



Estimated Cost per Watt Methodology

November 7, 2017

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, 2017.

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. 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 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>Q3'17</u>
Installation (in thousands)	
System equipment costs (BS Note)	\$ 49,614
Plus: Cost of rev - operating leases and incentives (IS)	34,731
Plus: Cost of rev - solar energy system and product sale (IS)	17,382
Plus: WIP - System equipment costs (Company's books)	2,556
Less: Stock-based compensation (BS Note)	(164)
Less: Depreciation and amortization (BS Note)	(14,487)
Less: Fleet performance (Company's books)	(4,825)
Total installation costs	\$ 84,807
Installation (\$ / W)	
Total installation costs (in millions)	\$ 84.8
Divided: MW installed	46.5
Installation cost per watt	\$ 1.82

	<u>Q3'17</u>	<u>Q2'17</u>	<u>Change</u>
Note 5. Solar Energy Systems (in thousands)			
Solar energy systems, net			
System equipment costs	\$ 1,392,886	\$ 1,343,272	\$ 49,614
Solar energy system inventory	25,745	25,833	(88)
Initial direct costs related to solar energy systems	318,658	298,734	19,924
Solar energy systems	1,737,289	1,667,839	69,450
Less: Accumulated depreciation and amortization	(114,728)	(100,241)	(14,487)
Solar energy systems, net	<u>\$ 1,622,561</u>	<u>\$ 1,567,598</u>	<u>\$ 54,963</u>

	<u>Q3'17</u>	<u>Q2'17</u>	<u>Change</u>
Note 4. Inventories (in thousands)			
Inventories			
Solmetric inventory	\$ 705	\$ 685	\$ 20
WIP - System equipment costs	14,349	11,793	2,556
WIP - Initial direct costs	4,748	3,663	1,085
Inventories	<u>\$ 19,802</u>	<u>\$ 16,141</u>	<u>\$ 3,661</u>

	<u>Q3'17</u>
Note 14. Equity Compensation Plans	
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 164
Sales and marketing	601
Research and development	63
General and administrative	1,421
Total stock-based compensation	<u>\$ 2,249</u>



Sales & Marketing Costs per Watt Calculation

Sales & Marketing (\$ in millions)	Q3'17	
Initial direct costs related to solar energy systems (BS Note)	\$ 19.9	←
Plus: Cost of rev - solar energy system and product sale (IS)	4.8	
Plus: WIP - Initial direct costs (Company's books)	1.1	←
Plus: Customer incentives (Company's books)	0.7	←
	26.5	
Divide: MW installed	46.5	
Initial direct costs per watt	\$ 0.57	←
Sales & Marketing (IS)	\$ 9.8	
Less: Stock-based compensation	0.6	←
	9.2	
Divide: MW booked	52.9	
Non-capitalized Sales & Marketing costs per watt	\$ 0.17	←
Initial direct costs per watt	\$ 0.57	←
Plus: Non-capitalized Sales & Marketing cost per watt	0.17	←
Total Sales & Marketing	\$ 0.74	

Note 5. Solar Energy Systems (in thousands)	Q3'17	Q2'17	Change
Solar energy systems, net			
System equipment costs	\$ 1,392,886	\$ 1,343,272	\$ 49,614
Solar energy system inventory	25,745	25,833	(88)
Initial direct costs related to solar energy systems	318,658	298,734	19,924
Solar energy systems	1,737,289	1,667,839	69,450
Less: Accumulated depreciation and amortization	(114,728)	(100,241)	(14,487)
Solar energy systems, net	<u>\$ 1,622,561</u>	<u>\$ 1,567,598</u>	<u>\$ 54,963</u>

Note 4. Inventories (in thousands)	Q3'17	Q2'17	Change
Inventories			
Solmetric inventory	\$ 705	\$ 685	\$ 20
WIP - System equipment costs	14,349	11,793	2,556
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Note 14. Equity Compensation Plans	Q3'17
Stock-based compensation included in operating expenses (in thousands)	
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Sales and marketing	601
Research and development	63
General and administrative	1,421
Total stock-based compensation	<u>\$ 2,249</u>

Consolidated Balance Sheet (in thousands)	Q3'17	Q2'17	Change
Current assets - Customer incentives	\$ 240	\$ 232	\$ 8
Non-current assets - Customer incentives	6,114	5,393	721
Total customer incentives	<u>\$ 6,354</u>	<u>\$ 5,625</u>	<u>\$ 729</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 and any one-time expenses 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>Q3'17</u>
General & Administrative (in thousands)	
General & Administrative (IS)	\$ 19,379
Less: Stock-based compensation (BS Note)	(1,421)
Less: One-time expenses (Company's books)	(486)
General & Administrative Costs	\$ 17,472
General & Administrative costs (in millions)	\$ 17.5
Divide: MW installed	46.5
General & Administrative costs per watt	\$ 0.38
Note 14. Equity Compensation Plans	
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 164
Sales and marketing	601
Research and development	63
General and administrative	1,421
Total stock-based compensation	\$ 2,249
Company's Books (in thousands)	
One-time items	\$ 486



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>Q3'17</u>
Installation	\$ 1.82
Sales & Marketing	0.74
General & Administrative	<u>0.38</u>
Total costs per watt	<u><u>\$ 2.94</u></u>