

Equity Research June 25, 2024

(Maintain)			Buy
Target price		W54	40,000
Current price (6/24/24)	W	331,000
Upside			63.1%
OP (24F, Wbn) Consensus OP	(24E Who	N	2,864 2,187
EPS growth (24 Market EPS growth (24 Market EPS growth (24 KOSPI Market cap (W Shares (mn) Free float (%) Foreign owner Beta (12M) 52-week low (V 52-week high (4F, %) powth (24F, 4 F, x) bn) ship (%)		2,187 0.0 77.0 62.6 11.3 2,764.73 77,454 234 14.8 4.9 1.00 328,000 597,000
(%) Absolute Relative	1M -7.0 -9.6	6M -21.1 -25.8	12M -41.2 -45.3
110 100 90 80 70 60 6.23	Energy Solutio	2.24	- KOSPI

Mirae Asset Securities Co., Ltd.

Chuljoong Kim chuljoong.kim@miraeasset.com

Minhui Kang minhui.kang@miraeasset.com

LG Energy Solution LFP ESS battery market entry: Better late than never

LFP ESS battery lines to come online in 2H24

The share of LFP batteries in the ESS market is rapidly expanding. And going forward, we expect this growth to continue, thanks in part to the limited impact of global reshoring policies on ESS battery production (compared to EV battery production). Under its Stated Policies Scenario (STEPS), the International Energy Agency (IEA) sees LFP batteries capturing more than 80% of the 440GWh ESS market by 2030.

Despite being a relative latecomer, LG Energy Solution (LGES) is tapping into the ESSuse LFP battery market, starting in China. Last year, the company converted part of its Nanjing plant to LFP battery production, aiming to start mass production in 2H24 with annual capacity of approximately 9GWh. In addition, in February, the company signed a five-year procurement agreement with Chinese supplier Changzhou Liyuan for 160,000 tonnes of cathode materials. Assuming 2,000 tonnes of cathode materials are needed per 1GWh of battery capacity, this contract translates to average annual battery capacity of around 16GWh.

US LFP battery facilities to start production in 2026

In 2026, LGES is likely to begin operating ESS-use LFP battery lines in Arizona (annual capacity of 16GWh). Assuming utilization and yield both reach 80%, we estimate that related AMPC recognition could reach around W600bn. We believe the company will have little difficulty securing US customers, given: 1) the Biden administration's planned tariff increases on ESS batteries (starting in 2026); and 2) the potential for additional tariff hikes on Chinese goods if Trump returns to office. The company is currently in negotiations with multiple potential customers in the US.

Estimated medium/long-term value of the ESS business: W18tr to W39tr

From a medium/long-term perspective, we estimate LGES's ESS business to be worth between W18tr and W39tr. The lower end of this range is based on the IEA's STEPS, assuming a 15% market share in 2030 and applying a target EV/EBITDA of 10x. The upper end is based on the IEA's Net Zero Emissions (NZE) scenario, assuming a 20% market share in 2030 and applying the same target multiple.

Currently, we value the ESS business at W5.6tr (applying a target EV/EBITDA of 15x to our 2025F EBITDA). However, we expect to revise our valuation as the company expands its LFP battery portfolio and secures meaningful market share, especially in the US.

(Dec.)	2022	2023	2024F	2025F
Revenue (Wbn)	25,599	33,745	33,012	43,329
OP (Wbn)	1,214	2,163	2,864	5,436
OP margin (%)	4.7	6.4	8.7	12.5
NP (Wbn)	767	1,237	1,237	2,526
EPS (W)	3,305	5,287	5,286	10,793
ROE (%)	5.7	6.4	5.9	11.1
P/E (x)	131.8	80.9	62.6	30.7
P/B (x)	5.4	5.0	3.6	3.2
Dividend yield (%)	0.0	0.0	0.0	0.0

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

	2023	2025F	2030F
ESS market size under STEPS (GWh)	82	132	436
Total market size (Wbn)	15,990	20,622	52,651
LGES's M/S (%)	10	12	15
LGES's shipments (GWh)	8	16	65
LGES's revenue (Wbn)		2,475	7,898
Depreciation (assuming 10% of revenue; Wbn)		247	790
OP (assuming OP margin of 5%; Wbn)		124	395
EBITDA (Wbn)		371	1,185
AMPC assumption (16GWh; 80% utilization rate and yield; Wbn)			600
Target EV/EBITDA (x)		15	10
ESS business value based on STEPS and 15% M/S in 2030 (Wbn)		5,568	17,846
Source: Mirae Asset Securities Research			

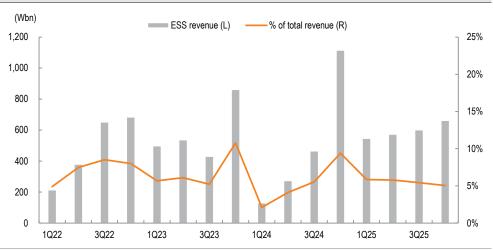
Table 1. Valuation of ESS business based on IEA's STEPS (assuming 15% M/S in 2030)

Source: Mirae Asset Securities Research

Table 2. Valuation of ESS business based on IEA'S NZE scenario (assuming 20% M/S in 2030)

	2023	2025F	2030F
ESS market size under NZE scenario (GWh)	82	163	912
Total market size (Wbn)	15,990	25,459	110,080
LGES's M/S (%)	10	12	20
LGES's shipments (GWh)	8	16	87
LGES's revenue (Wbn)		3,055	22,016
Depreciation (assuming 10% of revenue; Wbn)		306	2,202
OP (assuming OP margin of 5%; Wbn)		153	1,101
EBITDA (Wbn)		458	3,302
AMPC assumption (16GWh; 80% utilization rate and yield; Wbn)			600
Target EV/EBITDA (x)		15	10
ESS business value based on NZE with 20% M/S in 2030 (Wbn)		6,874	39,024
Source: Mirae Asset Securities Research			

Figure 1. LGES: Quarterly ESS revenue



Source: Company data, Mirae Asset Securities Research

(US\$mn, %, US\$, x)

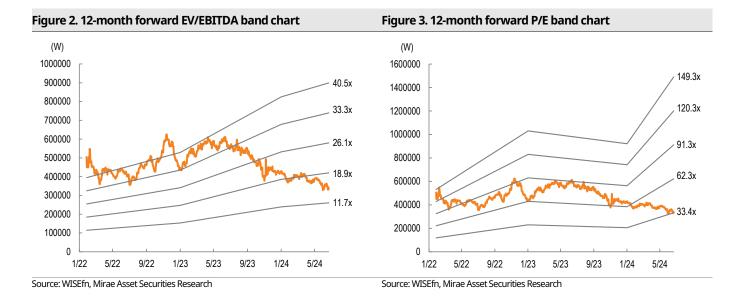


Table 3. Peer valuation table

C	Mandard and	Earnings (2024F)					Valuation (2024F)		
Company	Market cap	Revenue	OP	OP margin	EPS	ROE	P/E	P/B	EV/EBITDA
LG Energy Solution	56,318	22,294.0	1597.9	7.2%	3.47	5.4	69.2	3.6	18.4
Samsung SDI	18,877	16,616.4	1204.0	7.2%	18.33	8.8	14.9	1.3	8.4
CATL	112,171	57,871.9	8011.3	13.8%	1.53	21.4	16.7	3.5	9.2
BYD	95,763	102,352.1	5578.4	5.5%	1.63	21.7	18.6	3.8	7.5
Sungrow	19,273	12,341.9	1787.1	14.5%	0.73	30.3	12.8	3.7	10.6
Gotion High-tech	4,855	5,326.5	174.4	3.3%	0.09	4.1	30.6	1.4	16.7

Source: Bloomberg, Mirae Asset Securities Research

Table 4. LGES: Qu	arterly and a	annual ear	rnings								(Wbn, %)
	1Q24	2Q24F	3Q24F	4Q24F	1Q25F	2Q25F	3Q25F	4Q25F	2023	2024F	2025F
Revenue	6,129	6,644	8,378	11,861	9,307	9,902	11,036	13,084	33,745	33,012	43,329
Small batteries	2,182	2,217	2,513	2,916	2,486	2,740	3,186	3,725	9,549	9,828	12,137
EV	3,818	4,154	5,400	7,831	6,276	6,590	7,249	8,699	21,874	21,203	28,815
ESS	129	273	464	1,114	545	572	600	661	2,322	1,981	2,378
OP	157	283	959	1,464	781	1,223	1,539	1,893	2,163	2,864	5,436
Small batteries	91	135	171	206	188	251	303	394	787	602	1,136
EV	-71	-226	176	415	217	343	418	591	860	293	1,569
ESS	-52	-27	0	56	0	17	30	33	-9	-23	80
IRA tax credits	189	403	613	788	376	613	788	875	677	1,991	2,651
OP margin	2.6	4.3	11.4	12.3	8.4	12.4	13.9	14.5	6.4	8.7	12.5
Small batteries	4.2	6.1	6.8	7.1	7.5	9.2	9.5	10.6	8.2	6.1	9.4
EV	-1.9	-5.5	3.3	5.3	3.5	5.2	5.8	6.8	3.9	1.4	5.4
ESS	-40.0	-10.0	0.0	5.0	0.0	3.0	5.0	5.0	-0.4	-1.2	3.4
EBITDA	816	1,130	1,827	2,344	1,863	2,318	2,647	3,016	4,447	6,117	9,844
Small batteries	301	347	404	451	445	521	587	692	1,449	1,503	2,244
EV	506	350	753	992	967	1,093	1,168	1,341	2,509	2,601	4,569
ESS	6	30	58	113	75	92	105	108	155	208	380
IRA tax credits	189	403	613	788	376	613	788	875	677	1,991	2,651

Source: Company data, Mirae Asset Securities Research

LG Energy Solution (373220 KS)

Income statement (summarized)

	•		
(Wbn)	2023	2024F	2025F
Revenue	33,745	33,012	43,329
Cost of revenue	28,802	27,182	34,059
GP	4,943	5,830	9,270
SG&A expenses	3,457	2,967	3,835
OP (adj.)	2,163	2,864	5,436
OP	2,163	2,864	5,436
Non-operating profit	-120	-172	-351
Net financial income	-138	-232	-341
Net income from associates	-32	31	31
Pretax profit	2,043	2,692	5,085
Income tax	405	480	891
Profit from continuing operations	1,638	2,212	4,194
Profit from discontinued operations	0	0	0
NP	1,638	2,212	4,194
Attributable to owners	1,237	1,237	2,526
Attributable to minority interests	401	975	1,669
Total comprehensive income	1,911	2,212	4,194
Attributable to owners	1,468	2,551	4,837
Attributable to minority interests	443	-339	-642
EBITDA	3,773	6,117	8,940
FCF	-5,479	-3,544	-2,435
EBITDA margin (%)	11.2	18.5	20.6
OP margin (%)	6.4	8.7	12.5
Net margin (%)	3.7	3.7	5.8

17,208 18,794 17,999 **Current assets** 3,522 Cash & equivalents 5,069 1,153 AR & other receivables 5,648 7,217 7,961 Inventory 5,396 6,978 7,698 Other current assets 1,095 1,077 1,187 Non-current assets 28,229 35,084 41,546 Investments in associates 224 331 366 PP&E 23,655 30,544 37,158 Intangible assets 876 734 615 Total assets 45,437 53,877 59,545 **Current liabilities** 10,937 14,664 15,845 AP & other payables 3,094 4,586 5,059 Short-term financial liabilities 3,219 3,223 3,224 Other current liabilities 4,624 6,855 7,562 Non-current liabilities 10,126 12,628 12,920 Long-term financial liabilities 7,790 9,790 9,790 Other non-current liabilities 2,336 2,838 3,130 **Total liabilities** 21,064 27,292 28,765 Equity attributable to owners 23,963 20,201 21,437 Capital stock 117 117 117 Capital surplus 17,165 17,165 17,165 **Retained earnings** 3,601 2,364 6,127 **Minority interests** 5,148 6,816 4,173 26,585 Shareholders' equity 24,374 30,779

Cash flow

(Wbn)	2023	2024F	2025F
Operating cash flow	4,444	6,456	7,565
NP	1,638	2,212	4,194
Non-cash income/expenses	3,607	3,934	4,705
Depreciation	2,150	3,111	3,385
Amortization	137	142	119
Other	1,320	681	1,201
Chg. in working capital	-277	1,023	-102
Chg. in AR & other receivables	-165	-1,504	-684
Chg. in inventory	1,934	-1,582	-720
Chg. in AP & other payables	-927	1,492	473
Income tax	-726	-480	-891
Cash flow from investing activities	-9,719	-9,930	-9,932
Chg. in PP&E	-9,821	-10,000	-10,000
Chg. in intangible assets	-101	0	0
Chg. in financial assets	-49	70	68
Other	252	0	0
Cash flow from financing activities	4,355	2,004	1
Chg. in financial liabilities	2,895	2,004	1
Chg. in equity	0	0	0
Dividends	0	0	0
Other	1,460	0	0
Chg. in cash	-869	-1,547	-2,369
Beginning balance	5,938	5,069	3,522
Ending balance	5,069	3,522	1,153

Source: Company data, Mirae Asset Securities Research estimates

Key valuation metrics/ratios

Balance sheet (summarized)

(Wbn)

-	2023	2024F	2025F
P/E (x)	80.9	62.6	30.7
P/CF (x)	19.1	12.6	8.7
Р/В (х)	5.0	3.6	3.2
EV/EBITDA (x)	29.2	15.1	10.8
EPS (W)	5,287	5,286	10,793
CFPS (W)	22,414	26,264	38,030
BPS (W)	86,328	91,614	102,407
DPS (W)	0	0	0
Dividend payout ratio (%)	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0
Revenue growth (%)	31.8	-2.2	31.3
EBITDA growth (%)	23.5	62.1	46.2
OP growth (%)	78.2	32.4	89.8
EPS growth (%)	60.0	0.0	104.2
AR turnover (x)	6.8	5.6	6.2
Inventory turnover (x)	5.4	5.3	5.9
AP turnover (x)	8.3	7.1	7.1
ROA (%)	3.9	4.5	7.4
ROE (%)	6.4	5.9	11.1
ROIC (%)	6.7	7.1	11.2
Debt-to-equity ratio (%)	86.4	102.7	93.5
Current ratio (%)	157.3	128.2	113.6
Net debt-to-equity ratio (%)	24.1	35.7	38.5
Interest coverage ratio (x)	6.9	6.5	12.0

2025F

2024F

2023

Jun 24

Appendix 1

Important disclosures and disclaimers

Two-year rating and TP history				
Company	Date	Rating	TP (W)	(W) LG Energy Solution
LG Energy Solution (373220)	03/13/24	Buy	540,000	(W) LG Energy Solution
	01/30/24	Buy	500,000	
	11/17/23	Buy	590,000	800,000
	04/10/23	Buy	900,000	600,000 - Jan water and the second
	11/14/22	Buy	750,000	400,000
	05/31/22	Buy	670,000	400,000 // / // // //
				200,000
				o T

Jun 22

Jun 23

Stock rating	S	Sector rating	5
Buy	Expected 12-month performance: +20% or greater	Overweight	Expected to outperform the market over 12 months
Trading Buy	Expected 12-month performance: +10% to +20%	Neutral	Expected to perform in line with the market over 12 months
Hold	Expected 12-month performance: -10% to +10%	Underweight	Expected to underperform the market over 12 months
Sell	Expected 12-month performance: -10% or worse		

Rating and TP history: Share price (−), TP (−), Not Rated (■), Buy (▲), Trading Buy (■), Hold (●), Sell (♦)

* Our investment rating is a guide to the expected return of the stock over the next 12 months.

* Outside of the official ratings of Mirae Asset Securities Co., Ltd., analysts may call trading opportunities should technical or short-term material developments arise.

* The TP was determined by the research analyst through valuation methods discussed in this report, in part based on estimates of future earnings.

* TP achievement may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Ratings distribution and investment banking services

	Buy	Trading Buy	Hold	Sell
Ratings distribution	85.36%	9.15%	5.49%	0%
Investment banking services	80.96%	9.52%	9.52%	0%

* Based on recommendations in the last 12-months (as of March 31, 2024)

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LG Energy Solution

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Mirae Asset Securities International Network

Mirae Asset Securities Co., Ltd. (Seoul)

One-Asia Equity Sales Team Mirae Asset Center 1 Building 26 Eulji-ro 5-gil, Jung-gu, Seoul 04539 Korea

Tel: 82-2-3774-2124

Mirae Asset Securities (USA) Inc.

810 Seventh Avenue, 37th Floor New York, NY 10019 USA

Tel: 1-212-407-1000

Mirae Asset Securities (Singapore) Pte. Ltd.

6 Battery Road, #11-01 Singapore 049909 Republic of Singapore

Tel: 65-6671-9845

Mirae Asset Investment Advisory (Beijing) Co., Ltd

2401B, 24th Floor, East Tower, Twin Towers B12 Jianguomenwai Avenue, Chaoyang District Beijing 100022 China

Tel: 86-10-6567-9699

Ho Chi Minh Representative Office

7F, Saigon Royal Building 91 Pasteur St. District 1, Ben Nghe Ward, Ho Chi Minh City Vietnam

Tel: 84-8-3910-7715

Mirae Asset Securities (HK) Ltd.

Units 8501, 8507-8508, 85/F International Commerce Centre 1 Austin Road West Kowloon Hong Kong Tel: 852-2845-6332

Mirae Asset Wealth Management (Brazil) CCTVM

Rua Funchal, 418, 18th Floor, E-Tower Building Vila Olimpia Sao Paulo - SP 04551-060 Brazil Tel: 55-11-2789-2100

Mirae Asset Securities (Vietnam) LLC

7F, Saigon Royal Building 91 Pasteur St. District 1, Ben Nghe Ward, Ho Chi Minh City Vietnam

Tel: 84-8-3911-0633 (ext.110)

Beijing Representative Office

2401A, 24th Floor, East Tower, Twin Towers B12 Jianguomenwai Avenue, Chaoyang District Beijing 100022 China

Tel: 86-10-6567-9699 (ext. 3300)

Mirae Asset Capital Markets (India) Pvt Ltd

1st Floor, Tower 4, Equinox Business Park, LBS Marg, Off BKC, Kurla (West), Mumbai - 400 070 India

Tel: 91-22-62661300 / 48821300

Mirae Asset Securities (UK) Ltd.

41st Floor, Tower 42 25 Old Broad Street, London EC2N 1HQ United Kingdom

Tel: 44-20-7982-8000

PT. Mirae Asset Sekuritas Indonesia

District 8, Treasury Tower Building Lt. 50 Sudirman Central Business District Jl. Jend. Sudirman, Kav. 52-54 Jakarta Selatan 12190 Indonesia Tel: 62-21-5088-7000

Mirae Asset Securities Mongolia UTsK LLC

#406, Blue Sky Tower, Peace Avenue 17 1 Khoroo, Sukhbaatar District Ulaanbaatar 14240 Mongolia

Tel: 976-7011-0806

Shanghai Representative Office

38T31, 38F, Shanghai World Financial Center 100 Century Avenue, Pudong New Area Shanghai 200120 China

Tel: 86-21-5013-6392