



Estimated Cost per Watt Methodology

November 6, 2018

Cost per watt (CPW) is an important metric in understanding Vivint Solar's residential business. The CPW calculation includes costs associated with systems subject to power purchase agreements, leases, and those sold directly to customers. This memo shows how Vivint Solar's CPW can be estimated using the company's reported GAAP financial statements, other reported operating metrics, and information extracted from the company's books and records. All data and calculations shown in this memo are as of September 30, 2018.

Installation

Vivint Solar only capitalizes a portion of its installation expense. Equipment expense as well as a portion of other installation expense including direct labor is capitalized on the balance sheet. The portion of installation expense that is not capitalized is expensed through the Income Statement in the period it is incurred. To calculate total installation expense, add the change in system equipment costs, the cost of revenue – operating leases and incentives, the portion of cost of revenue – solar energy system and product sales related to installation, and the change in work in progress - system equipment costs, less associated non-cash expenses (stock-based compensation, depreciation and amortization), and fleet performance. This total is then divided by the megawatts installed in the quarter.

Sales & Marketing

Much like installation expenses, only a portion of sales & marketing expense is capitalized. The remaining portion is expensed through the Income Statement in the period it is incurred or is reported as a future commitment in our filings. The amount of expense related to non-cash stock-based compensation is removed from the total sales & marketing costs. To calculate the total sales & marketing cost per watt, the portion of sales & marketing expense that is capitalized, including work in progress – initial direct costs and customer incentives, is divided by the megawatts installed during the period. The portion that flows through the income statement or is reported as Residual Payments in Note 17 Commitments and Contingencies is divided by the megawatts booked during the quarter. These two components are then summed to reach the total sales & marketing cost per watt.

Installation Costs per Watt Calculation

	<u>Q3'18</u>	
Installation (in thousands)		
System equipment costs (BS Note)	\$ 63,807	←
Plus: Cost of rev - operating leases and incentives (IS)	42,135	
Plus: Cost of rev - solar energy system and product sale (IS)	13,106	
Plus: WIP - System equipment costs (Company's books)	1,529	←
Less: Stock-based compensation (BS Note)	(361)	←
Less: Depreciation and amortization (BS Note)	(17,056)	←
Less: Fleet performance (Company's books)	(6,918)	←
Total installation costs	\$ 96,242	←
Installation (\$ / W)		
Total installation costs (in millions)	\$ 96.2	←
Divided: MW installed	54.3	
Installation cost per watt	\$ 1.77	

Note 5. Solar Energy Systems (in thousands)	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Solar energy systems, net			
System equipment costs	\$ 1,604,598	\$ 1,540,791	\$ 63,807
Solar energy system inventory	27,480	29,374	(1,894)
Initial direct costs related to solar energy systems	404,845	375,759	29,086
Solar energy systems	2,036,923	1,945,924	90,999
Less: Accumulated depreciation and amortization	(178,180)	(161,124)	(17,056)
Solar energy systems, net	<u>\$ 1,858,743</u>	<u>\$ 1,784,800</u>	<u>\$ 73,943</u>

Note 4. Inventories (in thousands)	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Inventories			
Solmetric inventory	\$ 979	\$ 1,022	\$ (43)
WIP - System equipment costs	10,695	9,166	1,529
WIP - Initial direct costs	4,106	2,947	1,159
Inventories	<u>\$ 15,780</u>	<u>\$ 13,135</u>	<u>\$ 2,645</u>

Note 14. Equity Compensation Plans	<u>Q3'18</u>
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 361
Sales and marketing	754
Research and development	32
General and administrative	1,956
Total stock-based compensation	<u>\$ 3,103</u>



Sales & Marketing Costs per Watt Calculation

	<u>Q3'18</u>	
Sales & Marketing (\$ in millions)		
Initial direct costs related to solar energy systems (BS Note)	\$ 29.1	←
Plus: Cost of rev - solar energy system and product sale (IS)	4.6	
Plus: WIP - Initial direct costs (Company's books)	1.2	←
Plus: Customer incentives (Company's books)	0.7	←
	<u>35.5</u>	
Divide: MW installed	54.3	
Initial direct costs per watt	\$ 0.65	←
Sales & Marketing (IS)	\$ 15.8	←
Plus: Residual payments	5.5	←
Less: Stock-based compensation	(0.8)	←
	<u>20.6</u>	
Divide: MW booked	73.5	
Non-capitalized Sales & Marketing costs per watt	\$ 0.28	←
Initial direct costs per watt	\$ 0.65	←
Plus: Non-capitalized Sales & Marketing cost per watt	0.28	←
Total Sales & Marketing	<u>\$ 0.93</u>	

Note 5. Solar Energy Systems (in thousands)	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Solar energy systems, net			
System equipment costs	\$ 1,604,598	\$ 1,540,791	\$ 63,807
Solar energy system inventory	27,480	29,374	(1,894)
Initial direct costs related to solar energy systems	<u>404,845</u>	<u>375,759</u>	<u>29,086</u>
Solar energy systems	2,036,923	1,945,924	90,999
Less: Accumulated depreciation and amortization	(178,180)	(161,124)	(17,056)
Solar energy systems, net	<u>\$ 1,858,743</u>	<u>\$ 1,784,800</u>	<u>\$ 73,943</u>

Note 4. Inventories (in thousands)	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Inventories			
Solmetric inventory	\$ 979	\$ 1,022	\$ (43)
WIP - System equipment costs	10,695	9,166	1,529
WIP - Initial direct costs	<u>4,106</u>	<u>2,947</u>	<u>1,159</u>
Inventories	<u>\$ 15,780</u>	<u>\$ 13,135</u>	<u>\$ 2,645</u>

Note 17. Commitments and Contingencies	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Residual payments (in thousands)	\$ 12,538	\$ 7,060	\$ 5,478

Note 14. Equity Compensation Plans	<u>Q3'18</u>
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 361
Sales and marketing	754
Research and development	32
General and administrative	1,956
Total stock-based compensation	<u>\$ 3,103</u>

Consolidated Balance Sheet (in thousands)	<u>Q3'18</u>	<u>Q2'18</u>	<u>Change</u>
Current assets - Customer incentives	\$ 365	\$ 338	\$ 27
Non-current assets - Customer incentives	8,479	7,757	722
Total customer incentives	<u>\$ 8,844</u>	<u>\$ 8,095</u>	<u>\$ 749</u>

Note: Amounts may not add due to rounding

General & Administrative

General & Administrative expense is taken from the income statement. Expenses that are non-cash such as stock-based compensation are removed from the total. The resultant number is divided by the megawatts installed during the quarter to calculate the total general & administrative cost per watt.

	<u>Q3'18</u>	
General & Administrative (in thousands)		
General & Administrative (IS)	\$ 29,803	
Less: Stock-based compensation (BS Note)	(1,956)	
General & Administrative Costs	\$ 27,847	
General & Administrative costs (in millions)	\$ 27.8	
Divide: MW installed	54.3	
General & Administrative costs per watt	\$ 0.51	
Note 14. Equity Compensation Plans	<u>Q3'18</u>	
Stock-based compensation included in operating expenses (in thousands)		
Cost of revenue - operating leases and incentives	\$ 361	
Sales and marketing	754	
Research and development	32	
General and administrative	1,956	
Total stock-based compensation	\$ 3,103	



Total Estimated Cost per Watt

The sum of installation cost per watt, sales & marketing cost per watt, and general & administrative cost per watt results in the total estimated cost per watt for the period.

	<u>Q3'18</u>
Installation	\$ 1.77
Sales & Marketing	0.93
General & Administrative	<u>0.51</u>
Total costs per watt	<u><u>\$ 3.21</u></u>