



Executive Summary  
Battery Storage, Smart Grid,  
and Efficiency Funding and M&A  
2017 Fourth Quarter and Annual Report

Funding and merger & acquisition activity for the  
battery storage, smart grid, and efficiency sectors

<http://www.mercomcapital.com>

TABLE of  
CONTENTS

Introduction.....	7
<b>BATTERY STORAGE.....</b>	<b>11</b>
Battery Storage Key Findings.....	12
Battery Storage Funding and M&A Activity By Quarter.....	14
Battery Storage VC Funding (By Quarter).....	15
Battery Storage VC Funding.....	16
Battery Storage VC Funding By Category.....	17
Battery Storage VC Funding Breakdown.....	19
Q4 - Battery Storage VC Funding By Category.....	20
Battery Storage VC Investments By Stage.....	22
Battery Storage VC Investments By Average Deal Size.....	23
Q4 - Battery Storage VC Investments By Stage.....	24
Battery Storage Top 5 VC Funded Companies.....	25
Battery Storage Top VC Investors.....	26
Q4 - Battery Storage Top 5 VC Funded Companies.....	27
Q4 - Battery Storage Top VC Investors.....	28
Battery Storage VC Activity by Country.....	29
Q4 - Battery Storage VC Activity By Country.....	30
Q4 - Battery Storage VC Deals.....	31
Battery Storage Industry Updates.....	32
Battery Storage Debt and Public Market Financing (By Quarter).....	33
Battery Storage Debt and Public Market Financing.....	34
Battery Storage Debt and Public Market Financing Investors.....	35
Q4 - Battery Storage Debt and Public Market Financing Activity.....	36
Battery Storage Project Funds (By Quarter).....	37
Battery Storage Project Funds.....	38
Battery Storage Project Funds Investors.....	39
Q4 - Battery Storage Project Funds Activity.....	40
Battery Storage Project Funding (By Quarter).....	41
Battery Storage Project Funding.....	42
Battery Storage Project Funding Investors.....	43
Q4 - Battery Storage Project Funding Activity.....	44
Battery Storage M&A (By Quarter).....	45
Battery Storage M&A.....	46
Battery Storage M&A by Category.....	47
Battery Storage Disclosed M&A Transactions.....	48
Battery Storage Multiple Acquirers.....	49
Q4 - Battery Storage M&A Activity.....	50
<b>SMART GRID.....</b>	<b>51</b>
Smart Grid Key Findings.....	52

Smart Grid Funding and M&A Activity By Quarter.....	54
Smart Grid VC Funding (By Quarter).....	55
Smart Grid VC Funding.....	56
Smart Grid VC Funding Breakdown.....	57
Smart Grid VC Funding By Category.....	60
Q4 - Smart Grid VC Funding By Category.....	62
Smart Grid VC Investments By Stage.....	65
Smart Grid VC Investments By Average Deal Size.....	66
Q4 - Smart Grid VC Investments By Stage.....	67
Smart Grid Top VC Funded Companies.....	68
Smart Grid Top VC Investors.....	69
Q4 - Smart Grid Top VC Funded Companies.....	70
Q4 - Smart Grid VC Investors.....	71
Smart Grid VC Activity By Country.....	72
Q4 - Smart Grid VC Activity By Country.....	73
Smart Grid VC Funding Deals.....	74
Smart Grid Industry Updates.....	76
Smart Grid Debt and Public Market Financing (By Quarter).....	77
Smart Grid Debt and Public Market Financing.....	78
Q4 - Smart Grid Debt and Public Market Financing.....	79
Smart Grid M&A (By Quarter).....	80
Smart Grid M&A.....	81
Smart Grid M&A Activity by Category.....	82
Smart Grid Top M&A Transactions.....	83
Smart Grid Top Acquirers.....	84
Q4 - Smart Grid M&A Activity.....	85
<b>EFFICIENCY.....</b>	<b>87</b>
Efficiency Key Findings.....	88
Efficiency Funding and M&A Activity By Quarter.....	90
Efficiency VC Funding (By Quarter).....	91
Efficiency VC Funding.....	92
Efficiency VC Funding By Category.....	93


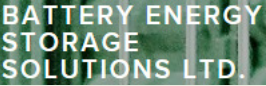



Q4 - Efficiency VC Funding By Category.....	97
Efficiency VC Investments By Stage.....	99
Efficiency VC Investments By Average Deal Size.....	100
Q4 - Efficiency VC Investments By Stage.....	101
Efficiency Top 5 VC Funded Companies.....	102
Efficiency Top VC Investors.....	104
Q4 - Efficiency Top 5 VC Funded Companies.....	105
Q4 - Efficiency VC Investors.....	106
Efficiency VC Activity By Country.....	107
Q4 - Efficiency VC Activity By Country.....	108
Q4 - Efficiency VC Funding Deals.....	109
Efficiency Debt and Public Market Financing (By Quarter).....	111
Efficiency Debt and Public Market Financing.....	112
Efficiency Debt and Public Market Financing Activity.....	113
Efficiency Debt and Public Market Financing Investors.....	114
Efficiency PACE Financing (By Quarter).....	115
Efficiency PACE Financing.....	116
Q4 - Efficiency Project Funding Activity.....	117
Efficiency M&A (By Quarter).....	118
Efficiency M&A.....	119
Efficiency Disclosed M&A Transactions.....	120
Efficiency M&A By Category.....	121
Efficiency Multiple Acquirers.....	122
Efficiency M&A Activity.....	123
Q4 - New Cleantech, Battery Storage, Smart Grid, and Energy Efficiency Funds.....	124

There were 91 companies and investors covered in Mercom’s Battery Storage, Smart Grid, and Efficiency Funding and M&A Q4 and Annual 2017 Report. The report is 128 pages in length and contains 122 charts, graphs, and tables.

**BATTERY STORAGE  
KEY FINDINGS**

- Venture capital (VC) funding raised by Battery Storage companies almost doubled to \$714 million raised in 30 deals in 2017 from \$365 million raised in 38 deals in 2016.
- VC funding for Battery Storage companies in Q4 2017 rose to \$151 million in five deals, compared to \$83 million raised in seven deals in Q3 2017.
- Companies in the Li-based Batteries sector raised \$473 million in eight deals in 2017, compared to \$79 million raised in six deals in 2016.
- There were 86 VC investors that participated in Battery Storage deals in 2017, compared to 62 investors in 2016.
- The Top 5 Battery Storage VC Funding Deals in 2017 were: Microvast Power Systems with \$400 million, Battery Energy Storage Solutions with \$66 million, Forsee Power with \$65 million, Advanced Microgrid Solutions with \$34 million, and Primus Power with \$32 million.
- Announced debt and public market financing for Battery Storage companies remained steady at \$177 million raised in 12 deals compared to \$175 million generated by eight deals in 2016.
- There were six M&A transactions in the Battery Storage category in 2017 of which only two disclosed transaction amounts. In 2016 there were 11 M&A transactions, three of which disclosed transaction amounts.
- The top disclosed M&A transaction in 2017 was the \$170 million acquisition of Greensmith by Wartsila.

Battery Storage Top 5 VC Funded Companies in 2017







Company	Country	Amount (\$M)	Investors
	China	400	CITIC Securities, CDH Investment, National Venture Capital
	UK	66	Tiger Infrastructure Partners
	France	65	Mitsui, European Investment Bank, Idinvest
 Advanced Microgrid Solutions	USA	34	Energy Impact Partners, Southern Company, DBL Partners, GE Ventures, AGL Energy, Macquarie Capital, Arnold Schwarzenegger
	USA	32	Success Dragon, Matador Capital, Anglo American Platinum, DBL Partners, I2BF, Russia Kazakhstan Nanotechnology Fund

Source: Mercom Capital Group

SMART GRID KEY  
FINDINGS

- VC funding into Smart Grid companies in 2017 rose to \$422 million from \$389 million in 2016. There were 45 deals in 2017, compared to 42 deals in 2016.
- Eighty-eight investors funded Smart Grid companies in 2017 compared to 82 investors in 2016.
- Smart Charging plug-in hybrid electric vehicle (PHEV) and vehicle-to-grid (V2G) companies received the largest share of VC funding in 2017 with \$155 million in 10 deals, accounting for 37 percent of total VC investments in the Smart Grid sector.
- Two of the top Smart Grid VC funded deals in 2017 were done by ChargePoint, which raised \$82 million and \$43 million in separate deals. Other top deals in that category were announced by Actility, which brought in \$75 million; Brilliant, which raised \$21 million; and Particle and Urjanet which received \$20 million each.
- In 2017, most of the Smart Grid VC investments worldwide originated in the United States with \$265 million in 25 deals.
- In 2017, five debt and public market financing deals totaling \$774 million were announced, compared to \$224 million raised by five deals in 2016.
- In 2017, there were 27 M&A transactions recorded in the Smart Grid sector and 11 of these disclosed transaction amounts totaling \$2.5 billion. In 2016, there were 15 transactions, four of which disclosed a combined \$2.4 billion.
- The largest disclosed transaction in 2017 was the \$1.1 billion acquisition of Aclara Technologies by Hubbell.

Smart Grid Top VC Funded Companies in 2017






Company	Country	Funding Type	Amount (\$M)	Investors
	USA	Undisclosed	82	Daimler, BMW i Ventures, Linse Capital, Rho Capital Partners, Braemar Energy Ventures
	France	Series D	75	Creadev, Bosch, Inmarsat, Idinvest, Bpifrance, Ginko Ventures, KPN, Orange Digital Ventures, Swisscom, Foxconn
	USA	Series G	43	Siemens
	USA	Series A	21	August Capital, Miramar Ventures, The Box Group, Stanford-StartX Fund
	USA	Series B	20	Spark Capital, Qualcomm Ventures
	USA	Series C	20	Oak HC/FT
Source: Mercom Capital Group				



ENERGY  
EFFICIENCY KEY  
FINDINGS

- In 2017, VC funding for the Energy Efficiency sector fell to \$384 million raised in 38 deals from \$528 million raised in 33 deals in 2016.
- VC funding raised by Energy Efficiency companies in Q4 2017 increased to \$95 million generated in 10 deals compared to \$47 million in eight deals in Q3 2017.
- Efficient Home/Building companies raised \$172 million in five deals and accounted for 45 percent of the total VC funding raised in 2017, compared to \$82 million raised in eight deals in 2016, which accounted for 15 percent of that year's total VC funding.
- A total of 51 investors participated in funding deals in 2017 compared to 72 investors in 2016. The top investor was Energy Impact Partners.
- The top Efficiency deals in 2017 were: View, which raised \$100 million; Kinestral Technologies with \$65 million; RENEW Energy Partners with \$40 million; Power Survey and Equipment with \$24 million; and Stack Lighting with \$16 million.
- Most of the VC funding announced in 2017 came from deals in the United States, totaling \$315 million in 21 deals.
- In 2017, debt and public market financing announced by Energy Efficiency companies fell to \$2.9 billion raised in 16 deals from \$3.2 billion raised by 16 deals in 2016.
- There were seven securitization deals in 2017 that raised a combined \$1.6 billion, compared to ten securitization deals that brought in \$1.8 billion in 2016.
- There was one Efficiency Project Funding deal in 2017.
- M&A activity for the Efficiency sector in 2017 dropped to 10 transactions (three disclosed). In 2016, there were 14 M&A transactions (five disclosed).
- The top disclosed M&A transaction in 2017 was the \$526 million acquisition of LEDvance by a Chinese consortium consisting of IDG Capital, MLS, and Yiwu State-Owned Assets Operation Center (Yiwu).

Efficiency Top 5 VC Funded Companies in 2017

Company	Country	Funding Type	Amount (\$M)	Investors
 view   Dynamic Glass	USA	Undisclosed	100	TIAA Investments
 KINESTRAL	USA	Series C	65	Undisclosed
 RENEW Energy Partners	USA	Undisclosed	40	Rollins Capital, Proficio Capital Partners
 PS POWER SURVEY	Canada	Series A	24	EnerTech Capital, Investissement Quebec, Cycle Capital Management, Fonds de solidarite FTQ, BDC Capital
 STACKCARE	USA	Series A	16	Undisclosed

Source: Mercom Capital Group

# Our Reports

[Click here](#)  
to purchase  
Mercom's Q4 and Annual  
2017  
Battery Storage, Smart  
Grid, and Efficiency  
Funding and M&A Report

[Subscribe to](#)  
Mercom's weekly  
market intelligence reports:  
Battery Storage, Smart Grid &  
Efficiency, and Solar

Visit:  
[MercomCapital.com](http://MercomCapital.com)  
to  
purchase  
past reports