



Estimated Cost per Watt Methodology

March 5, 2019

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 December 31, 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 total megawatts installed in the period.

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. To calculate the total sales & marketing expense, the portion of sales & marketing expense that is capitalized, including work in progress – initial direct costs and customer incentives, the portion that flows through the income statement, and the expense reported as Residual Payments in Note 17 Commitments and Contingencies, less the amount of expense related to non-cash stock-based compensation. This total is then divided by the total megawatts installed in the period.



Installation Costs per Watt Calculation

	<u>Q4'18</u>
Installation (in thousands)	
System equipment costs (BS Note)	\$ 62,842
Plus: Cost of rev - operating leases and incentives (IS)	42,732
Plus: Cost of rev - solar energy system and product sale (IS)	15,492
Plus: WIP - System equipment costs (Company's books)	1,626
Less: Stock-based compensation (BS Note)	(349)
Less: Depreciation and amortization (BS Note)	(17,710)
Less: Fleet performance (Company's books)	(7,909)
Total installation costs	\$ 96,724
Installation (\$ / W)	
Total installation costs (in millions)	\$ 96.7
Divided: MW installed	54.3
Installation cost per watt	<u><u>\$ 1.78</u></u>

Note 5. Solar Energy Systems (in thousands)	<u>Q4'18</u>	<u>Q3'18</u>	<u>Change</u>
Solar energy systems, net			
System equipment costs	\$ 1,667,440	\$ 1,604,598	\$ 62,842
Solar energy system inventory	32,240	27,480	4,760
Initial direct costs related to solar energy systems	435,084	404,845	30,239
Solar energy systems	2,134,764	2,036,923	97,841
Less: Accumulated depreciation and amortization	(195,890)	(178,180)	(17,710)
Solar energy systems, net	<u>\$ 1,938,874</u>	<u>\$ 1,858,743</u>	<u>\$ 80,131</u>

Note 4. Inventories (in thousands)	<u>Q4'18</u>	<u>Q3'18</u>	<u>Change</u>
Inventories			
Solmetric inventory	\$ 936	\$ 979	\$ (43)
WIP - System equipment costs	12,321	10,695	1,626
WIP - Initial direct costs	5,156	4,106	1,050
Inventories	<u>\$ 18,413</u>	<u>\$ 15,780</u>	<u>\$ 2,633</u>

Note 14. Equity Compensation Plans	<u>Q4'18</u>
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 349
Sales and marketing	685
Research and development	26
General and administrative	2,219
Total stock-based compensation	<u>\$ 3,279</u>



Sales & Marketing Costs per Watt Calculation

Sales & Marketing (in thousands)	Q4'18	
Initial direct costs related to solar energy systems (BS Note)	\$ 30,239	←
Plus: Cost of rev - solar energy system and product sale (IS)	5,148	←
Plus: WIP - Initial direct costs (Company's books)	1,050	←
Plus: Sales & Marketing (IS)	17,951	←
Plus: Residual payments	3,003	←
Plus: Customer incentives (Company's books)	807	←
Less: Stock-based compensation	(685)	←
Total sales & marketing costs	\$ 57,513	←
Sales & Marketing (\$ / W)		
Total sales & marketing costs (in millions)	57.5	←
Divide: MW installed	54.3	
Total Sales & Marketing	\$ 1.06	

Note 5. Solar Energy Systems (in thousands)	Q4'18	Q3'18	Change	
Solar energy systems, net				
System equipment costs	\$ 1,667,440	\$ 1,604,598	\$ 62,842	
Solar energy system inventory	32,240	27,480	4,760	
Initial direct costs related to solar energy systems	435,084	404,845	30,239	←
Solar energy systems	2,134,764	2,036,923	97,841	
Less: Accumulated depreciation and amortization	(195,890)	(178,180)	(17,710)	
Solar energy systems, net	<u>\$ 1,938,874</u>	<u>\$ 1,858,743</u>	<u>\$ 80,131</u>	

Note 4. Inventories (in thousands)	Q4'18	Q3'18	Change	
Inventories				
Solmetric inventory	\$ 936	\$ 979	\$ (43)	
WIP - System equipment costs	12,321	10,695	1,626	
WIP - Initial direct costs	5,156	4,106	1,050	←
Inventories	<u>\$ 18,413</u>	<u>\$ 15,780</u>	<u>\$ 2,633</u>	

Note 17. Commitments and Contingencies	Q4'18	Q3'18	Change	
Residual payments (in thousands)	\$ 15,541	\$ 12,538	\$ 3,003	←

Note 14. Equity Compensation Plans	Q4'18	
Stock-based compensation included in operating expenses (in thousands)		
Cost of revenue - operating leases and incentives	\$ 349	
Sales and marketing	685	←
Research and development	26	
General and administrative	2,219	
Total stock-based compensation	<u>\$ 3,279</u>	

Consolidated Balance Sheet (in thousands)	Q4'18	Q3'18	Change	
Current assets - Customer incentives	\$ 398	\$ 365	\$ 33	
Non-current assets - Customer incentives	9,253	8,479	774	
Total customer incentives	<u>\$ 9,651</u>	<u>\$ 8,844</u>	<u>\$ 807</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 total megawatts installed during the quarter to calculate the total general & administrative cost per watt.

	<u>Q4'18</u>
General & Administrative (in thousands)	
General & Administrative (IS)	\$ 21,762
Less: Stock-based compensation (BS Note)	(2,219)
Less: One-time expenses (Company's books)	(810)
General & Administrative Costs	\$ 18,733
General & Administrative costs (in millions)	\$ 18.7
Divide: MW installed	54.3
General & Administrative costs per watt	\$ 0.34
	<u><u> </u></u>
	<u>Q4'18</u>
Note 14. Equity Compensation Plans	
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	\$ 349
Sales and marketing	685
Research and development	26
General and administrative	2,219
Total stock-based compensation	\$ 3,279
	<u><u> </u></u>



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>Q4'18</u>
Installation	\$ 1.78
Sales & Marketing	1.06
General & Administrative	<u>0.34</u>
Total costs per watt	<u><u>\$ 3.18</u></u>