



Enphase Energy (NASDAQ: ENPH)

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Company Overview

Overview

Enphase Energy is a solar technology company that manufactures **solar-driven** home energy solutions

IQ series microinverters **allow** for solar generation, home energy storage, and web-based monitoring and control

Installed over 3 million Enphase home systems in over **145 countries** ensuring strong power flow

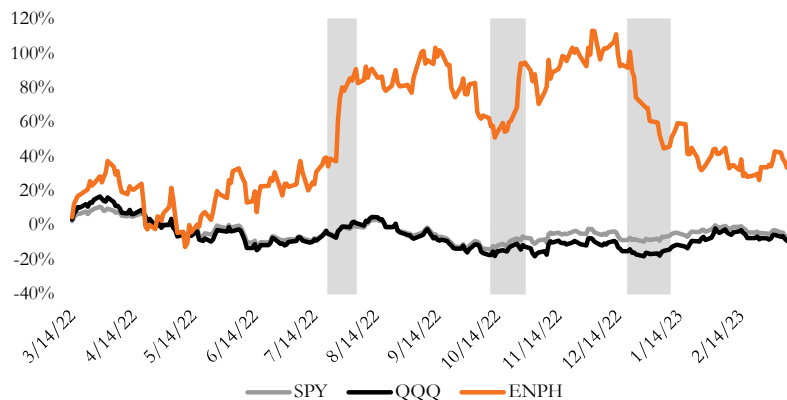
Product Overview

IQ8 Microinverter: Converts sunlight from solar panel into usable form of electricity

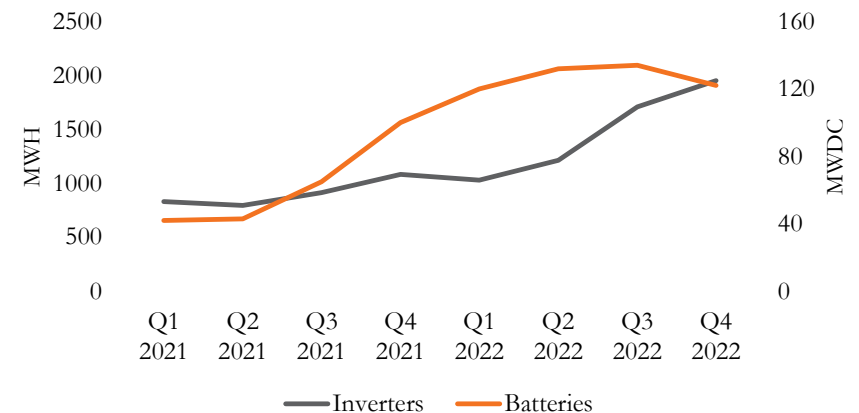
IQ Battery: Backup battery that powers home when solar panel is not generating electricity

Enphase Energy Systems: Integrated system that allows user to control Enphase products from app

Enphase vs Market Returns






Product Units Sold

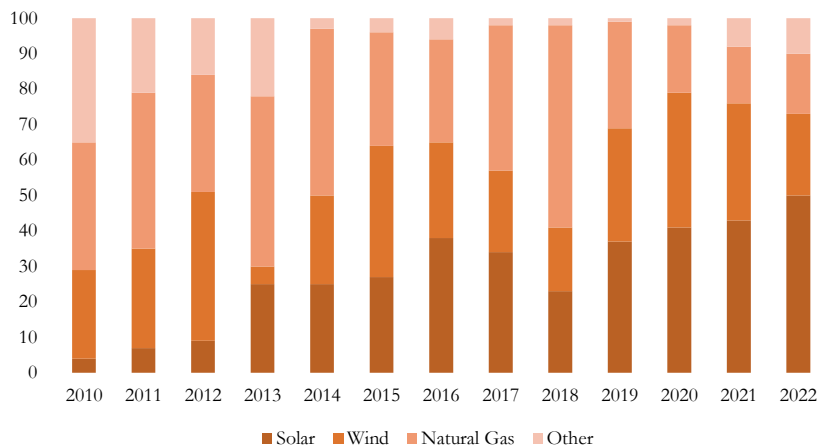


Industry Overview

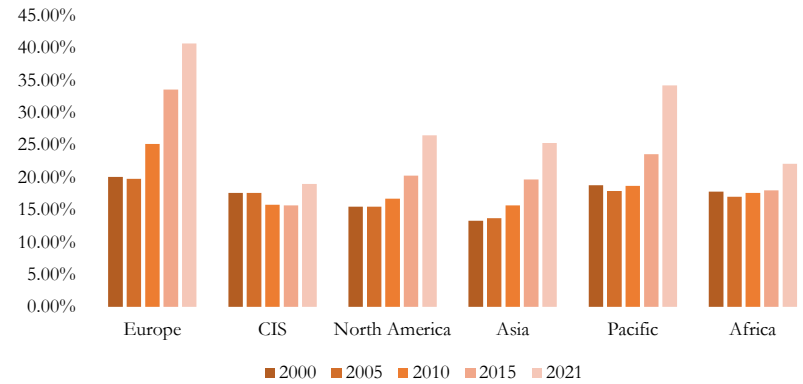
Industry Trends

-  Recent promotion of clean energy as a result of government intervention involving large tax credit to be claimed – has heavily increased demand for renewables
-  Russia-Ukraine war has continued to skyrocket household energy prices especially in European countries as a result of supply chain issues and rising oil prices
-  Solar power industry has seen incredible growth in last 5 years of around 21% as countries keep pushing incentives





Renewable Energy Breakdown



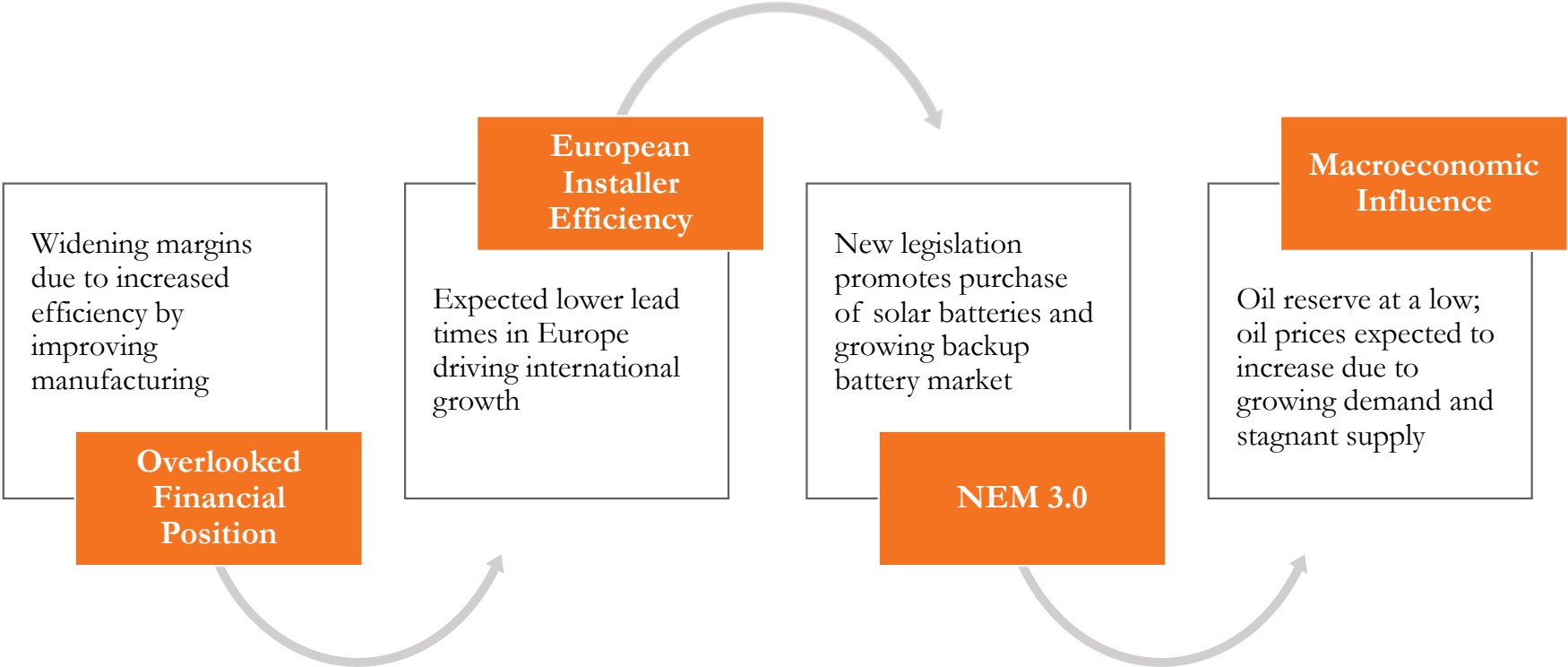
Renewable Energy Growth



Competitors

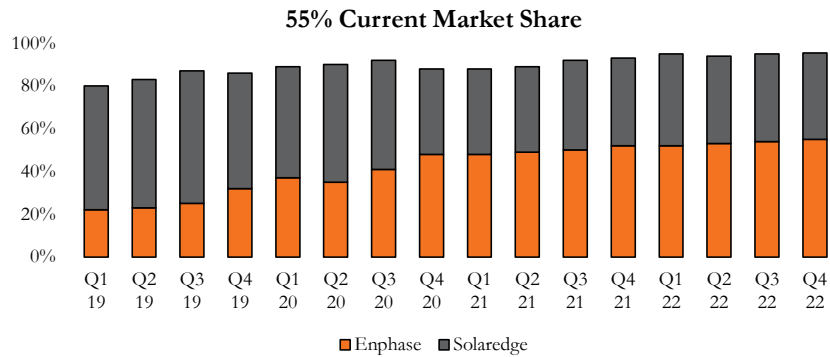
-  **SolarEdge** → Primary competitor for Enphase, headquartered in Israel with large share in solar inverters
-  **First Solar, Inc.** → American manufacturer of solar panels also a provider of utility scale PV power plants
-  **Sunpower Corporation** → American provider of photovoltaic solar energy generation and battery systems
-  **Sunnova Energy International, Inc.** → Houston based residential and commercial solar energy provider

Investment Thesis

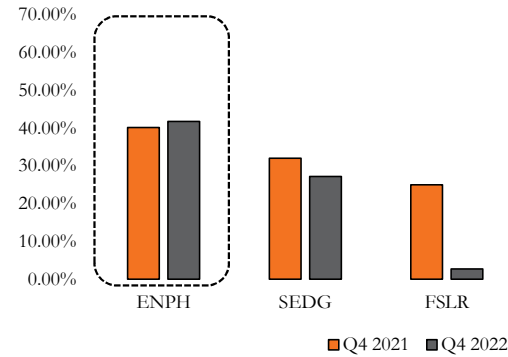


Overlooked Financial Position

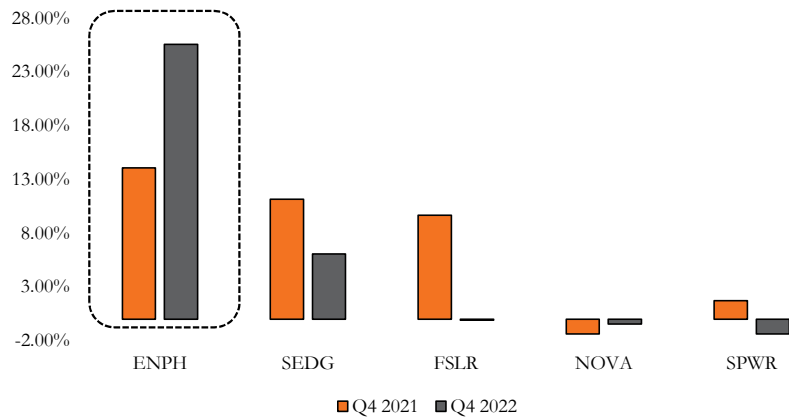
Residential PV Inverter Market Share



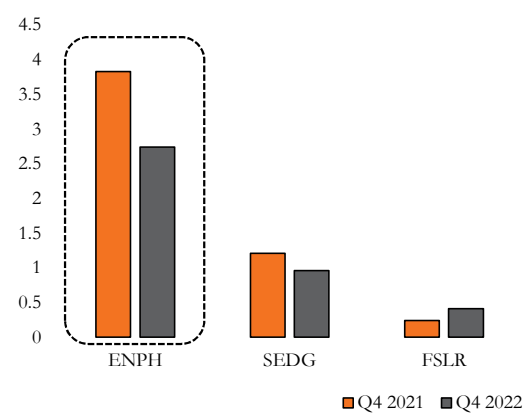
Gross Margin Comparison



Return on Investment Comparison



Debt/Equity Comparison



European Installer Efficiency

Recent Events to Improve Efficiency



Q1 2023 – Partnership with German decentralized energy company will expand Enphase product offerings to Germany and Austria



Q4 2022 - European based company to help improve local servicing and integration of Enphase home energy systems

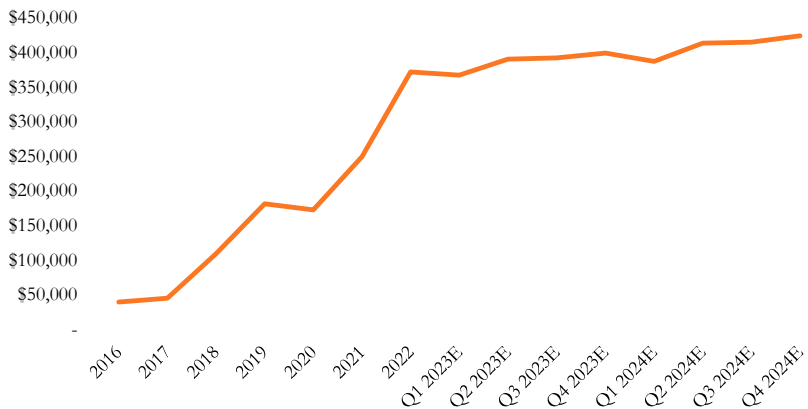


Q2 2022 - Partnership starting in Q1 2023 to have factory in Romania manufacture Enphase products improving delivery times to European Customers

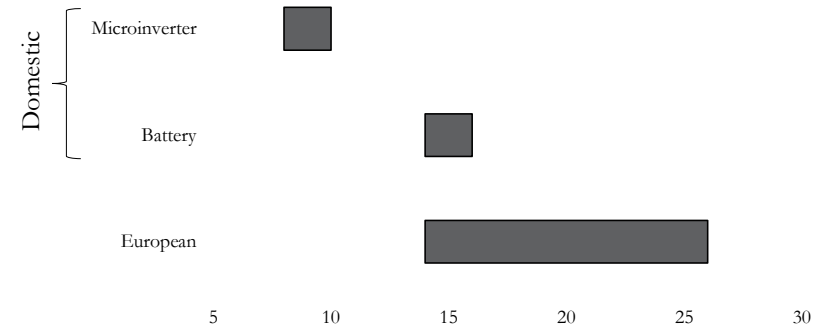


Q1 2022 - Connects customers to high quality installers through a lead platform

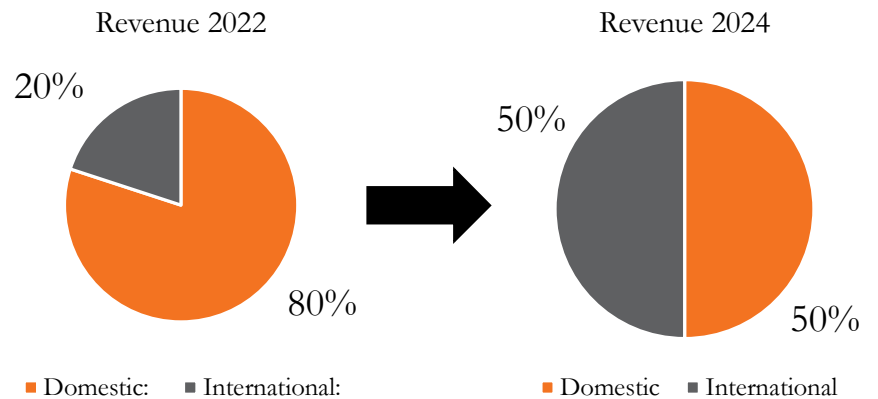
Impact on Deferred Revenue



Domestic vs. International Lead Times



Future Revenue Diversification

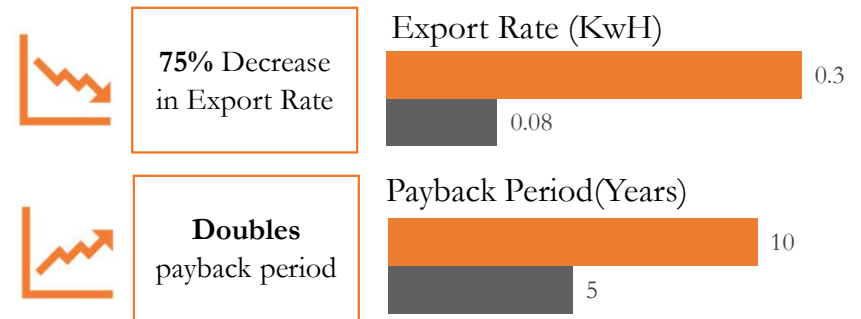


NEM 3.0

Advantages for Enphase

<p>New California law decreases rates at which homeowners can sell power back into the grid</p>	<p>NEM 3.0 further incentivizes the sale of solar backup batteries</p>	<p>Enphase offers leading IQ3 battery that has overtaken Tesla Powerwall on the backup battery market</p>
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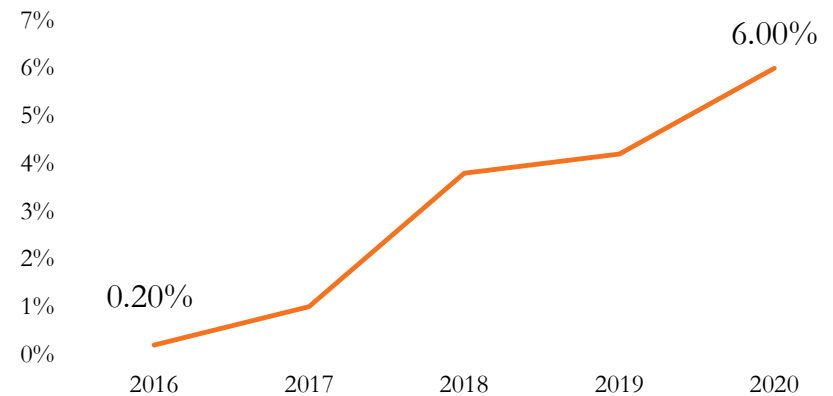
NEM Changes



Enphase IQ Battery

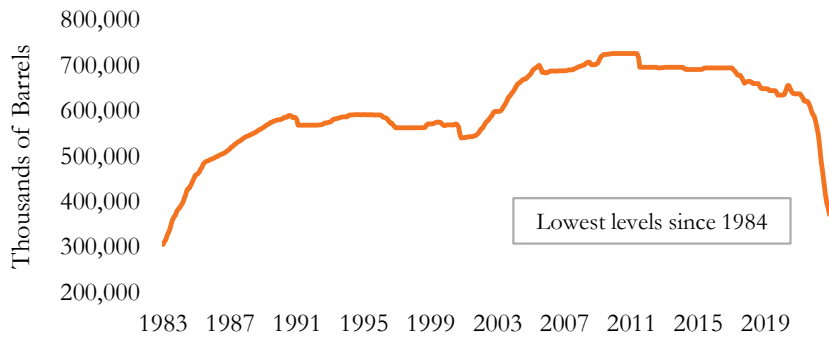
	Enphase IQ Battery	Tesla Powerwall
Type	Lithium-Ion	Nickel Cobalt
Cost	\$14,000	\$15,000
Roundtrip Efficiency	96%	90%

California Solar Sales Including Battery

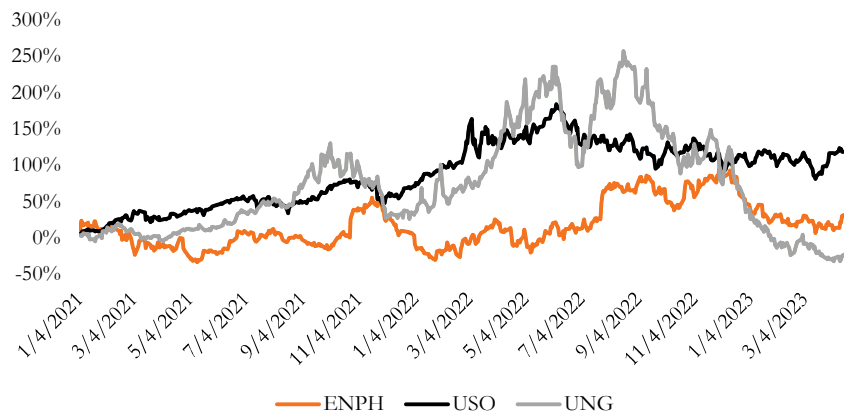


Macroeconomic Influence

U.S. Strategic Petroleum Reserve



Historical Price Returns

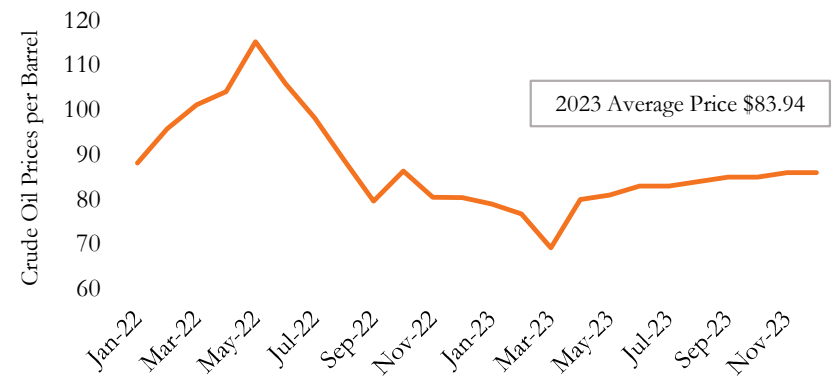


OPEC Influence on Oil Prices

OPEC's **large market share** allows them to **influence** global prices.

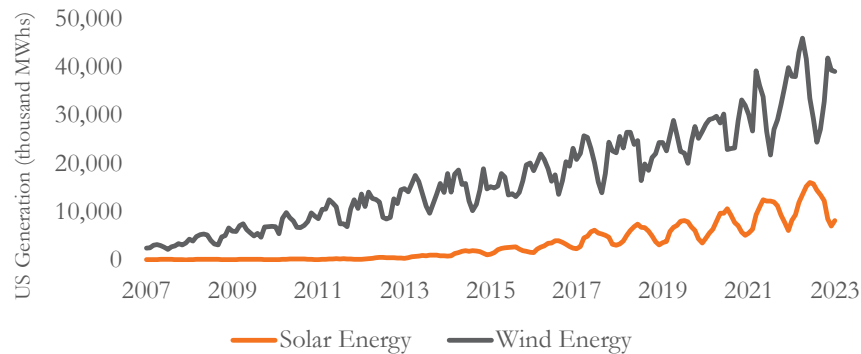
<p>Russia announced a voluntary production cut of 500,000 barrels produced per day in March.</p>	<p>OPEC does not plan to change course in its oil production targets following the news.</p>	<p>Oil executives warn of higher oil prices now that OPEC is in control.</p>
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Oil Price Forecasts



Recessionary Resistance

Recessionary Impact on Renewable Energy



Innovation and Progress Continues

Built their own plants by leaning on multiple contract manufacturers to **minimize** long-term fixed costs and **prevent** disruptions

Designed more **reliable** microinverters that provide backup power to **maintain** competitive edge in crowded industry

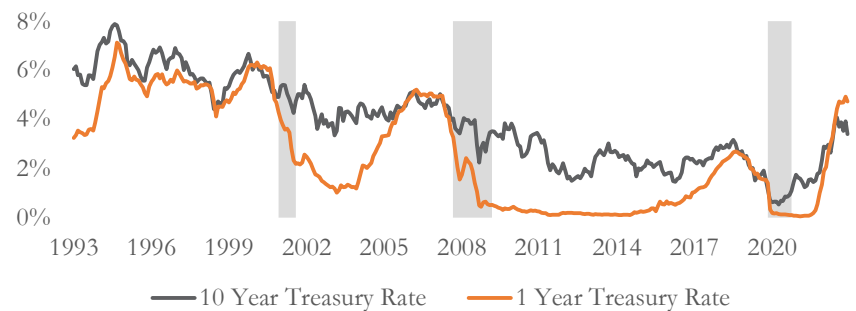
Rising demand for solar left Enphase with **backlog** of orders, allowing them to give **priority** to regions with higher demand

Major Tailwinds Drive Growth

- 1 Cost of Renewable Energy is Coming Down
- 2 Fossil Fuel Costs are Rising in the Long Term
- 3 Political Desire to Increase Renewable Energy Production
- 4 EVs Continue to Drive Demand and Flexibility

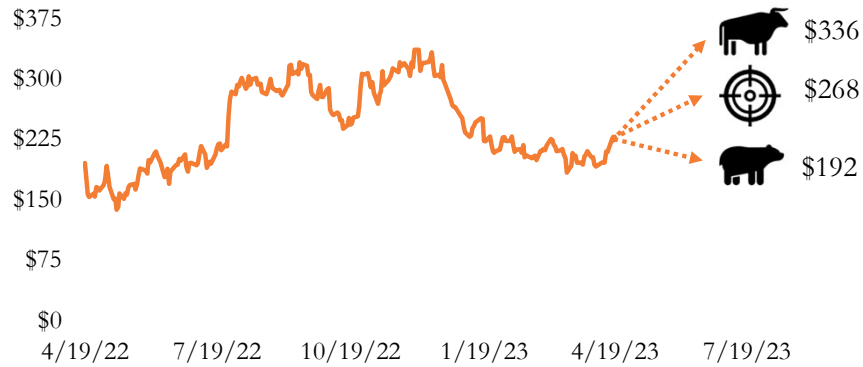
Better Financing During Recessions

Renewable energy projects highly depend on low borrowing costs for profitability.

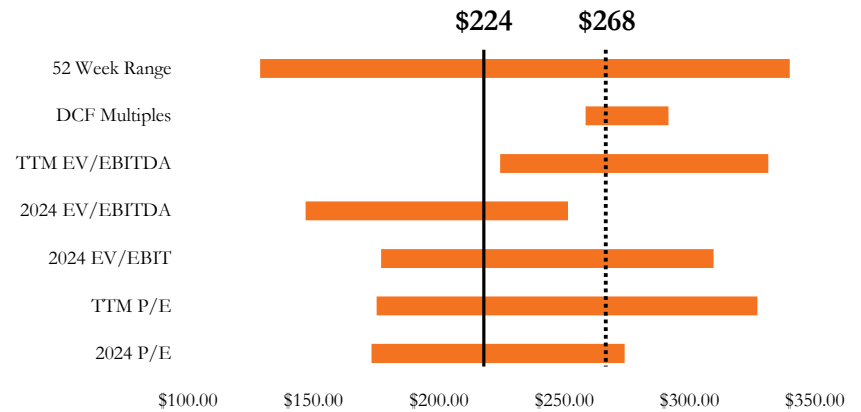


Valuation & Risks

Forecast



Football Field



Case Overview

Bear Case

- Prices **increase** for key material components
- Rising interest rates and higher inflation will **erode** purchasing power and **reduce** demand
- Demand for solar energy solutions do not grow fast enough

Base Case

- European market share continues to increase with recent partnerships and acquisitions
- Political desires to **increase** renewable energy production will **drive** growth for Enphase

Bull Case

- Resistance during the recessionary period will **beat** all estimates
- Interest rates will fall to allow for better **financing**
- Batteries have an uptick in sales rebounding from latest decrease

Summary



Appendix A: Income Statement



Enphase Energy													
Income Statement-\$ in Thousands	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023E	FY 2024E	FY 2025E	FY 2026E	FY 2027E	FY 2028E
Net revenues	\$322,591	\$286,166	\$316,159	\$624,333	\$774,425	\$ 1,382,049	\$2,330,853	\$3,225,521	\$4,114,525	\$5,049,421	\$5,958,241	\$6,999,711	\$7,863,714
<i>% Growth</i>		-11.29%	10.48%	97.47%	24.04%	78.46%	68.65%	38.38%	27.56%	22.72%	18.00%	17.48%	12.34%
Cost of revenues	264,583	230,123	221,714	403,088	428,444	827,627	1,356,258	1,844,585	2,311,836	2,837,128	3,347,769	3,932,942	4,418,400
<i>% of Sales</i>	82.02%	80.42%	70.13%	64.56%	55.32%	59.88%	58.19%	57.19%	56.19%	56.19%	56.19%	56.19%	56.19%
Gross profit	\$58,008	\$56,043	\$94,445	\$221,245	\$345,981	\$554,422	\$974,595	\$1,380,936	\$1,802,689	\$2,212,293	\$2,610,473	\$3,066,770	\$3,445,314
<i>Gross Margin %</i>	17.98%	19.58%	29.87%	35.44%	44.68%	40.12%	41.81%	42.81%	43.81%	43.81%	43.81%	43.81%	43.81%
Operating expenses:													
Research and development	50,703	33,157	32,587	40,381	55,921	105,526	168,846	215,244	274,321	313,351	369,742	434,364	487,957
<i>% of Sales</i>	15.72%	11.59%	10.31%	6.47%	7.22%	7.64%	7.24%	6.67%	6.67%	6.21%	6.21%	6.21%	6.21%
Sales and marketing	38,810	23,126	27,047	36,728	52,927	128,974	215,102	225,789	246,691	252,762	284,091	352,424	375,044
<i>% of Sales</i>	12.03%	8.08%	8.55%	5.88%	6.83%	9.33%	9.23%	7.00%	6.00%	5.01%	4.77%	5.03%	4.77%
General and administrative	27,418	22,221	29,086	38,808	50,694	104,090	140,002	183,377	192,430	186,595	199,068	225,481	253,349
<i>% of Sales</i>	8.50%	7.77%	9.20%	6.22%	6.55%	7.53%	6.01%	5.69%	4.68%	3.70%	3.34%	3.22%	3.22%
Restructuring charges	3,777	16,917	4,129	2,599	-	-	2,384	-	-	-	-	-	-
Total operating expenses	\$120,708	\$95,421	\$92,849	\$118,516	\$159,542	\$338,590	\$526,334	\$624,410	\$713,442	\$752,708	\$852,902	\$1,012,269	\$1,116,350
Income from operations (loss)	(\$62,700)	(\$39,378)	\$1,596	\$102,729	\$186,439	\$215,832	\$448,261	\$756,526	\$1,089,246	\$1,459,585	\$1,757,571	\$2,054,501	\$2,328,964

Appendix C: Balance Sheet 1

Enphase Energy							
Balance Sheet-\$ in Thousands	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Current assets:							
Cash and cash equivalents	\$17,764	\$29,144	\$106,237	\$251,409	\$679,379	\$119,316	\$473,244
Marketable Securities						\$897,335	\$1,139,599
Restricted cash				\$44,700			
Accounts receivable, net	\$61,019	\$65,346	\$78,938	\$145,413	\$182,165	\$333,626	\$440,896
Inventory	\$31,960	\$25,999	\$16,267	\$32,056	\$41,764	\$74,400	\$149,708
Prepaid expenses and other assets	\$7,121	\$9,957	\$20,860	\$26,079	\$29,756	\$37,784	\$60,824
Total current assets	\$117,864	\$130,446	\$222,302	\$499,657	\$933,064	\$1,462,461	\$2,264,271
Property and equipment, net	\$31,440	\$26,483	\$20,998	\$28,936	\$42,985	\$82,167	\$111,367
Operating lease, right of use asset, net	-	-	-	\$10,117	\$17,683	\$14,420	\$21,379
Intangible assets, net	\$945	\$515	\$35,306	\$30,579	\$28,808	\$97,758	\$99,541
Goodwill	\$3,664	\$3,664	\$24,783	\$24,783	\$24,783	\$181,254	\$213,559
Other assets	\$9,663	\$8,039	\$36,548	\$44,620	\$59,875	\$118,726	\$169,291
Deferred tax assets, net	-	-	-	\$74,531	\$92,904	\$122,470	\$204,872
Convertible Notes Hedge	-	-	-	-	-	-	-
Total assets	\$163,576	\$169,147	\$339,937	\$713,223	\$1,200,102	\$2,079,256	\$3,084,280

Appendix D: Balance Sheet 2



Current liabilities:							
Accounts payable	\$31,696	\$28,747	\$48,794	\$57,474	\$72,609	\$113,767	\$125,085
Accrued liabilities	\$22,937	\$22,447	\$29,010	\$47,092	\$76,542	\$157,912	\$295,939
Deferred revenues, current	\$6,411	\$15,691	\$33,119	\$81,783	\$47,665	\$62,670	\$90,747
Warranty obligations, current	\$8,596	\$7,427	\$8,083	\$10,078	\$11,260	\$19,395	\$35,556
Debt, current	\$3,032	\$17,429	\$28,155	\$2,884	\$325,967	\$86,052	\$90,892
Revolving credit facility	\$10,100	-	-	-	-	-	-
Total current liabilities	\$82,772	\$91,741	\$147,161	\$199,311	\$534,043	\$439,796	\$638,219
Long-term liabilities:							
Deferred revenues, noncurrent	\$33,893	\$29,941	\$76,911	\$100,204	\$125,473	\$187,186	\$281,613
Warranty obligations, noncurrent	\$22,818	\$22,389	\$23,211	\$27,020	\$34,653	\$53,982	\$95,890
Other liabilities	\$2,025	\$1,880	\$3,250	\$11,817	\$17,042	\$16,530	\$43,520
Debt, noncurrent	\$20,768	\$32,322	\$81,628	\$102,659	\$4,898	\$951,594	\$1,199,465
Warrants Liability	-	-	-	-	-	-	-
Total liabilities	\$162,276	\$178,273	\$332,161	\$441,011	\$716,109	\$1,649,088	\$2,258,707
Commitments and contingencies (Note 12)							
Stockholders' equity:							
Common stock	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Additional paid-in capital	\$252,126	\$287,256	\$353,335	\$458,315	\$534,744	\$837,924	\$819,119
Accumulated deficit	(\$250,535)	(\$295,727)	(\$346,302)	(\$185,181)	(\$51,186)	(\$405,737)	\$17,335
Accumulated other comprehensive income (loss)	(\$292)	(\$656)	\$742	(\$923)	\$434	(\$2,020)	(\$10,882)
Convertible Notes embedded derivative	-	-	-	-	-	-	-
Total stockholders' equity (deficit)	\$1,300	(\$9,126)	\$7,776	\$272,212	\$483,993	\$430,168	\$825,573
Total liabilities and stockholders' equity	\$163,576	\$169,147	\$339,937	\$713,223	\$1,200,102	\$2,079,256	\$3,084,280

Appendix E: Cash Flow Statement



Enphase Energy													
Cash Flow Statement-\$ in Thousands	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023E	FY 2024E	FY 2025E	FY 2026E	FY 2027E	FY 2028E
Cash flows from operating activities:													
Net income (loss)	(\$67,462)	(\$45,192)	(\$11,627)	\$161,148	\$133,995	\$145,449	\$397,362	\$689,644	\$977,868	\$1,297,014	\$1,558,304	\$1,822,576	\$2,064,004
Adjustments to reconcile net income (loss) to net cash provided by operating activities:													
Depreciation and amortization	10,638	9,004	9,667	14,119	18,103	32,439	58,775	57,918	63,635	68,625	69,341	67,967	61,083
<i>% of CapEx</i>	87.43%	218.49%	232.88%	95.48%	88.06%	62.07%	126.55%	96.53%	96.96%	97.17%	97.11%	97.13%	97.08%
Provision for doubtful accounts	3,097	476	711	217	425	477	119						
Loss on partial settlement of convertible notes	-	-	-	-	-	56,497	-						
Asset impairment	3,190	1,681	1,601	1,124	-	-	1,200						
Gain on business divestiture	(640)	-	-	-	-	-	-						
Loss on extinguishment of debt	-	-	-	2,152	-	-	-						
Deemed repayment of convertible notes due	-	-	-	-	(3,132)	(15,718)	-						
Gain on settlement of debt securities	-	-	-	-	-	(6,569)	-						
Non-cash interest expense	-	-	2,701	6,081	18,825	44,387	8,167						
Change in fair value derivatives	-	-	-	-	44,348	-	-						
Change in fair value of debt securities	-	-	-	-	-	(3,042)	(735)						
Amortization of debt issuance cost	145	1,673	-	-	-	-	-						
Fees paid for repurchase and exchange of convertible notes due	145	-	-	6,000	-	-	-						
Stock-based compensation	10,326	6,727	11,432	20,176	42,503	114,286	216,802						
Deferred income taxes	651	(1,394)	123	(73,375)	(17,117)	(31,241)	3,633						
Amortization of marketable securities premiums, net of accretion of purchase discounts	-	-	-	-	-	-	(2,632)						
Changes in operating assets and liabilities:													
Accounts receivable	(18,017)	(4,803)	(13,515)	(68,745)	(34,321)	(151,160)	(107,556)						
Inventory	8,840	5,961	9,732	(15,789)	(9,708)	(29,258)	(75,273)						
Prepaid expenses and other assets	4,759	(1,227)	(3,130)	(14,293)	(14,636)	(26,885)	(68,423)						
Intangible assets	-	-	(10,000)	-	-	-	-						
Accounts payable, accrued and other liabilities	867	(1,598)	23,082	22,200	35,695	117,183	133,416						
Warranty obligations	11,274	(5,078)	1,478	5,804	8,815	27,016	57,773						
Deferred revenues	-	5,328	(6,123)	72,248	(10,498)	78,167	122,189						
Miscellaneous Income (Expense)	(766)	-	-	-	3,037	-	-						
Net cash provided by operating activities	(\$32,953)	(\$28,442)	\$16,132	\$139,067	\$216,334	\$303,093	\$744,817						

Appendix F: Cash Flow Statement 2



Cash flows from investing activities:															
Purchases of property and equipment	(12,167)	(4,121)	(4,151)	(14,788)	(20,558)	(52,258)	(46,443)	(60,003)	(65,630)	(70,625)	(71,402)	(69,973)	(62,922)		
<i>% of Sales</i>	-3.77%	-1.44%	-1.31%	-2.37%	-2.65%	-3.78%	-1.99%	-2.10%	-1.60%	-1.45%	-1.45%	-1.45%	-1.45%		
Purchase of intangible assets	(678)	-	-	-	-	(250)	-	-	-	-	-	-	-		
Business Divestitures	1,050	-	-	-	-	-	-	-	-	-	-	-	-		
Purchase of investment in private company	-	-	-	-	(5,010)	(58,000)	(16,000)	-	-	-	-	-	-		
Redemption of investment in private companies	-	-	-	-	-	26,259	-	-	-	-	-	-	-		
Acquisition	-	-	(15,000)	-	-	(235,852)	(62,162)	-	-	-	-	-	-		
Purchase of marketable securities	-	-	-	-	-	(934,956)	(907,430)	-	-	-	-	-	-		
Maturities of marketable securities	-	-	-	-	-	35,000	660,129	-	-	-	-	-	-		
Net cash used in investing activities	(\$11,795)	(\$4,121)	(\$19,151)	(\$14,788)	(\$25,568)	(\$1,219,857)	(\$371,906)								
Cash flows from financing activities:															
Issuance of convertible notes, net of issuance costs	-	-	-	127,413	312,420	1,188,439	-	-	-	-	-	-	-		
Purchase of convertible note hedges	-	-	-	(36,313)	(89,056)	(286,235)	-	-	-	-	-	-	-		
Sale of warrants	-	-	-	29,818	71,552	220,800	-	-	-	-	-	-	-		
Fees paid for repurchase and exchange of convertible notes due 2023	-	-	-	-	-	-	-	-	-	-	-	-	-		
Principal payments and financing fees on debt	-	-	(9,976)	(45,855)	(2,575)	(1,694)	-	-	-	-	-	-	-		
Proceeds from issuance of common stock, net of issuance costs (Repurchase)	16,142	26,425	19,766	-	-	-	-	-	-	-	-	-	-		
Proceeds from debt, net of issuance costs	23,989	26,442	68,024	-	-	-	-	-	-	-	-	-	-		
Proceeds from borrowing under revolving credit facility	10,000	-	-	-	-	-	-	-	-	-	-	-	-		
Payments under revolving credit facility	(16,900)	(10,100)	-	-	-	-	-	-	-	-	-	-	-		
Partial repurchase of convertible notes	-	-	-	-	(40,728)	(290,247)	-	-	-	-	-	-	-		
Proceeds from exercise of equity awards and employee stock purchase plan	1,144	530	2,800	4,985	8,395	7,484	10,370	-	-	-	-	-	-		
Payment of withholding taxes related to net share settlement of equity awards	-	-	-	(8,198)	(68,330)	(29,136)	(27,496)	-	-	-	-	-	-		
Repurchase of common stock	-	-	-	-	-	(500,000)	-	-	-	-	-	-	-		
Net cash provided by financing activities	\$34,375	\$43,297	\$80,614	\$71,950	\$191,678	\$309,411	(\$17,126)								

Appendix G: Cash Flow Statement 3



Effect of exchange rate changes on cash and cash equivalents	(315)	646	(502)	(257)	826	(1,955)	(1,857)						
Net increase (decrease) in cash, cash equivalents and restricted cash	(10,688)	11,380	77,093	189,872	383,270	(560,063)	353,928						
Cash, cash equivalents and restricted cash—Beginning of period	28,452	17,764	29,144	106,237	296,109	979,379	119,316						
Cash, cash equivalents and restricted cash—End of period	17,764	29,144	106,237	296,109	679,379	119,316	473,244						
Supplemental disclosures of non-cash investing and financing activities:													
Total cash, cash equivalents, and restricted cash	-	-	29,144	106,237	679,379	119,316							
Cash paid for interest	2,704	5,816	6,343	2,689	1,875	733	455						
Cash paid for income taxes	1,146	909	775	1,755	3,452	4,823	33,168						
Acquisition funded by issuance of common stock	-	-	19,219	-	-	-	-						
Purchases of fixed assets included in accounts payable	-	-	895	672	3,630	7,498	17,396						
Contingent Consideration in Connection with acquisition	-	-	-	-	-	3,500	-						
Accrued interest payable unpaid upon exchange of convertible notes due 2023	-	-	-	833	-	-	-						
Operating lease	-	-	-	-	-	-	-						
Convertible Senior Notes	-	-	-	-	-	-	-						
Purchase of property and equipment through tenant improvement allowance	-	-	-	-	-	-	748						
Noncash financing and investing activities:													
Offering and loan costs included in accrued liabilities	518	-	-	-	-	-	-						
Purchases of fixed and intangible assets included in accounts payable	700	551	-	-	-	-	-						
Adjustments to reconcile net income (loss) to net cash provided by operating activities:													
Loss on extinguishment of debt	-	-	-	-	3,037	-	-						

Appendix H: Net Working Capital



Enphase Energy													
Current Assets	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
A/R Days	69.04	83.35	91.13	85.01	85.86	44.06	34.52	33.52	33.52	33.52	31.52	29.52	27.52
A/R	61019	65346	78938	23326	31542	166813	220448	296227	377872	463731	514548	566134	592925
Inventory Days	44.09	41.24	26.78	29.03	35.58	32.81	40.29	39.79	39.79	39.79	38.79	37.79	36.79
Inventory	31960	25999	16267	32056	41764	74400	149708	201084	252021	309285	355779	407192	445349
Other Current Assets %Revenue	8.06	12.70	24.08	15.25	14.02	9.98	9.52	9.52	9.52	9.52	9.52	9.52	9.52
Other Current Assets	7121	9957	20860	26079	29756	37784	60824	84171	107369	131765	155481	182659	205205
Current Liabilities													
A/P Days	43.73	45.60	80.33	52.04	61.86	50.17	33.66	30.66	28.66	26.66	23.66	20.66	17.66
A/P	31696	28747	48794	57474	72609	113767	125085	154961	181547	207252	217038	222650	213817
Accrued Liabilities %Revenue	25.95	28.63	33.49	27.53	36.08	41.70	46.34	45.34	43.34	41.34	38.34	35.34	32.34
Accrued Liabilites	22937	22447	29010	47092	76542	157912	295939	400694	488587	571934	625902	677775	696802
Deferred Revenue (current) %Revenue	7.25	20.01	38.24	47.81	22.47	16.55	14.21	13.21	11.21	9.21	6.21	3.21	0.21
Deferred Revenue	6411	15691	33119	81783	47665	62670	90747	116742	126373	127419	101380	61569	4536
Warranty Obligations (current) %Revenue	9.73	9.47	9.33	5.89	5.31	5.12	5.57	5.57	5.57	5.57	5.57	5.57	5.57
Warranty Obligations (current)	8596	7427	8083	10078	11260	19395	35556	49204	62765	77026	90890	106777	119957

Appendix I: Revenue Build

Enphase Energy													
Income Statement-\$ in Thousands	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E	FY 2027E	FY 2028E
Income Statement													
Net revenues	\$322,591	\$286,166	\$316,159	\$624,333	\$774,425	\$1,382,049	\$2,330,853	\$3,225,521	\$4,114,525	\$5,049,421	\$5,958,241	\$6,999,711	\$7,863,714
<i>% Growth</i>		-11.29%	10.48%	97.47%	24.04%	78.46%	68.65%	38.38%	27.56%	22.72%	18.00%	17.48%	12.34%
U.S. (Domestic)	259,080	199,565	219,600	523,577	637,879	1,108,801	1,761,846	2,129,155	2,385,006	2,655,984	2,909,161	3,162,656	3,251,970
<i>% Growth</i>		-22.97%	10.04%	138.42%	21.83%	73.83%	58.90%	20.85%	12.02%	11.36%	9.53%	8.71%	2.82%
International	63,511	86,601	96,559	100,756	136,546	273,248	569,007	1,096,365	1,729,518	2,393,438	3,049,080	3,837,055	4,611,744
<i>% Growth</i>		36.36%	11.50%	4.35%	35.52%	100.11%	108.24%	92.68%	57.75%	38.39%	27.39%	25.84%	20.19%

Appendix J: WACC & Beta



Enphase Energy	
WACC Calculation	
Beta	1.480
Risk Free Rate	3.55%
Expected Market Return	7.00%
Risk Premium	3.45%
Cost of Equity	13.91%
Pre-Tax cost of debt	4.61%
Tax Rate	12.10%
Cost of Debt	4.05%
Market Cap	\$27,941,193,770
Debt Outstanding	\$1,290,357,000
Total Capitalizaiton	\$29,231,550,770
Weight of Equity	95.58574%
Weight of Debt	4.41426%
WACC	13.48%

Covariance	0.0003278
Variance	0.0002215
Beta	1.4802158

Appendix K: Discounted Cash Flow



Enphase Energy													
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023E	FY 2024E	FY 2025E	FY 2026E	FY 2027E	FY 2028E
EBIT	(62,700)	(39,378)	1,596	102,729	186,439	215,832	448,261	756,526	1,089,246	1,459,585	1,757,571	2,054,501	2,328,964
1-Tax Rate	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%	84.91%
D&A	10,638	9,004	9,667	14,119	18,103	13,154	58,775	57,918	63,635	68,625	69,341	67,967	61,083
CapEx	12,167	4,121	4,151	14,788	20,558	26,368	46,443	60,003	65,630	70,625	71,402	69,973	62,922
Nw/C	30,460	26,990	(2,941)	(114,966)	(105,014)	(74,747)	(116,347)	(140,120)	(122,009)	(78,850)	(9,402)	87,214	208,367
FCFF	(\$85,228)	(\$55,543)	\$9,812	\$201,524	\$260,864	\$244,796	\$509,297	\$780,401	\$1,044,893	\$1,316,183	\$1,499,695	\$1,655,257	\$1,767,317
% Growth		-34.82%	-117.67%	1953.82%	29.45%	-8.16%	108.05%	53.22%	32.82%	25.86%	12.94%	12.37%	6.77%
Terminal Value (Multiple)													\$70,523,539
Cash Flows (Multiple Method)								\$780,401	\$1,044,893	\$1,316,183	\$1,499,695	\$1,655,257	\$72,290,856
PV of Cash Flows (Multiple Method)								\$732,597	\$864,399	\$959,519	\$963,463	\$937,113	\$36,066,580
Discount Factor								0.5	1.5	2.5	3.5	4.5	5.5

Multiple Method	
Enterprise Value	40,523,671
Less: Debt	1,290,357
Add: Cash	473,244
Equity	39,706,558
Diluted Shares	144,390
Price Per Share	\$ 275.00

	WACC				
	11.48%	12.48%	13.48%	14.48%	15.48%
31.51x	320.35	305.52	291.51	278.27	265.74
30.51x	311.24	296.85	283.25	270.40	258.24
29.51x	302.14	288.18	275.00	262.53	250.74
28.51x	293.03	279.51	266.74	254.66	243.24
27.51x	283.92	270.84	258.48	246.79	235.74

2023 EV/EBITDA

Appendix L: Comps



Enphase Energy																		
Company	Ticker	Stock Price	Shares Out	Debt	Cash	Enterprise Value	Market Cap	TTM EBITDA	2024 EBITDA	TTM EBIT	2024 EBIT	TTM EPS	2024 EPS	TTM EV/EBITDA	2024 EV/EBITDA	2024 EV/EBIT	TTM P/E	2024 P/E
Enphase Energy	\$ENPH	\$ 206.97	136,441	1,314,800	1,612,800	27,941,194	28,239,194	507,036	1,152,881	448,261	1,089,246	2.77	7.17	55.11	24.24	25.65	74.72	28.88
SolarEdge	\$SEDG	\$ 316.39	56,133	732,275	783,112	17,709,211	17,760,048	231,560	945,900	166,120	809,148	1.70	9.29	76.48	18.72	21.89	186.11	34.08
First Solar	\$FSLR	\$ 219.48	114,939	5,409,186	783,112	29,852,903	25,226,829	242,488	1,799,600	(27,236)	1,294,000	(.41)	11.69	123.11	16.59	23.07		18.78
Sunnova Energy	\$NOVA	\$ 16.14	114,500	5,429,200	360,257	6,916,973	1,848,030	78,086	71,800	(81,504)	73,394	(1.41)	(.83)	88.58	96.34	94.24		
Sunpower Corp	\$SPWR	\$ 14.27	188,287	507,631	377,026	2,817,460	2,686,855	95,100	199,800	(492)	131,693	.59	.55	29.63	14.10	21.39	24.19	25.95
Sunrun Inc	\$RUN	\$ 42.92	214,184	8,199,546	740,308	16,651,815	9,192,777	(211,146)	105,900	(662,192)	(592,783)	.80	(.29)		157.24			53.65
Lattice Semiconductor	\$LSCC	\$ 94.61	157,099	128,752	145,720	12,953,968	12,970,936	216,690	321,500	187,367	336,500	1.30	1.87	59.78	40.29	38.50	72.78	50.70
Minimum														29.63	14.10	21.39	24.19	18.78
Q1														59.78	17.12	21.89	46.28	24.15
Median														76.48	29.51	23.07	63.21	30.01
Q3														88.58	82.33	38.50	101.11	38.25
Maximum														123.11	157.24	94.24	186.11	50.70
Minimum														\$112.28	\$121.34	\$172.98	\$67.00	\$134.58
Q1														\$224.34	\$146.86	\$176.91	\$128.21	\$173.11
Median														\$286.59	\$251.51	\$186.36	\$175.10	\$215.08
Q3														\$331.37	\$697.81	\$309.51	\$280.08	\$274.01
Maximum														\$459.68	\$1,330.82	\$754.56	\$515.53	\$363.38

2024 P/E	\$173.11	\$100.90
TTM P/E	\$175.10	\$151.87
2024 EV/EBIT	\$176.91	\$132.60
2024 EV/EBITDA	\$146.86	\$104.65
TTM EV/EBITDA	\$224.34	\$107.03
DCF Multiples	\$247.75	\$32.21
52 Week Range	128.67	211.25

Appendix M: Inflation Reduction Act ENPHASE.

“The Inflation Reduction Act of 2022 will extend the ITC for 10 years while reinstating a 30% tax rebate on the total cost of a solar installation. The solar ITC can be redeemed by the owner of a clean energy system on a residential or commercial property.” - Enphase

It also created a tax credit specifically for domestically produced microinverters at 11 cents per watt (AC) of microinverter capacity (Enphase Microinverters are 360 Watts)

Qualified Expenses

Qualified expenses include the [costs of new clean energy property](#) including:

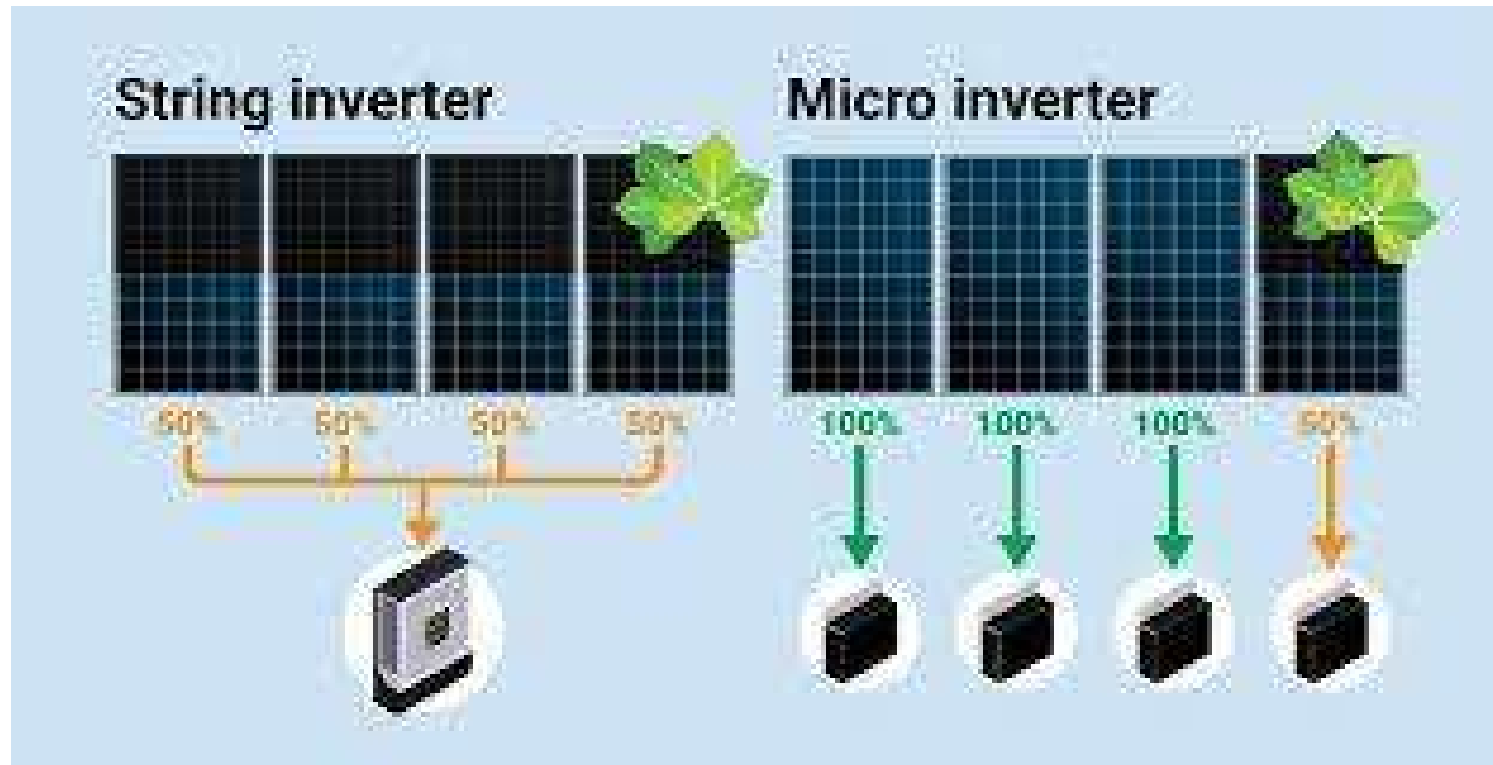
- Solar electric panels
- Solar water heaters
- Wind turbines
- Geothermal heat pumps
- Fuel cells
- Battery storage technology (beginning in 2023)

<https://www.irs.gov/credits-deductions/residential-clean-energy-credit>

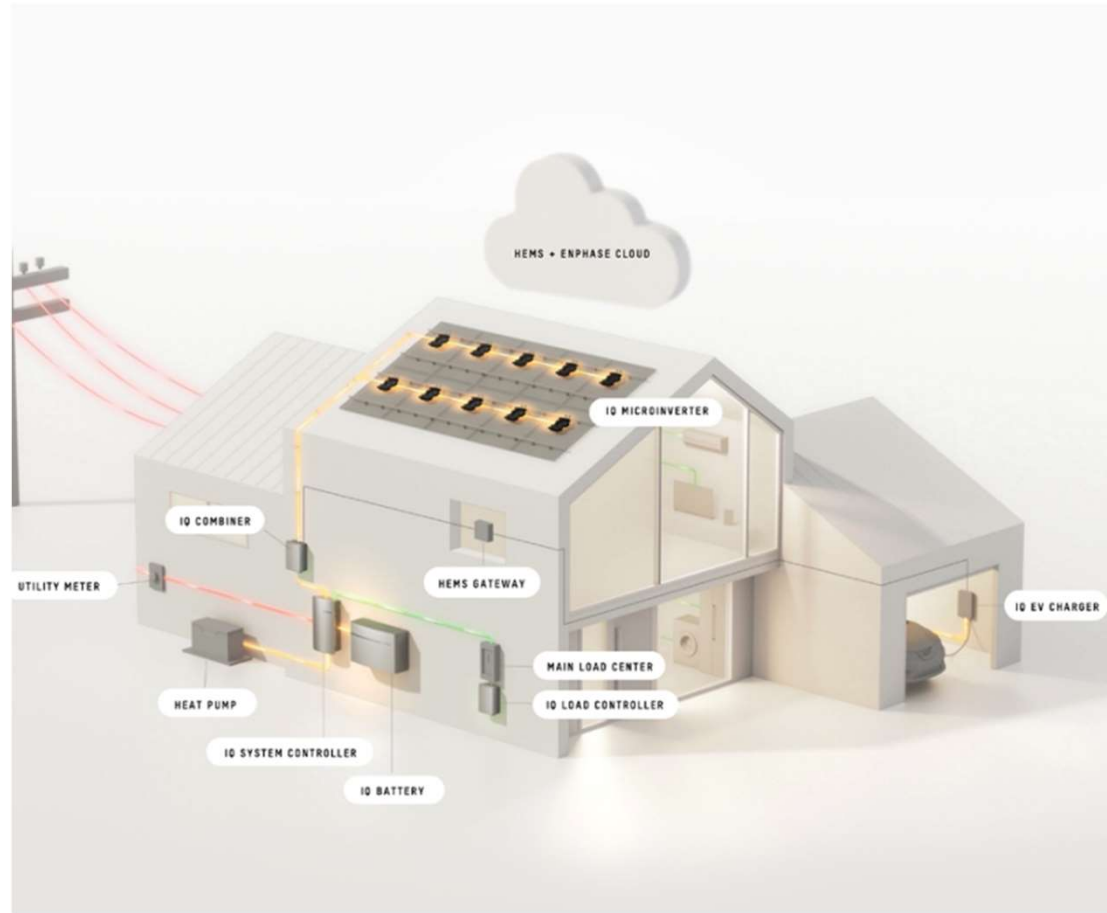
<https://www.irs.gov/credits-deductions/home-energy-tax-credits>

<https://www.irs.gov/credits-deductions/energy-efficient-home-improvement-credit>

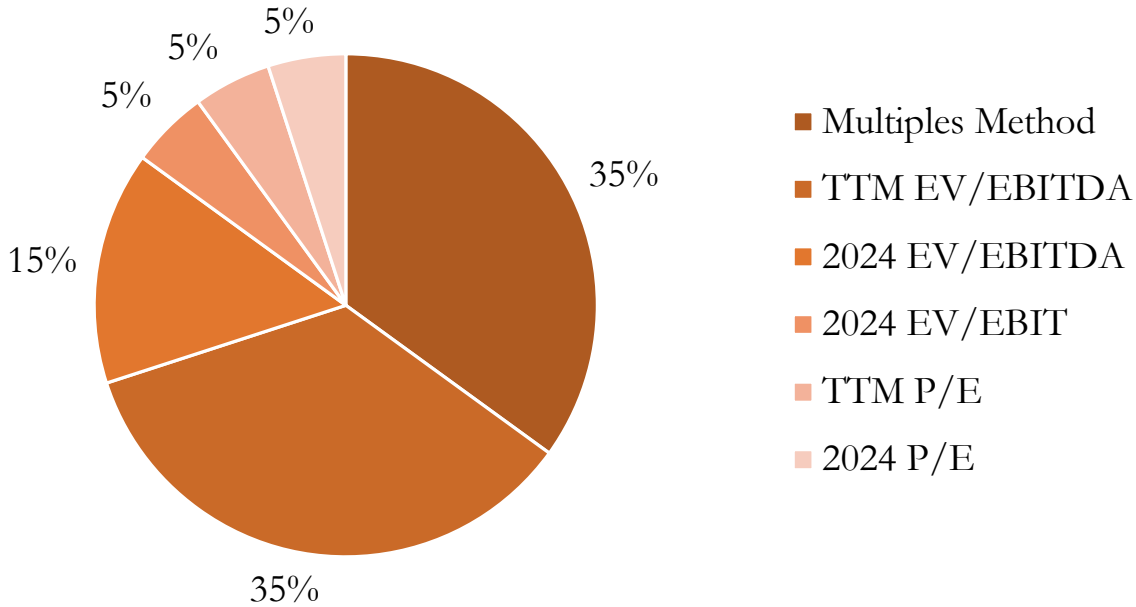
Appendix N: Micro Inverter Image



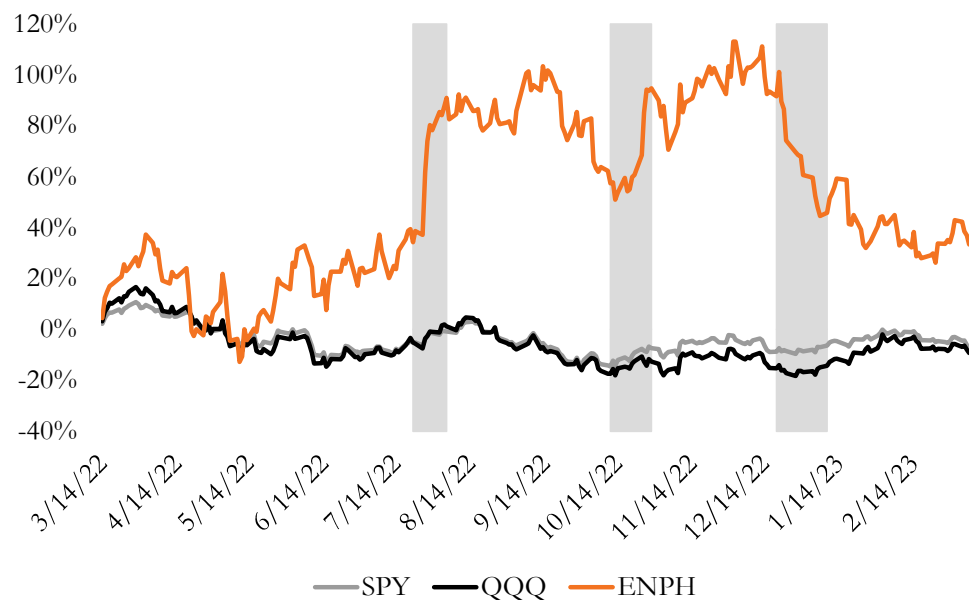
Appendix O: Enphase Home System ENPHASE.



Appendix P: Valuation Weighting



Appendix Q: Market Returns



Late July 2022 – Early August 2022

Enphase reported Q2 earnings that were above Wall Street expectations, thanks in part to growing business in Europe. They also increased their microinverter shipment by 18%.

Late October 2022 – Early November 2022

Demand was strong in their markets worldwide, specifically North America and Europe. Revenue increased 70% in Q3, compared to Q2, as countries in the region are accelerating efforts to address rising energy prices and reliance on fossil fuel. They also closed their acquisition of GreenCom Networks.

Late December 2022 – Early January 2023

Decline is likely attributed to declining oil/gas prices and supply glut. There is also slower battery shipment and revenue growth. Banks said that Enphase was priced at perfection. There was an overreaction due to the poor guidance with a drop in battery sales.

Appendix R: NEM 3.0 Calculation



After April 14, 2023	NEM 3.0
~75% decrease in average energy credit	\$0.08/kWh
Locked in benefits decreased by 11 years	9 Years
Double the payback time (ROI)	8-10 Years
Increased monthly fixed charges	\$15

Appendix S: Bear Base Bull

Bear

Base

Bull

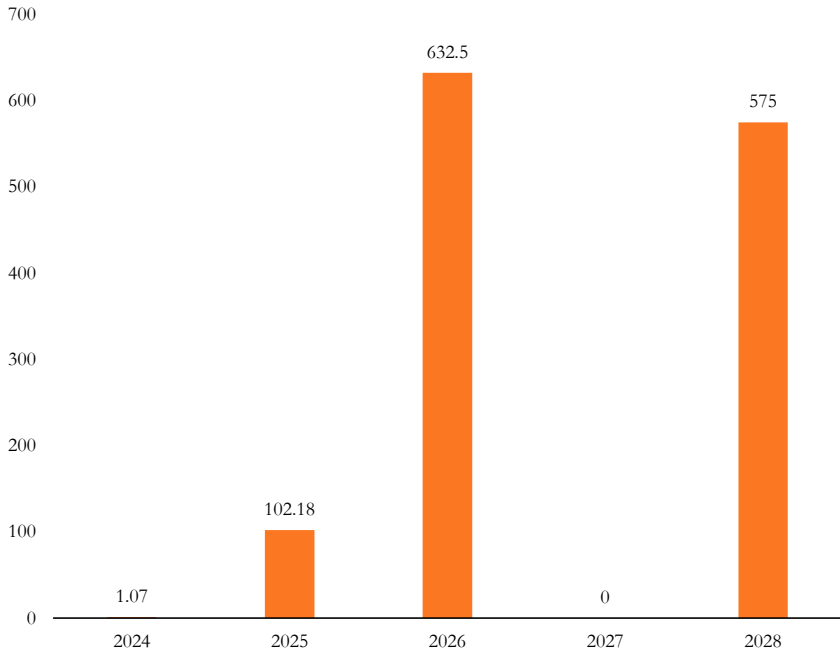
2024 EV/EBITDA: 22.5x
PT: \$192

2024 EV/EBITDA: 31.5x
PT: \$268

2024 EV/EBITDA: 39.5x
PT: \$336

Analyst Biju Perincheril downgraded Enphase stock (ticker: ENPH) to Neutral from Positive, but increased his 12-month price target to \$365 from \$310 on Thursday. The analyst noted higher solar-installation forecasts in the U.S., and strong potential for international growth for the sector, but he downgraded Enphase stock “given its relatively rich valuation.” Perincheril added, “Enphase’s execution has been nearly flawless, but we also feel the stock is now priced for near perfection.”

Appendix T: Debt Maturity



Appendix U: Segment Growth

