

## Energy Storage

### INDUSTRY SUMMARY

**COGENT VALUATION** identified **Energy Storage** publicly traded companies, IPOs, and recent M&A transactions within the Energy Storage industry, which provides a basis for market and transaction pricing that can be used by your firm in estimating market sentiment and its impact on your firm's value. Over the last year since December 31, 2016, the median 52-week share price return of the Energy Storage industry was 4.8%. Between December 31, 2015 and December 31, 2017, the median EV/EBITDA multiple decreased from 13.9 to 9.4. Furthermore, the median price-to-earnings multiple decreased from 14.7 to 13.4 over the same period. The median revenue growth and EBITDA margins for the industry for the quarter were 0.9% and 8.3%, respectively.

### Public Company Key Statistics

Median 52-Week  
Return

4.8%

Median 3-Year CAGR  
Return

-7.3%

Median EV/Revenue  
Multiple

1.0x

Median EV/EBITDA  
Multiple

9.4x

Median Price/Earnings  
Multiple

13.4x

Median EV/Gross CF  
Multiple

15.0x

## Comparable Public Company Market Price Returns as of December 31, 2017

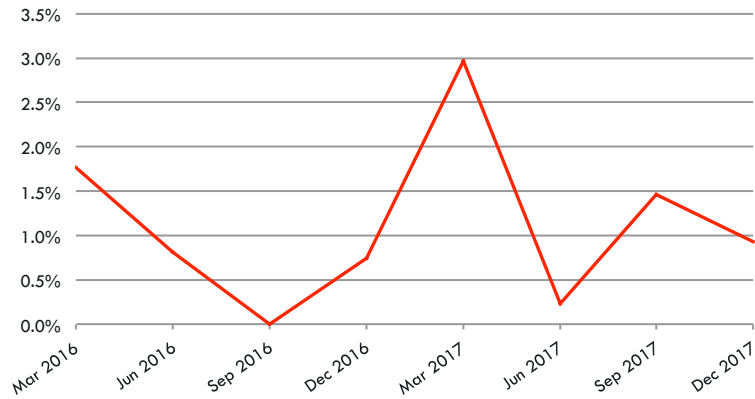
	YTD	3 Month	1 Year	2 Year	3 Year	2016	2015	2014
<b>CBAK Energy Technology, Inc.</b>	4.8%	-1.7%	4.8%	-27.5%	-7.3%	-49.9%	51.9%	-16.7%
<b>EnerSys</b>	-10.8%	0.7%	-10.8%	11.6%	4.1%	39.6%	-9.4%	-11.9%
<b>Highpower International, Inc.</b>	57.4%	-19.6%	57.4%	11.1%	-9.4%	-21.7%	-39.6%	94.1%
<b>Ultralife Corporation</b>	32.3%	-3.0%	32.3%	0.7%	27.9%	-23.4%	106.4%	-11.8%
<b>Universal Power Group, Inc.</b>	-11.5%	-6.1%	-11.5%	-14.3%	-18.6%	-17.0%	-26.5%	47.1%
<b>Median of Industry Public Companies</b>	<b>4.8%</b>	<b>-3.0%</b>	<b>4.8%</b>	<b>0.7%</b>	<b>-7.3%</b>	<b>-21.7%</b>	<b>-9.4%</b>	<b>-11.8%</b>

Multiple year periods are calculated as the average annual return.

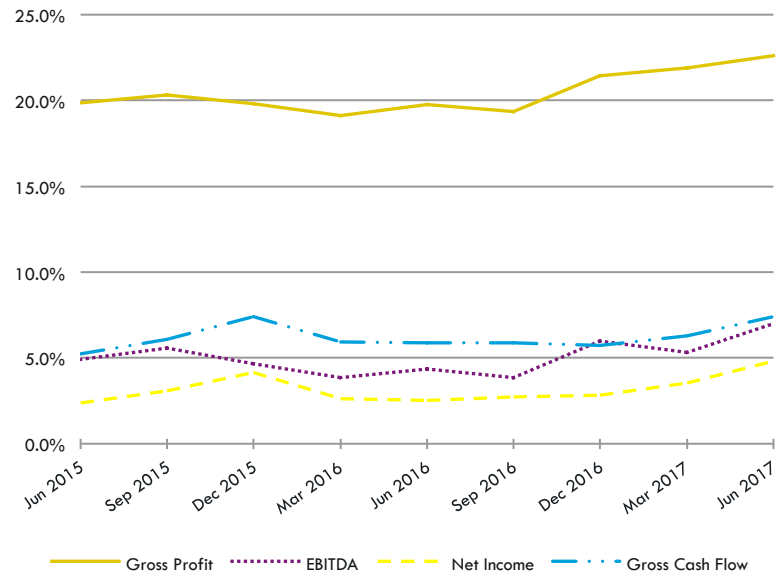
■ Highest Return    
 ■ Lowest Return    
 ■ Median Return

# Industry Revenue Growth and Profit Margins for the Past Two Years

Median Quarterly Revenue Growth of All Biofuel Companies



Median Gross Profit, EBITDA, Net Income, and Gross Cash Flow Margins



## Median Public Companies

The chart below illustrates Public Company Multiples.

	12/31/17	9/30/17	6/30/17	3/31/17	12/31/16	9/30/16	6/30/16	3/31/16
<b>EV/Revenues Multiple</b>	1.0x	1.1x	1.2x	0.9x	0.8x	0.7x	0.9x	1.0x
<b>EV/EBITDA Multiple</b>	9.4x	10.0x	11.2x	10.6x	10.3x	9.8x	12.5x	11.2x
<b>Price/Earnings Multiple</b>	13.4x	18.3x	19.6x	21.4x	21.6x	22.7x	17.8x	14.1x
<b>EV/Gross Cash Flows Multiple</b>	15.0x	13.4x	14.9x	14.9x	15.3x	15.0x	15.5x	14.8x

■ Highest Multiple    
 ■ Lowest Multiple    
 ■ Median Multiple

## Industry Initial Public Offerings—Industry: Energy Storage (dollars in millions, except share prices)

Offer Date	Company Name	Offer Price	Shares Offered	Amount Raised	Total Assets	Debt	LTM Revenues	LTM EBITDA	LTM Net Income	LTM Cash Flows
10/26/17	Shanghai Putailai New Energy Technology Co.,	\$3.25	0.5	\$1.7	\$51.9	\$15.7	\$79.6	\$6.4	\$2.9	\$7.0
10/18/17	Varta AG	\$19.00	15.0	\$285.0	\$1,410.5	\$1,057.1	\$491.9	\$142.0	(\$26.1)	\$182.0
10/10/17	Voltabox AG	\$7.00	3.0	\$21.0	\$32.0	\$11.7	\$89.3	\$3.3	\$1.4	\$3.4
10/5/17	Goldstar Power Limited	\$0.39	12.0	\$4.6	\$8.1	\$4.2	\$0.2	(\$3.5)	(\$4.0)	(\$3.3)
9/22/17	Shin Heung Energy & Electronics Co., Ltd.	\$12.00	7.0	\$84.0	\$6.7	\$4.1	N/A	N/A	N/A	N/A
9/15/17	mPLUS Corp.	\$17.00	8.0	\$136.0	\$23.3	\$0.0	\$3.4	(\$15.4)	(\$18.8)	(\$14.7)
6/19/08	Highpower International, Inc.	\$14.00	5.0	\$70.0	\$78.3	\$39.5	\$82.1	\$15.7	\$5.3	\$18.0
<b>Median of all IPOs</b>		<b>nm</b>	<b>nm</b>	<b>\$70.0</b>	<b>\$32.0</b>	<b>\$11.7</b>	<b>\$80.8</b>	<b>\$4.8</b>	<b>(\$1.3)</b>	<b>\$5.2</b>

Multiple year periods are calculated as the average annual return.

■ Highest Return    
 ■ Lowest Return    
 ■ Median Return

## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

Transaction Date	Target	Acquirer	Transaction Size	% Bought
11/22/17	Wuhan Fanso Technology	Graphitecorp Limited	\$5.3	100%
9/1/17	Tohoku Murata Manufacturing	Aqua Metals, Inc.	\$2.3	100%
8/1/17	Go Power! Electric Inc.	Minebea Co., Ltd.	\$651.5	100%
7/14/17	Aquion Energy, Inc.	Hitachi Chemical Co.	\$92.2	51%
6/2/17	Novonix Battery Testing	VanSpar Mining Inc.	\$3.3	100%
4/13/17	Ebonex IPR Limited	TOTAL S.A.	\$1,368.3	100%
1/24/17	Mitsumi Electric Co., Ltd.	Platypus Minerals Ltd (nka:Lepidico Ltd)	\$11.2	100%
6/1/16	Fiamm Batterie S.r.l.	Solid State plc	\$2.2	100%
4/8/16	T&t Ener techno Co., Ltd.	Shenzhen Selen Science	\$86.4	100%
6/30/15	Leclanché SA	Oakridge Global Energy Solutions, Inc.	\$46.1	45%
5/5/15	Magna Steyr Battery	Samsung SDI Co. Ltd.	\$120.0	100%

 USA

 International

 Highest

 Lowest

 Median

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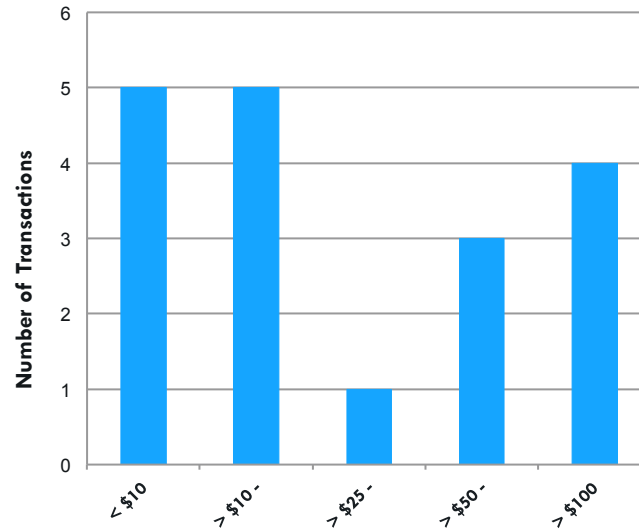
## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

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Transaction Date	Target	Acquirer	Transaction Size	% Bought
4/8/16	SK Continental E-motion	SK Innovation Co., Ltd.	\$14.9	100%
6/30/15	Ener-tek International, Inc.	OM Group Inc.	\$24.0	100%
5/5/15	A123 Energy Solutions	NEC Corporation	\$100.0	100%
12/30/14	Shenzhen Eyang Energy	N/A	\$1.7	100%
11/24/14	Quallion LLC	EnerSys	\$30.0	100%
9/30/13	Eltek Electric Vehicles	Valeo SA	\$20.3	100%
8/23/13	Millennium Power Solutions	Blue Earth Inc.	\$15.2	100%
Median of the 28 M&A Transaction Targets			\$14.9	100%

USA
  International
  Highest
  Lowest
  Median

## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions) as of December 31, 2017





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**Definitions of Financial Terms Used in this Quarterly Industry Update:** Enterprise Value (EV): Market Value of Equity + Market Value of Debt —Cash Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA): Profitability metric sometimes also referred to as operating profit or operating earnings.

**Gross Cash Flows:** Net Income + Depreciation and Amortization Expense Latest Twelve Months (LTM): Financial information is as of the latest twelve months through the date of this Quarterly Industry Update.

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