

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, 2017, the median 52-week share price return of the Energy Storage industry was -18.9%. Between December 31, 2016 and December 31, 2018, the median EV/EBITDA multiple increased from 10.9 to 14.3. Furthermore, the median price-to-earnings multiple increased from 24.6 to 36.0 over the same period. The median revenue growth and EBITDA margins for the industry for the quarter were 3.4% and 11.3%, respectively.

Public Company Key Statistics

Median 52-Week
Return

-18.9%

Median 3-Year CAGR
Return

6.5%

Median EV/Revenue
Multiple

1.6x

Median EV/EBITDA
Multiple

14.3x

Median Price/Earnings
Multiple

36x

Median EV/Gross CF
Multiple

19.9x

Comparable Public Company Market Price Returns as of December 31, 2018

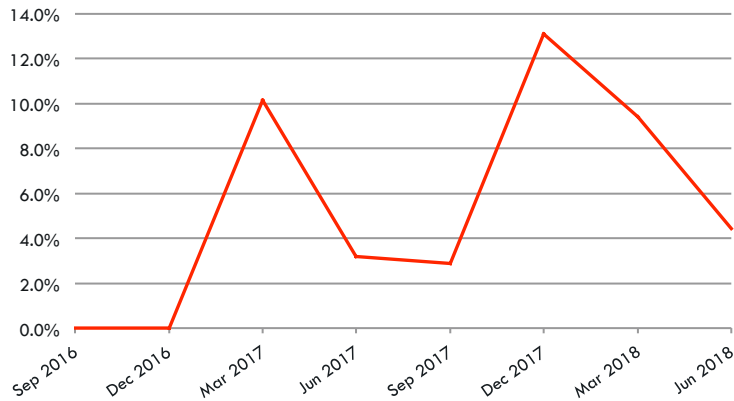
	YTD	3 Month	1 Year	2 Year	3 Year	2016	2015	2014
EnerSys	11.5%	-31.9%	-31.9%	-40.5%	-34.3%	-49.9%	51.9%	-16.7%
Goldstar Power Limited	-31.4%	7.6%	3.0%	12.0%	2.0%	39.6%	-9.4%	-11.9%
Highpower International, Inc.	-41.4%	-14.7%	N/A	N/A	N/A	N/A	N/A	N/A
mPLUS Corp.	-21.8%	-17.3%	-15.1%	27.1%	-7.0%	-21.7%	-39.6%	94.1%
Shanghai Putailai New Energy Technology Co., Ltd.	-18.9%	-29.3%	N/A	N/A	N/A	N/A	N/A	N/A
Shin Heung Energy & Electronics Co.,Ltd.	46.6%	52.6%	N/A	N/A	N/A	N/A	N/A	N/A
Ultralife Corporation	3.1%	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
Varta AG	11.0%	-4.0%	33.3%	38.4%	31.8%	-23.4%	106.4%	-11.8%
Voltabox AG	-52.3%	14.9%	-11.5%	-14.3%	-18.6%	-17.0%	N/A	N/A
Median of Industry Public Companies	-18.9%	-3.0%	4.8%	0.7%	-7.3%	-21.7%	-9.4%	-11.8%

Multiple year periods are calculated as the average annual return.

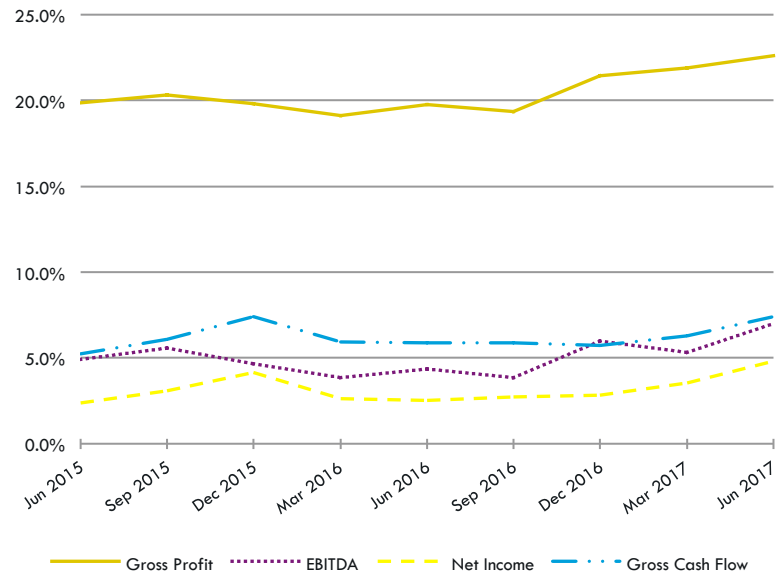
■ Highest Return
 ■ Lowest Return
 ■ Median Return

Industry Revenue Growth and Profit Margins for the Past Two Years

Median Quarterly Revenue Growth of All Energy Storage Companies



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



Median Public Companies

The chart below illustrates Public Company Multiples.

	12/31/18	9/30/18	6/30/18	3/31/18	12/31/17	9/30/18	6/30/18	12/31/16
EV/Revenues Multiple	1.6x	1.1x	1.2x	0.9x	0.8x	0.7x	0.9x	1.0x
EV/EBITDA Multiple	14.3x	10.0x	11.2x	10.6x	10.3x	9.8x	12.5x	11.2x
Price/Earnings Multiple	36.0x	18.3x	19.6x	21.4x	21.6x	22.7x	17.8x	14.1x
EV/Gross Cash Flows Multiple	19.9x	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
9/11/18	NIO Inc.	\$6.26	0.5	\$1.7	\$51.9	\$15.7	\$79.6	\$6.4	\$2.9	\$7.0
6/27/18	Akasol AG	\$56.23	15.0	\$285.0	\$1,410.5	\$1,057.1	\$491.9	\$142.0	(\$26.1)	\$182.0
6/8/18	Contemporary Amperex Technology Co., Limited	\$3.93	3.0	\$21.0	\$32.0	\$11.7	\$89.3	\$3.3	\$1.4	\$3.4
10/26/17	Shanghai Putailai New Energy Technology Co., Ltd.	\$2.49	12.0	\$4.6	\$8.1	\$4.2	\$0.2	(\$3.5)	(\$4.0)	(\$3.3)
10/18/17	Shin Heung Energy & Electronics Co., Ltd.	\$28.34	7.0	\$84.0	\$6.7	\$4.1	N/A	N/A	N/A	N/A
10/10/17	mPLUS Corp.	\$17.00	8.0	\$136.0	\$23.3	\$0.0	\$3.4	(\$15.4)	(\$18.8)	(\$14.7)
10/5/17	Highpower International, Inc.	\$14.00	5.0	\$70.0	\$78.3	\$39.5	\$82.1	\$15.7	\$5.3	\$18.0
Median of all IPOs		nm	nm	\$70.0	\$32.0	\$11.7	\$80.8	\$4.8	(\$1.3)	\$5.2


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
10/17/18	Kokam Co., Ltd.	SolarEdge Technologies, Inc.	\$111.4	100%
9/30/18	Fuelcon AG	HORIBA Automotive Test Systems GmbH	\$18.1	100%
9/20/18	ACCURATE Smart Battery Solutions GmbH	Voltabox AG	\$5.9	100%
7/5/18	Liyang Yuequan Electric Energy Co.	Zhejiang Youchuang Venture Capital Co., Ltd.	\$84.6	51%
2/21/18	Pure Vanadium Corp.	Stina Resources Ltd. (nka: CellCube Energy Storage Systems Inc.)	\$4.4	100%
1/3/18	IABÖ Global Holding	J2L	\$45.1	100%
9/20/18	Jinhua An Kao Power	Zhejiang Kandi Vehicles Co.	\$21.8	100%
9/19/18	Wuhan Fanso Technology	EVE Energy Co., Ltd	\$167.0	100%
9/12/18	Tohoku Murata Manufacturing	Murata Manufacturing	\$19.5	100%
11/22/17	Go Power! Electric Inc.	Valterra Products, LLC	\$46.1	45%
9/1/17	Magna Steyr Battery	Samsung SDI Co. Ltd.	\$120.0	100%

 USA

 International

 Highest

 Lowest

 Median

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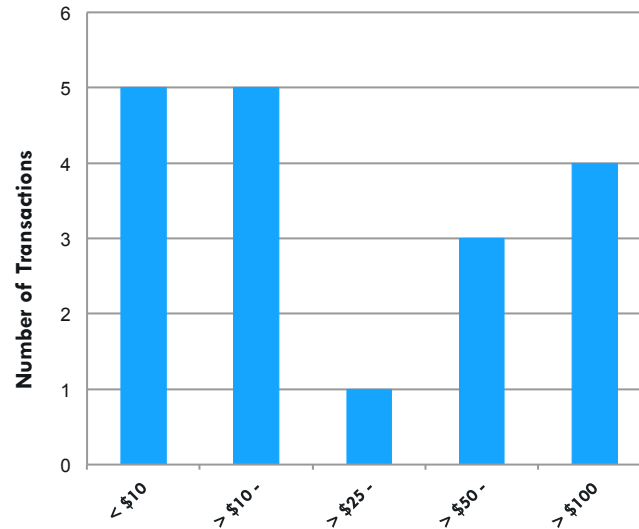
Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

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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, 2018



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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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