b>	<b>11,165,432</b>	<b>12,083,588</b>	<b>13,080,509</b>	<b>14,162,982</b>	<b>15,338,384</b>	<b>16,614,726</b>	<b>18,000,710</b>	<b>19,505,786</b>
Operating Expenses	7,411,699	8,495,002	9,141,595	9,839,181	10,587,859	11,395,976	12,321,795	13,344,394	14,454,812	15,660,618	16,970,034
Inc operating expenses		444,364	396,937	340,674	270,517	189,209	148,928	122,144	92,713	60,408	24,981
Depreciation	409,919	483,933	570,640	664,485	766,054	875,990	966,555	1,062,372	1,156,024	1,208,641	1,372,498
<b>Earnings Before Interest And</b>	<b>448,354</b>	<b>552,965</b>	<b>603,052</b>	<b>661,766</b>	<b>729,675</b>	<b>808,542</b>	<b>874,633</b>	<b>931,618</b>	<b>1,003,891</b>	<b>1,131,451</b>	<b>1,163,254</b>
Taxes	61,881	76,320	83,233	91,336	100,709	111,594	120,716	128,581	138,556	156,162	160,551
<b>Net Income</b>	<b>386,472</b>	<b>476,646</b>	<b>519,820</b>	<b>570,430</b>	<b>628,966</b>	<b>696,948</b>	<b>753,917</b>	<b>803,037</b>	<b>865,335</b>	<b>975,290</b>	<b>1,002,703</b>
Depreciation	409,919	483,933	570,640	664,485	766,054	875,990	966,555	1,062,372	1,156,024	1,208,641	1,372,498
Capital Expenditures	712,151	916,138	991,432	1,073,141	1,161,388	1,257,205	1,361,245	1,474,216	1,596,889	1,730,100	1,874,757
Additional Capex	-	95,319	103,153	111,654	120,836	130,805	141,630	153,384	166,147	180,007	195,058
ONWC	(608,044)	(700,826)	(758,424)	(820,930)	(888,437)	(961,735)	(1,041,323)	(1,127,743)	(1,221,585)	(1,323,489)	(1,434,148)
Change in ONWC	(594,889)	(92,782)	(57,598)	(62,506)	(67,507)	(73,298)	(79,588)	(86,421)	(93,842)	(101,903)	(110,660)
<b>Free Cash Flows</b>	<b>679,129</b>	<b>137,222</b>	<b>156,626</b>	<b>224,279</b>	<b>301,139</b>	<b>389,031</b>	<b>438,815</b>	<b>477,614</b>	<b>518,312</b>	<b>555,734</b>	<b>611,104</b>
Terminal Value											37,945,009
<b>PV of FCFs</b>	<b>27,566,530</b>										
<b>Equity Value</b>	<b>25,029,688</b>										
<b>Fair Price Per Share (FPPS)</b>	<b>378.26</b>										
<b>Investment Recommendation</b>	<b>Buy</b>										



## Appendix 6: CapEx and Depreciation Calculations for Washington

### Value drivers: Capital Expenditure and Depreciation

#### Solar panel (per panel)

Purchase cost	\$1,500.00
Useful life for panel (years)	25
Salvage value	\$420.00
Annual depreciation	\$43.20
Age at resale	15
Book value at resale	\$852.00
Resale value	\$400.00
ATRVA	\$494.92
Tax rate	21.00%
Solar tax credit	56.00%
Number of panels	240

#### Batteries (per battery)

Purchase cost	\$18,000.00
Useful life (years)	10
Salvage value	\$5,040.00
Annual depreciation	\$1,296.00
Age at resale	15
Book value at resale	\$5,040.00
Resale value	\$4,000.00
ATRVA	\$4,218.40
Number of batteries	10

### Model: Annual Capital Expenditure Flows

Table 3 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Panels	-\$360,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$118,780.80
Batteries	-\$180,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42,184.00
<b>Total CapEx</b>	<b>-\$540,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$160,964.80</b>

### Model: Annual Depreciation Flows

Table 4 - Time line	12/1/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034	12/31/2035	12/31/2036	12/31/2037	12/31/2038
Panels depreciation	\$0.00	\$852.16	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00	\$10,368.00
Batteries depreciation	\$0.00	\$1,065.21	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$12,960.00	\$11,894.79	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total depreciation</b>	<b>\$0.00</b>	<b>\$1,917.37</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$23,328.00</b>	<b>\$22,262.79</b>	<b>\$10,368.00</b>	<b>\$10,368.00</b>	<b>\$10,368.00</b>	<b>\$10,368.00</b>

# Appendix 7: Maintenance Cost Calculations for CA and WA

## Value drivers: Maintenance Costs

Actual new customers	1000											
Initial Maintenance contract price	\$9,000											
Eventual Maintenance contract price	\$4,500											
Model: Maintenance Costs	12/6/2024	12/31/2024	12/31/2025	12/31/2026	12/31/2027	12/31/2028	12/31/2029	12/31/2030	12/31/2031	12/31/2032	12/31/2033	12/31/2034
Cumulative Customers	0	0	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
Previous Customers	0	0	0	0	0	1,000	2,000	3,000	4,000	5,000	6,000	7,000
Total Price	\$0	\$0	\$9,000,000	\$18,000,000	\$27,000,000	\$31,500,000	\$36,000,000	\$40,500,000	\$45,000,000	\$49,500,000	\$54,000,000	\$58,500,000

## Appendix 8: Weighted Average Cost of Capital (WACC)

### CSIQ WACC Calculation

#### Debt

Average value (1,000 USD)	\$3,440,505
Cost of debt (%)	2.31%

#### Equity

Market capitalization (1,000 USD)	\$887,340
<i># Shares outstanding</i>	<i>66,170,000</i>
<i>Current price per share (USD)</i>	<i>\$13.41</i>
Cost of equity (%)	14.99%
<i>Beta</i>	<i>1.31</i>
<i>Rf (%)</i>	<i>4.25%</i>
<i>Rm (%)</i>	<i>12.45%</i>

<b>WACC (%)</b>	<b>4.66%</b>
-----------------	--------------

## Appendix 9: Balance Sheet

### CSIQ BALANCE SHEET

<b>FYR Ending (in USD 1,000s)</b>	<b>12/31/2019</b>	<b>12/31/2020</b>	<b>12/31/2021</b>	<b>12/31/2022</b>	<b>12/31/2023</b>
<b>ASSETS</b>					
<i>Current Assets</i>					
Cash and Cash Equivalents	1,502,560	1,178,752	869,831	981,434	1,938,689
Short Term Investments	-	481,685	567,919	995,632	1,009,215
Inventories	554,070	695,981	1,192,374	1,524,095	1,179,641
Receivables	592,223	545,713	887,540	1,236,107	1,209,697
Other Current Assets	604,083	1,283,691	1,254,163	907,389	758,211
<b>Total Current Assets (SUM)</b>	<b>3,252,936</b>	<b>4,185,822</b>	<b>4,771,827</b>	<b>5,644,657</b>	<b>6,095,453</b>
<i>Long-term Investments</i>					
Gross Property, Plant and Equipment	1,802,781	2,253,071	2,622,002	3,221,038	5,369,902
Accumulated Depreciation	666,056	910,285	1,076,576	925,979	1,092,940
Net Property, Plant and Equipment	1,136,725	1,342,786	1,545,426	2,295,059	4,276,962
Other Non-Current Assets	1,077,546	1,008,246	1,071,089	1,097,412	1,523,345
<b>Total Assets</b>	<b>5,467,207</b>	<b>6,536,854</b>	<b>7,388,342</b>	<b>9,037,128</b>	<b>11,895,760</b>
<b>LIABILITIES</b>					
<i>Current Liabilities</i>					
Payables and Accrued Expenses	1,042,132	1,023,895	1,170,992	1,658,429	2,173,867
Debt (Long-Term) Due in One Year	1,793,532	2,126,919	2,486,239	2,947,025	2,703,687
Other Current Liabilities	256,333	437,541	380,917	653,314	986,837
<b>Total Current Liabilities (SUM)</b>	<b>3,091,997</b>	<b>3,588,355</b>	<b>4,038,148</b>	<b>5,258,768</b>	<b>5,864,391</b>
Long Term Debt	718,611	764,407	825,165	1,065,097	1,771,844
Other Long Term Liabilities	231,541	291,307	398,591	406,569	554,281
<b>Total Liabilities</b>	<b>4,042,149</b>	<b>4,644,069</b>	<b>5,261,904</b>	<b>6,730,434</b>	<b>8,190,516</b>
<b>STOCKHOLDER'S EQUITY</b>					
Common Stock & Others	709,140	981,160	1,141,470	1,201,725	2,274,281
Retained Earnings	793,601	911,625	984,968	1,104,969	1,430,963
<b>Total Stockholder Equity (SUM)</b>	<b>1,502,741</b>	<b>1,892,785</b>	<b>2,126,438</b>	<b>2,306,694</b>	<b>3,705,244</b>
<b>Total Liabilities &amp; Equities</b>	<b>5,544,890</b>	<b>6,536,854</b>	<b>7,388,342</b>	<b>9,037,128</b>	<b>11,895,760</b>

## Appendix 9A: Balance Sheet Value Driver Analysis

### Value Driver Analysis

Value Driver	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Operating current assets	1,750,376	2,525,385	3,334,077	3,667,591	3,147,549
RSQ	0.70				
OCA as a % of revenue	54.69%	72.64%	63.18%	49.11%	41.34%
TREND	29.54%				
Operating current liabilities	1,298,465	1,461,436	1,551,909	2,311,743	3,160,704
RSQ	79.81%				
OCL as a % of revenue	40.57%	42.04%	29.41%	30.95%	41.51%
AVERAGE	36.90%				
FA useful life (years)	NA	9.70	8.62	12.46	13.99
Average (AVERAGE)	11.19				
Other Non-Current Assets	1,077,546	1,008,246	1,071,089	1,097,412	1,523,345
RSQ	43.66%				
Annual growth rate	NA	-6.43%	6.23%	2.46%	38.81%
AVERAGE	10.27%				
Other Long Term Liabilities	231,541	291,307	398,591	406,569	554,281
RSQ	80.60%				
Annual growth rate	NA	25.81%	36.83%	2.00%	36.33%
AVERAGE	32.99%				
Total Debt	2,512,143	2,891,326	3,311,404	4,012,122	4,475,531

## Appendix 10: Income Statement

### CSIQ INCOME STATEMENT

FYR Ending (in USD 1,000s)	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
<b>Total Revenue</b>	<b>3,200,583</b>	<b>3,476,495</b>	<b>5,277,169</b>	<b>7,468,610</b>	<b>7,613,626</b>
Cost of Revenue	2,482,086	2,786,581	4,367,857	6,205,474	6,333,643
<b>Gross Profit</b>	<b>718,497</b>	<b>689,914</b>	<b>909,312</b>	<b>1,263,136</b>	<b>1,279,983</b>
Selling, General and Administrative Expenses	263,386	262,822	421,038	628,179	480,337
Research and Development	47,045	20,922	19,939	10,279	21,603
Depreciation	159,723	209,118	282,769	234,559	307,040
<b>Earnings Before Interest And Taxes</b>	<b>248,343</b>	<b>197,052</b>	<b>185,566</b>	<b>390,119</b>	<b>471,003</b>
Interest Expense	81,326	71,874	58,153	74,266	114,099
Interest Income	12,039	9,306	11,051	40,615	51,621
<b>Income Before Tax</b>	<b>179,056</b>	<b>134,484</b>	<b>138,464</b>	<b>356,468</b>	<b>408,525</b>
Income Tax Expense	13,118	(12,762)	28,588	57,913	44,891
<b>Net Income from Continuing Operations</b>	<b>165,938</b>	<b>147,246</b>	<b>109,876</b>	<b>298,555</b>	<b>363,634</b>

### Value Driver Analysis

Value Driver	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Annual sales growth	N/A	8.62%	51.80%	41.53%	1.94%
Trend	-18.17%				
2020 is used	8.62%				
Operating expenses (excluding depreciation)	2,792,517	3,070,325	4,808,834	6,843,932	6,835,583
RSQ	99.90%				
SLOPE	0.93				
INTERCEPT	(153,237)				
As a percentage of sales	87.25%	88.32%	91.13%	91.64%	89.78%
Average	89.62%				
Interest rate on debt	N/A	2.66%	1.88%	2.03%	2.69%
Average	2.31%				
Interest earned on ST investments	N/A	0.59%	0.71%	2.38%	2.10%
Average	1.44%				
Tax rate	7.33%	-9.49%	20.65%	16.25%	10.99%
Average	13.80%				

## Appendix 11: Statement of Cashflows

### CSIQ STATEMENT OF CASH FLOWS

FYR Ending (in USD 1,000s)	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
<b>Net Income from Continuing Operations</b>	<b>165,938</b>	<b>147,246</b>	<b>109,876</b>	<b>298,555</b>	<b>363,634</b>
<b>Operating Activities, Cash Flows Provided By or Used In</b>					
Depreciation	159,723	209,118	282,769	234,559	307,040
Others, Non-Cash Adjustment	188,979	(560,425)	(886,745)	285,118	(168,512)
Change in Operating Capital	84,854	83,520	85,846	98,399	182,453
<b>Total Cash Flow From Operating Activities (SUM)</b>	<b>433,556</b>	<b>(267,787)</b>	<b>(518,130)</b>	<b>618,076</b>	<b>320,981</b>
<b>Investing Activities, Cash Flows Provided By or Used In</b>					
Purchase/Sale of Property, Plant and Equipment	(291,079)	(334,941)	(392,548)	(618,216)	(1,551,197)
Purchase/Sale of Business	-	-	-	-	(9,448)
Purchase/Sale of Investments	(3,023)	15,279	(37,022)	(12,272)	(110,344)
Other Investing Cash Flow	-	-	-	-	-
<b>Total Cash Flows From Investing Activities (SUM)</b>	<b>(294,102)</b>	<b>(319,662)</b>	<b>(429,570)</b>	<b>(630,488)</b>	<b>(1,670,989)</b>
<b>Financing Activities, Cash Flows Provided By or Used In</b>					
Issuance of/Payments for Common Stock, Net	(11,845)	(5,963)	148,510	-	-
Issuance of/Repayments for Debt, Net	10,778	536,564	450,262	462,342	1,100,623
Cash Dividends Paid	(1,120)	-	-	-	(3,990)
Other Financing Cash Flow	10,231	292,900	15,299	(33,703)	956,195
<b>Total Cash Flows From Financing Activities (SUM)</b>	<b>8,044</b>	<b>823,501</b>	<b>614,071</b>	<b>428,639</b>	<b>2,052,828</b>
Exchange Rate Effect	(6,965)	50,997	18,320	(179,561)	(89,098)
<b>Cash and Cash Equivalents - Change</b>	<b>140,533</b>	<b>434,295</b>	<b>(205,433)</b>	<b>535,221</b>	<b>977,356</b>

### Value Driver Analysis

Value Driver	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
CapEx	291,079	334,941	392,548	618,216	1,551,197
RSQ	57.41%				
CapEx as a percentage of sales	9.09%	9.63%	7.44%	8.28%	20.37%
Average	8.61%				
Dividends	1,120	-	-	-	3,990
Dividends payout ratio	0.67%	0.00%	0.00%	0.00%	1.10%
Average	0.22%				
Addition to depreciation	N/A	28,455	33,068	45,944	98,610

## Appendix 12: Data for California

	Electricity Prices in California											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2018</b>	0.274	0.274	0.274	0.273	0.273	0.321	0.321	0.321	0.321	0.292	0.270	0.270
Annual % Change	-	-	-3.28%	-3.28%	1.46%	1.83%	1.10%	-2.49%	-2.49%	-2.49%	-2.49%	7.19%
<b>2019</b>	0.265	0.265	0.278	0.278	0.276	0.313	0.313	0.313	0.313	0.313	0.287	0.287
Annual % Change	5.66%	10.19%	5.04%	0.36%	1.09%	-7.03%	-7.03%	-7.03%	-7.03%	-6.71%	1.74%	1.74%
<b>2020</b>	0.280	0.292	0.292	0.279	0.279	0.291	0.291	0.291	0.291	0.292	0.292	0.292
Annual % Change	4.29%	15.41%	18.84%	24.01%	24.01%	20.27%	20.27%	20.27%	20.27%	19.86%	25.00%	25.00%
<b>2021</b>	0.292	0.337	0.347	0.346	0.346	0.350	0.350	0.350	0.350	0.350	0.365	0.365
Annual % Change	43.49%	24.33%	20.75%	18.21%	18.21%	16.86%	16.86%	16.86%	16.86%	16.86%	12.33%	12.33%
<b>2022</b>	0.419	0.419	0.419	0.409	0.409	0.409	0.409	0.409	0.409	0.409	0.410	0.410
Annual % Change	13.37%	13.37%	13.37%	16.63%	16.63%	16.14%	16.14%	16.14%	16.14%	16.14%	16.34%	16.34%
<b>2023</b>	0.475	0.475	0.475	0.477	0.477	0.475	0.475	0.475	0.475	0.475	0.477	0.477
Annual % Change	-15.58%	-15.58%	-10.74%	-12.37%	-12.37%	-12.21%	-12.21%	-12.21%	-12.21%	-11.79%	-	-
<b>2024</b>	0.401	0.401	0.424	0.418	0.418	0.417	0.417	0.417	0.417	0.419	-	-
Annual % Change	-	-	-	-	-	-	-	-	-	-	-	-
<b>Average Increase</b>	<b>7.56%</b>											



## Appendix 13: Data for Washington

	Electricity Prices in Washington											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2018</b>	0.111	0.111	0.111	0.114	0.111	0.111	0.111	0.111	0.111	0.108	0.108	0.108
Annual % Change	-	-	-0.90%	-0.90%	-0.90%	-1.75%	0.90%	0.90%	0.00%	0.00%	0.00%	0.93%
<b>2019</b>	0.110	0.110	0.110	0.112	0.112	0.112	0.111	0.111	0.111	0.109	0.109	0.109
Annual % Change	0.91%	0.91%	0.91%	0.89%	1.79%	1.79%	2.70%	2.70%	2.70%	3.67%	3.67%	4.59%
<b>2020</b>	0.111	0.111	0.111	0.113	0.114	0.114	0.114	0.114	0.114	0.113	0.113	0.114
Annual % Change	2.70%	2.70%	2.70%	2.65%	1.75%	1.75%	2.63%	2.63%	2.63%	2.65%	3.54%	2.63%
<b>2021</b>	0.114	0.114	0.114	0.116	0.116	0.116	0.117	0.117	0.117	0.116	0.117	0.117
Annual % Change	2.63%	2.63%	2.63%	2.59%	1.72%	1.72%	0.85%	0.85%	0.85%	1.72%	0.85%	0.85%
<b>2022</b>	0.117	0.117	0.117	0.119	0.118	0.118	0.118	0.118	0.118	0.118	0.118	0.118
Annual % Change	7.69%	7.69%	7.69%	6.72%	7.63%	7.63%	7.63%	7.63%	8.47%	7.63%	7.63%	7.63%
<b>2023</b>	0.126	0.126	0.126	0.127	0.127	0.127	0.127	0.127	0.128	0.127	0.127	0.127
Annual % Change	7.14%	7.14%	7.14%	7.87%	9.45%	9.45%	9.45%	9.45%	8.59%	-	-	-
<b>2024</b>	0.135	0.135	0.135	0.137	0.139	0.139	0.139	0.139	0.139	-	-	-
Annual % Change	-	-	-	-	-	-	-	-	-	-	-	-
<b>Average Increase</b>	<b>3.56%</b>											