Estimated Cost per Watt Methodology

March 7, 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 December 31, 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.

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Installation Costs per Watt Calculation

	Q4'17
Installation (in thousands)	
System equipment costs (BS Note)	$ 44,533
Plus: Cost of rev - operating leases and incentives (IS)	37,741
Plus: Cost of rev - solar energy system and product sale (IS)	19,648
Plus: WIP - System equipment costs (Company's books)	2,226
Less: Stock-based compensation (BS Note)	(255)
Less: Depreciation and amortization (BS Note)	(14,912)
Less: Fleet performance (Company's books)	(6,387)
Total installation costs	**$ 82,594**
Installation ($ / W)	
Total installation costs (in millions)	$ 82.6
Divided: MW installed	44.6
Installation cost per watt	**$ 1.85**

Note 5. Solar Energy Systems (in thousands)	Q4'17	Q3'17	Change
Solar energy systems, net			
System equipment costs	$ 1,437,419	$ 1,392,886	$ 44,533
Solar energy system inventory	29,617	25,745	3,872
Initial direct costs related to solar energy systems	336,136	318,658	17,478
Solar energy systems	1,803,172	1,737,289	65,883
Less: Accumulated depreciation and amortization	(129,640)	(114,728)	(14,912)
Solar energy systems, net	$ 1,673,532	$ 1,622,561	$ 50,971

Note 4. Inventories (in thousands)	Q4'17	Q3'17	Change
Inventories			
Solmetric inventory	$ 626	$ 705	$ (79)
WIP - System equipment costs	16,575	14,349	2,226
WIP - Initial direct costs	5,396	4,748	648
Inventories	$ 22,597	$ 19,802	$ 2,795

Note 14. Equity Compensation Plans	Q4'17
Stock-based compensation included in operating expenses (in thousands)	
Cost of revenue - operating leases and incentives	$ 255
Sales and marketing	1,374
Research and development	(99)
General and administrative	1,886
Total stock-based compensation	$ 3,416

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Sales & Marketing Costs per Watt Calculation

Sales & Marketing ($ in millions)	Q4'17
Initial direct costs related to solar energy systems (BS Note)	$ 17.5
Plus: Cost of rev - solar energy system and product sale (IS)	5.7
Plus: WIP - Initial direct costs (Company's books)	0.6
Plus: Customer incentives (Company's books)	0.7
	24.4
Divide: MW installed	44.6
Initial direct costs per watt	$ 0.55
Sales & Marketing (IS)	$ 10.7
Less: Stock-based compensation	1.4
	9.3
Divide: MW booked	54.6
Non-capitalized Sales & Marketing costs per watt	$ 0.17
Initial direct costs per watt	$ 0.55
Plus: Non-capitalized Sales & Marketing cost per watt	0.17
Total Sales & Marketing	**$ 0.72**

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Consolidated Balance Sheet (in thousands)	Q4'17	Q3'17	Change
Current assets - Customer incentives	$ 277	$ 240	$ 37
Non-current assets - Customer incentives	6,738	6,114	624
Total customer incentives	$ 7,015	$ 6,354	$ 661

Note: Amounts may not add due to rounding

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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.

	Q4'17
General & Administrative (in thousands)	
General & Administrative (IS)	$ 19,140
Less: Stock-based compensation (BS Note)	(1,886)
Less: One-time expenses (Company's books)	(379)
General & Administrative Costs	**$ 16,875**
General & Administrative costs (in millions)	$ 16.9
Divide: MW installed	44.6
General & Administrative costs per watt	**$ 0.38**

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Cost of revenue - operating leases and incentives	$ 255
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General and administrative	1,886
Total stock-based compensation	$ 3,416

Company's Books (in thousands)	
One-time items	$ 379

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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.

	Q4'17
Installation	$ 1.85
Sales & Marketing	0.72
General & Administrative	0.38
Total costs per watt	**$ 2.95**