



CEO Letter to Shareholders 2022





CEO Letter to Shareholders 2022

Use of forward-looking statements

This presentation contains forward-looking statements made pursuant to the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995, including but not limited to statements concerning future financial performance; our business strategies, including our operations and anticipated trends and developments in markets in which we operate and in the markets in which we plan to expand; our expectations as to the impact and evolving current geopolitical issues; the anticipated release, shipment, and market adoption of Enphase's new products and technologies; the capabilities, performance and benefits of our technology and products, including future products, features and services, and the reduction of commissioning times for installers; the ability to optimize and customize products, load disaggregation, monitoring and management; our performance in operations, including manufacturing, product capacity, training, and customer service. These statements are based upon current expectations that involve risks and uncertainties. Any statements that are not of historical fact, may be forward-looking statements. Words used such as "anticipates," "believes," "continues," "designed," "estimates," "expects," "goal," "intends," "likely," "may," "ongoing," "plans," "projects," "pursuing," "seeks," "should," "will," "would" and similar expressions are intended to identify forward looking statements, although not all forward-looking statements contain these words. All forward-looking statements are based on our current assumptions, expectations and beliefs, and involve substantial risks and uncertainties that may cause results, performance or achievement to materially differ from those expressed or implied by these forward-looking statements. Therefore, you should not place undue reliance on our forward-looking statements. A detailed discussion of risk factors that affect our business is included in the filings we make with the Securities and Exchange Commission (SEC) from time to time, including our most recent reports on Form 10-K and Form 10-Q, particularly under the heading "Risk Factors." Copies of these filings are available on the Enphase website at <http://investor.enphase.com/sec.cfm>, or on the SEC website at www.sec.gov. All forward-looking statements in this presentation are based on information currently available to us, and we assume no obligation to update these forward-looking statements in light of new information or future events.

Industry Information

Information regarding market and industry statistics in this presentation is based on information available to us that we believe is accurate. It is generally based on publications that are not produced for purposes of economic analysis.

Non-GAAP Financial Metrics

- We have presented certain non-GAAP financial measures in this presentation. Generally, a non-GAAP financial measure is a numerical measure of a company's performance, financial position, or cash flows that either excludes or includes amounts that are not normally excluded or included in the most directly comparable measure calculated and presented in accordance with generally accepted accounting principles in the United States of America, or GAAP. Reconciliation of each non-GAAP financial measure to the most directly comparable GAAP financial measure can be found in the Appendix to this presentation. Non-GAAP financial measures presented by us include non-GAAP gross profit, gross margin, operating expenses, income (loss) from operations, net income (loss), net income (loss) per share (basic and diluted) and free cash flow.
- These non-GAAP financial measures do not reflect a comprehensive system of accounting, differ from GAAP measures with the same captions and may differ from non-GAAP financial measures with the same or similar captions that are used by other companies. In addition, these non-GAAP measures have

limitations in that they do not reflect all of the amounts associated with our results of operations as determined in accordance with GAAP. As such, these non-GAAP measures should be considered as a supplement to, and not as a substitute for, or superior to, financial measures calculated in accordance with GAAP. We use these non-GAAP financial measures to analyze our operating performance and future prospects, develop internal budgets and financial goals, and to facilitate period-to-period comparisons. We believe that these non-GAAP financial measures reflect an additional way of viewing aspects of our operations that, when viewed with our GAAP results, provide a more complete understanding of factors and trends affecting our business.

- As presented in the "Reconciliation of Non-GAAP Financial Measures" page, each of the non-GAAP financial measures, excludes one or more of the following items for purposes of calculating non-GAAP financial measures to facilitate an evaluation of our current operating performance and a comparison to our past operating performance:
- Stock-based compensation expense. We exclude stock-based compensation expense from our non-GAAP measures primarily because they are non-cash in nature. Moreover, the impact of this expense is significantly affected by our stock price at the time of an award over which management has limited to no control.
- Acquisition related expenses and amortization. This item represents expenses incurred related to our business acquisitions, which are non-recurring in nature, and amortization of acquired intangible assets, which is a non-cash expense. Acquisition related expenses and amortization of acquired intangible assets are not reflective of our ongoing financial performance.
- Restructuring and asset impairment charges. We exclude restructuring and asset impairment related charges due to the nature of the expenses being unplanned and arising outside the ordinary course of continuing operations. These costs primarily consist of fees paid for restructuring-related management consulting services, cash-based severance costs related to workforce reduction actions and asset write-downs of property and equipment, lease loss reserves and other contract termination costs resulting from restructuring initiatives.
- Non-cash interest expense. This item consists primarily of amortization of debt issuance costs and accretion of debt discount because these expenses do not represent a cash outflow for us except in the period the financing was secured and such amortization expense is not reflective of our ongoing financial performance.
- Loss on partial settlement of convertible notes. This item is reflected in other income (expense), net and represents (i) the difference between the carrying value and the fair value of the settled convertible notes and (ii) the inducement loss for the difference between the value of the shares issued to settle the convertible notes and the value of the shares that would have been issued under the original conversion terms with respect to the repurchased Notes due 2025, which is non-cash in nature and is not reflective of our ongoing financial performance.
- Non-GAAP income tax adjustment. This item represents the amount adjusted to our GAAP tax provision or benefit to present the non-GAAP tax amount based on cash tax expense and reserves.
- Free cash flow. This item represents net cash flows from operating activities plus deemed repayment of convertible notes attributable to accreted debt discount reported in operating activities less purchases of property and equipment.

Copyright and Trademark Attribution

©2023 Enphase Energy, Inc. All rights reserved.

Enphase, the E logo, IQ, IQ Battery, IQ Battery 5P, IQ7, IQ7+, IQ7A, IQ8, IQ8H, IQ8M, IQ8P, IQ9, IQ10, Ensemble, Enphase Energy System, Enphase App, Sunlight Jump Start, Installer App, IQ System Controller, IQ Gateway, IQ Portable Energy System, Solargraf, and other trademarks or service names are the trademarks of Enphase Energy, Inc. Other names are for informational purposes and may be trademarks of their respective owners.



Badri Kothandaraman
President and CEO

Dear fellow shareholders,

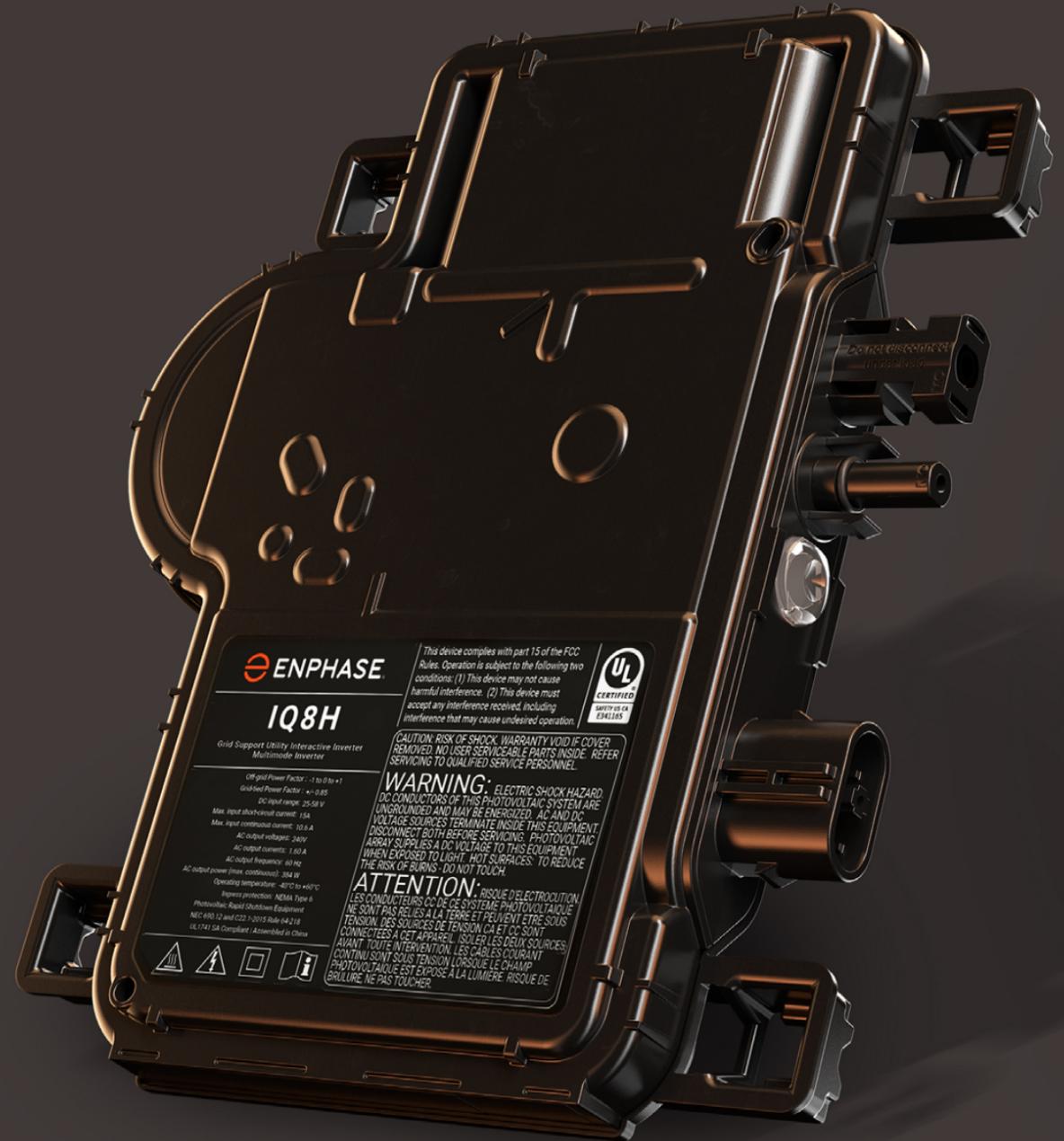
We had a great 2022. Through the ups and downs of the global economy, we remained resilient, focused on operational excellence, and reported record revenue and profitability. The global energy markets are in the middle of great change. Utility costs are rising, climate change is happening, and geopolitical issues are driving the need for energy security. While the Inflation Reduction Act (IRA) and the situation in Europe accelerated our business, the U.S. macroeconomic environment with rising interest rates kept us on our toes in 2022. We were able to manage through this environment and are pleased with our performance.

While we had strong growth in North America, 2022 belonged to Europe, which grew an astonishing 132% from 2021. We saw many countries in Europe accelerating their clean energy plans. And we are proud of the fact that we were able to supply product to them while the regional players struggled to keep up. In 2022, we acquired GreenCom Networks AG, a home energy management software company based in Munich. This will enable us to network our solar and storage systems to third-party EV chargers and heat pumps, while providing homeowners with a single app for control. We ramped up IQ8™ Microinverters in North America and continued to make meaningful progress on our IQ™ Batteries to improve the installer experience.

I am proud of our employees around the world who worked hard in 2022 to execute on our strategy – to build best-in-class home energy systems and deliver them to homeowners through our installer and distribution partners, enabled by an installer digital platform. Our purpose, our values, and how we work together and achieve results within the company are highlighted in our [culture playbook](#), a blueprint for our employees. At Enphase, we promote and reinforce five core values: Customer First, Integrity, Innovation, Teamwork, and Quality. These core values unify us and enable us to achieve our purpose – advancing a sustainable future for all.

In this spirit and backdrop, this letter highlights our 2022 accomplishments, reinforces our strategy, and lists our priorities for 2023.

“While we had strong growth in North America, 2022 belonged to Europe which grew an astonishing 132% from 2021.”



The high-powered IQ8H Microinverter has peak output AC power of 384W

Our 2022 performance



“We shipped 15.4 million microinverters during the year, compared to 10.4 million microinverters in 2021.”

For 2022, our revenue increased 69% sequentially from 2021 to \$2.33 billion. We shipped 15.4 million microinverters during the year, compared to 10.4 million microinverters in 2021. Our GAAP gross margin in 2022 was 41.8%, compared to 40.1% in 2021; our non-GAAP gross margin was 42.6%,¹ compared to 40.7%¹ in 2021, primarily as a result of IQ8 Microinverter product mix. A good gross margin number means doing well on price and cost. We price products based on the added value when compared to the next best alternative. We created the pricing team in 2017 and gave it autonomy, decoupling it from the sales organization. On cost, we look at saving every cent and have closely aligned goals throughout the organization. Note that a one cent reduction in the bill of materials for a microinverter amounts to \$154,000 in annual cost savings based on our 2022 shipments.

We are pleased to report that 2022 was a record year for profitability and cash flow from operations. We generated a record \$744.8 million in cash flow from operations, compared to \$352.0 million in 2021. We exited the year with \$1.61 billion in cash, cash equivalents, and marketable securities. We are quite frugal when it comes to spending money. We manage our operating expenses tightly with a baseline at 15% of revenue while maintaining necessary investments in innovation and operations. We are CAPEX-lite which means we don't need to build big factories as we leverage our contract manufacturing partners. And, our lean finance and operations teams do a remarkable job of managing payables, receivables, and inventory.

We are proud of being added to the Nasdaq-100 Index in November 2022. This is an accomplishment made possible through the hard work and dedication of our employees, along with the ongoing support of our customers, partners, and shareholders.

We achieved record revenue growth in North America and Europe in 2022

We achieved record revenue growth in North America and Europe in 2022. Our U.S. and international revenue mix was 76% and 24%, respectively.

Our revenue increased 61% year-over-year in North America, which is comprised of the U.S., Canada, Puerto Rico, and Mexico. The residential solar market in North America was over 6.5 GW and the residential battery market was over 1.7 GWh in 2022. We work with all the leading distributors in North America, and we work with installers of all sizes and shapes. In 2022, we did business with an average number of 2,675 installers per quarter on microinverters and 950 installers per quarter on batteries.

¹See Appendix for reconciliation to comparable GAAP measures

Energy Sage, Inc., a third party marketplace that provides business trends for U.S. residential solar and storage based on actual quotes from hundreds of installers, released its [report](#) in March 2023. We are proud that Enphase was the most quoted inverter and battery brand. Our microinverters and batteries were included in 68% and 45% of all quotes, respectively. This is an ongoing testament to our innovation, quality, and service.

“Our growth opportunities in Europe are exciting; homeowners want self-consumption as the region not only faces rising energy prices but also a growing demand for home electrification driven by EVs and natural gas shortages.”

Our revenue increased 132% year-over-year in Europe, led by strong demand in the Netherlands, France, Germany, Belgium, Spain, Portugal, and the U.K. The residential solar market in Europe was over 10 GW in 2022 and is expected to grow at a healthy rate of 25-30% annually. The residential battery market in Europe was over 5 GWh in 2022. We started shipping IQ8 Microinverters in the Netherlands and France in the fourth quarter of 2022. During 2022, we did business in Europe with an average of 3,200 installers per quarter on microinverters, and we were just getting started on batteries. We did business with more than 200 installers on batteries in the fourth quarter of 2022. The installer base in Europe is more fragmented than in the U.S., which plays well with our value proposition. Our growth opportunities in Europe are exciting; homeowners want self-consumption as the region not only faces rising energy prices but also a growing demand for home electrification driven by EVs and natural gas shortages. We are investing heavily in Europe by expanding our sales, service, and engineering teams.

In our emerging markets, a noteworthy country to mention is Brazil. The residential solar market in Brazil was over 4 GW in 2022. We are growing rapidly in the country and are selling IQ7+™ and IQ7A™ Microinverters to installers today with a value proposition of consumption monitoring, high quality, and great customer service. We did business with over 400 installers in the fourth quarter of 2022. Brazil is a fragmented market with more than 20,000 installers. We have a strong team in place and given the big market size, we are expanding the team rapidly and prioritizing new products for the region.

Our operations team managed the global supply chain challenges well, while staying disciplined and lean

During all of 2021 and the early part of 2022, there was enormous stress on the supply chain. Our business was booming; but we had acute supply shortages on some key semiconductor components such as high-voltage transistors and isolated gate drivers. Logistics costs were out of control. The shipping costs for a 40-foot container from China to the U.S. increased by 4x in 2021 compared to the prior year. Our operations team managed the global supply chain challenges well, while staying disciplined and lean. We qualified multiple suppliers, as many as five, for key semiconductor components. We minimized miles on products by localizing suppliers near our contract manufacturing facility and were able to control our logistics costs.

“The stress in the supply chain started easing in the second half of 2022, enabling us to service the increased demand in Europe better than our competitors.”

The stress in the supply chain started easing in the second half of 2022, enabling us to service the increasing demand in Europe better than our competitors. We increased our total manufacturing capacity for microinverters to five million microinverters per quarter by the end of 2022. Our contract manufacturing facilities are located in Mexico, India, and China. In the fourth quarter of 2022, the Flex Mexico contract manufacturing facility had a quarterly capacity of 2.25 million microinverters, the Salcomp India facility had 1.5 million, and the Flex China facility had 1.25 million.



Manufacturing line at our Salcomp contract manufacturing facility in Chennai, India

To provide better service to our European customers, we formulated plans in 2022 for local manufacturing with Flex, our contract manufacturing partner. I am happy to report that we recently began manufacturing microinverters in the Flex Romania facility and started shipping to customers. The addition of Flex Romania will enable us to have a total manufacturing capacity of six million microinverters per quarter.

The IRA was signed by U.S. President Biden on August 16, 2022. The IRA provides a historic investment in clean energy and contains a variety of tax incentives, loans, and grants to improve energy efficiency and climate resilience. The IRA reinstated the 30% investment tax credit (ITC) on solar and battery storage for 10 years, providing homeowners with a substantial incentive. The IRA supports U.S. manufacturing by expanding production tax credits (PTC) for manufacturing solar panels, microinverters, and batteries.

We plan to bring microinverter manufacturing to the U.S. to create jobs and provide customers “Made in USA” products. We expect to open three facilities in the U.S., each containing two manufacturing lines, by the end of 2023. This will add a quarterly capacity of 4.5 million microinverters, bringing our total global quarterly capacity to more than 10.0 million microinverters as we exit 2023. We need the additional capacity anyway, considering our fast-paced growth globally. We will have three contract manufacturing partners as we exit 2023, one at each of the three U.S. facilities: two of them are our existing partners and one will be a new partner.

For batteries, our two sources for Lithium Iron Phosphate (LFP) cell packs increased their total capacity to approximately 180 MWh per quarter. Our existing cell pack suppliers can add more capacity if needed. We added an additional cell pack supplier from China for our third-generation battery which will start shipping to customers in 2023.

We ramped up shipments of IQ8 Microinverters

In 2022, we continued to ramp up shipments of IQ8 Microinverters to customers in North America, France, and the Netherlands. IQ8 Microinverters constituted approximately 42% of all our microinverter shipments in 2022. The majority of IQ8 shipments in 2022 were in the U.S. IQ8 Microinverters can form a microgrid during a power outage using only sunlight, providing backup power even without a battery. IQ8’s grid-forming technology eliminates the traditional ratio requirements between the size of a solar system and the size of the battery system. And, with our Sunlight Jump Start™ feature, IQ8 Microinverters can restart a home energy system using sunlight after prolonged grid outages that may result in a fully depleted battery. We plan to ship IQ8 Microinverters to the rest of Europe and Australia in 2023. We expect most of our microinverter shipments will be IQ8 by the third quarter of 2023.

We shipped 508 MWh of IQ Batteries

Since we started shipping IQ Batteries into North America in the third quarter of 2020, we have grown global battery shipments by an average of 20% per quarter. Our batteries form a microgrid and provide critical power to a home during a power outage. We continue to hold weekly installer roundtables to understand installer pain points, and made substantial improvements to our commissioning, communication, and off-grid transitions in 2022. Our goal is a 60-minute commissioning time, which will allow installers to visit the site, install, and commission an Enphase Energy System™ in less than a few hours. We exited the fourth quarter of 2022 with a median commissioning time of 91 minutes. We have gained invaluable experience by ensuring our batteries operate under demanding conditions, such as storms and hurricanes, and we take this responsibility seriously.

“Since we started shipping IQ Batteries into North America in the third quarter of 2020, we have grown battery shipments by an average of 20% per quarter.”

In Europe, we started shipping IQ Batteries into Germany and Belgium in 2021. Our business in Germany saw a nice ramp in battery shipments throughout 2022. In addition to being paired with IQ Microinverters, our IQ Batteries are installed with third-party single-phase and three-phase solar inverters, enabling homeowners to upgrade their home solar systems with a reliable battery solution that reduces their electricity bills by enabling self-consumption. So far in 2023, we have introduced IQ Batteries into additional European countries, including the Netherlands, France, Switzerland, and Austria. We plan to introduce IQ Batteries into even more European countries later in the year.

We strengthened our customer focus, expanded our installer network, and increased training

“The ability to grow and evolve our business requires an open dialog with our customers, and we take this seriously.”

The ability to grow and evolve our business requires an open dialog with our customers, and we take this seriously. We listen to our customers and take action to deliver a better experience. Our Net Promoter Score (NPS) was 71% in the fourth quarter of 2022, compared to 69% in the fourth quarter of 2021. Our call volumes increased substantially due to the growth of our fleet; we brought down wait times through staffing and training. We added Field Service Technicians (FSTs) to help installers, particularly for battery issues. Since the RMA process for batteries can be complex and disruptive to our installers, we started piloting board-level replacements versus full unit replacements with our FSTs in the fourth quarter of 2022. This action enables installers to spend less time on returns and use their time more efficiently. We are also focusing on the 95th percentile metrics of our call centers and beefing up our data analytics effort. This helps us understand problems faster and improve our business processes.

Quality is at the heart of everything we do and we have established some of the industry’s most rigorous quality standards. For microinverters, our target is to stay under a 0.05% annual failure rate and, in practice, we operate close to this number. For IQ Batteries, our target is similar. We are still learning as we are only shipping our second generation product today. Nevertheless, learning is happening fast. Data analytics plays a big role here in predicting problems by monitoring the component-level data streamed continuously to the cloud. We are solving quality problems not only by blocking and tackling field issues using the 8D methodology, but also by component elimination through innovation from one generation to the next. For example, in our fourth generation battery which is planned for 2024, we expect to cut the component count by more than half through the integration of power conversion and battery management – fewer components, fewer failures!

“Installers in our EIN Program are selected exclusively based on customer feedback, product certification, and commitment towards our products.”

In 2022, we expanded our Enphase Installer Network (EIN) into eight regions comprised of 1,300 installers – the U.S., Australia, the Netherlands, Belgium, France, Mexico, Puerto Rico, and India. We plan to add more installers to the EIN in 2023 with a focus on international countries, including the U.K., Italy, and Brazil. The EIN is our trusted network of installers who deliver exceptional homeowner experience using Enphase products. The EIN is designed to strengthen our relationship with our installers and to help accelerate their growth. Installers in our EIN program are selected exclusively based on customer feedback, product certification, and commitment towards our products. In return the EIN partners are entitled to certain benefits such as product allocation, early access to our new products, marketing promotions, and select product discounts.

For installer training, we offer more than 25 different certification and qualification courses pertaining to the commissioning of specific Enphase products, and they are available in nine native languages across the U.S., Latin America, Europe, Australia, and Brazil. We expanded our installer training programs on our batteries in 2022 and have certified approximately 2,300 installers for our IQ Batteries in the U.S. We conduct in-person training events to support many solar installers across the globe. We have 12 regional training centers spread across the U.S. and use two solar vans equipped with Enphase system products to bring training to installers in remote locations across the U.S. and Puerto Rico to learn about installation best practices. We also have dedicated trainings in the Netherlands, France, Spain, Italy, Austria, Germany, Australia, and Brazil, with more planned in 2023. Training is also available on demand via our YouTube training channel where we currently have more than 1,400 subscribers.



An installer training session at our facility in Fremont, California



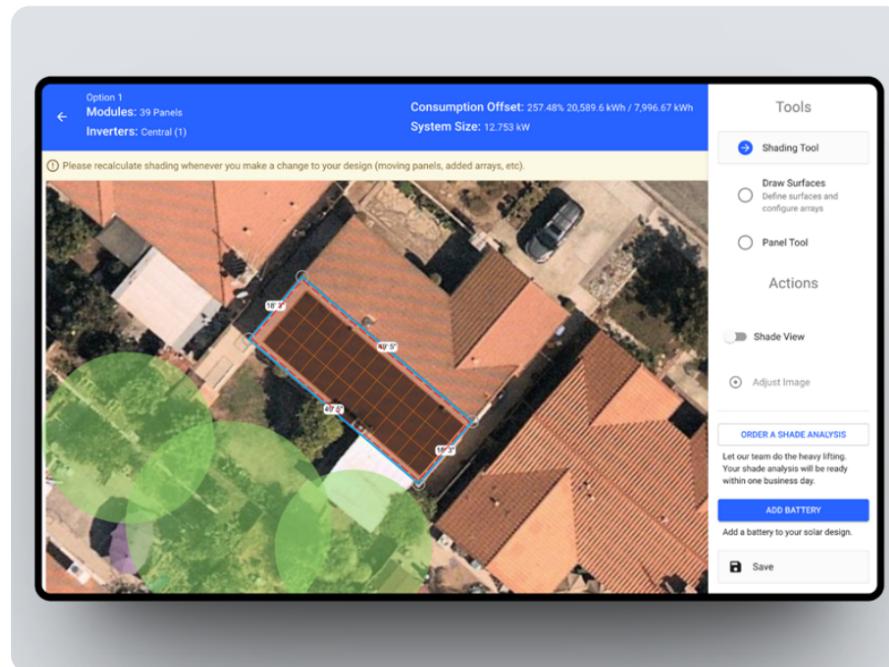
An installer training session using an Enphase mobile training van in California

We strengthened our installer platform

“By providing tools and services to our installers, we aim to simplify the sales process while reducing soft costs and providing a good experience.”

We have been building an installer platform since 2019, and it continues to be an important part of our strategy. We made four acquisitions in the last two years to strengthen our installer platform in the areas of lead generation, solar design and proposal, permitting services, and Operations and Maintenance (O&M). In addition, we have our homegrown mobile apps for the commissioning and monitoring of solar and battery systems. We now offer a complete suite of products and services for installers, including lead generation with a focus on high-quality leads, design and proposal software for solar and battery systems, fintech connectivity to many loan offerings, permitting services with increasing levels of automation, installation and commissioning with the Enphase® Installer App, and O&M enabled by a two-sided marketplace between customers and service providers. By providing tools and services to our installers, we aim to simplify the sales process while reducing soft costs and providing a good experience.

In 2022, we made several updates to our SolargrafSM software, incorporating battery design and proposal, document management, consumption modeling, and other improvements which were requested by our installer partners. In addition, we made significant strides in automating the creation of permit plan

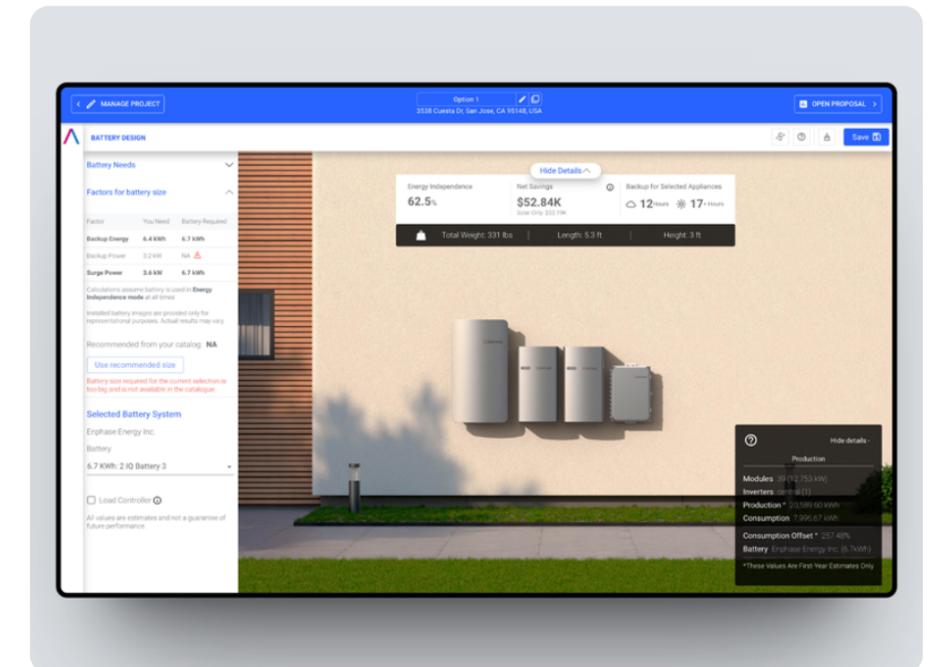


Solargraf design and proposal software incorporates AI algorithms for 3D and shading

“NEM 3.0 will increase the demand for storage as the combination of solar-plus-storage will result in high levels of self-consumption, reduced import from the grid leading to lower electricity bills, and getting paid handsomely to help the grid in times of stress by exporting energy.”

sets with Solargraf software. We are happy to report that by the end of 2022, more than 1,000 installers were using Solargraf software for their businesses. We plan to make the customer experience even better in 2023 by incorporating 3D design, shading, EV, single line diagram (SLD), etc., in addition to NEM 3.0 for California installers.

The NEM 3.0 tariff for new installations became effective in California in mid-April 2023. Under this structure, the energy export rate varies on an hourly basis for 365 days of the year. The export rates are only a fraction of the import rates most of the time, making solar less economical for NEM 3.0 than NEM 2.0. However, there are some times during the year where the rates are high in order to incentivize energy export when the grid needs it the most; for example, during the evening in the months of August and September when the grid is overloaded. NEM 3.0 is expected to increase the demand for storage as the combination of solar-plus-storage will result in high levels of self-consumption, reduced import from the grid leading to lower electricity bills, and getting paid handsomely to help the grid in times of stress by exporting energy. We are incorporating optimization in both our Solargraf and battery software in order to maximize savings and minimize the payback period for homeowners under the NEM 3.0 tariff. We expect to release this software in the first half of 2023.



Solargraf battery design tool

We generated \$698 million of free cash flow in 2022 and ended with a cash balance of \$1.61 billion

We surpassed our baseline financial model handily in 2022, achieving 43-13-30 performance — this means 43% gross margin, 13% operating expense, and 30% operating income, all as a percentage of revenue on a non-GAAP basis. Our non-GAAP diluted EPS nearly doubled in 2022 from 2021, to \$4.62.¹ We generated \$698 million of free cash flow in 2022 and ended the year with \$1.61 billion in cash, cash equivalents, and marketable securities. Our strong financial performance is attributed to innovative products such as IQ8 Microinverters, along with our continued focus on quality with less than 0.05% annual failure rates on microinverters, and our customer service with NPS greater than 70% worldwide.

Below is a recap of our financial performance in 2022 as compared to 2021. We have also included 2017 financials to provide context on our 5-year performance. Dollars are represented in thousands, except per share data and percentages.

	GAAP		
	2022	2021	2017
Revenue	\$ 2,330,853	\$ 1,382,049	\$ 286,166
Gross Margin	41.8 %	40.1 %	19.6 %
Operating Expense	22.6 %	24.5 %	33.3 %
Operating Income (loss)	\$ 448,261	\$ 215,832	\$ (39,378)
Net Income (loss)	\$ 397,362	\$ 145,449	\$ (45,192)
Basic EPS	\$ 2.94	\$ 1.09	\$ (0.54)
Diluted EPS	\$ 2.77	\$ 1.02	\$ (0.54)
Cash, cash equivalents and marketable securities	\$ 1,612,843	\$ 1,016,651	\$ 29,144
Net cash provided by (used for) operating activities	\$ 744,817	\$ 352,028	\$ (28,442)

	Non-GAAP		
	2022	2021	2017
Revenue	\$ 2,330,853	\$ 1,382,049	\$ 286,166
Gross Margin	42.6 %	40.7 %	20.0 %
Operating Expense	13.0 %	16.0 %	25.5 %
Operating Income (loss)	\$ 690,292	\$ 341,054	\$ (15,733)
Net Income (loss)	\$ 647,424	\$ 340,314	\$ (20,530)
Basic EPS	\$ 4.78	\$ 2.54	\$ (0.25)
Diluted EPS	\$ 4.62	\$ 2.41	\$ (0.25)
Cash, cash equivalents and marketable securities	\$ 1,612,843	\$ 1,016,651	\$ 29,144
Free Cash Flow	\$ 698,374	\$ 315,488	\$ (32,563)

¹See Appendix for reconciliation to comparable GAAP measures

We executed on most of the priorities highlighted in my letter a year ago

In conclusion, we had a good 2022 on many fronts. We grew our revenue significantly in Europe and the U.S., ramped shipments of our IQ8 Microinverters and IQ Batteries, and made good progress on our installer platform. Our new product introductions could have been a little better for the small commercial product and the third generation IQ Battery. However, we are learning from our mistakes and improving rapidly as a company. We are continuing to diversify our manufacturing globally and expanding our capacity with the help of our contract manufacturing partners. We are looking forward to providing customers very soon with products that are manufactured locally, both in the U.S. and Europe. We had 2,821 employees as of December 31, 2022, and I am proud of how they contributed to our ongoing success.



Employees at the Enphase New Zealand office in Christchurch

Our strategic focus



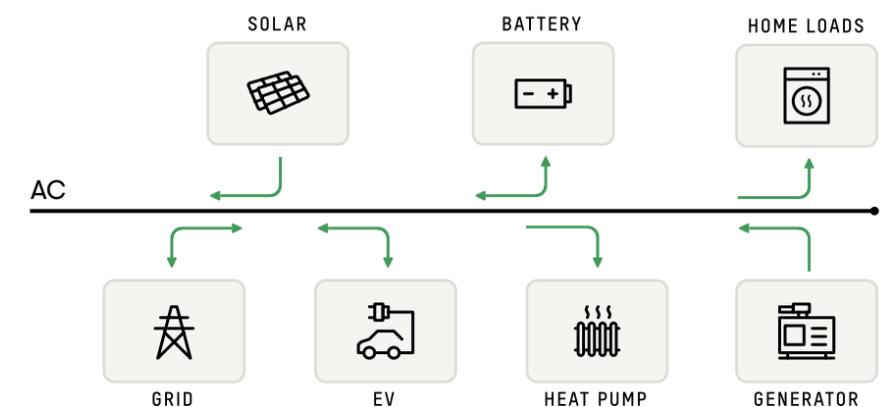
“We focus on making best-in-class home energy systems that enable homeowners to make, use, save, and sell their own power.”

Our world is dependent on energy for almost every human activity. We are at the beginning of a historic transition from consumptive, fossil-fuel-based energy generation towards clean, renewable energy generation with zero environmental impact. We believe that in most geographies, this transition involves local generation of electrical power at every home and business. Consumers will evolve to become prosumers who produce, store, and consume their own clean energy.

Our strategy is simple. We focus on making best-in-class home energy systems that enable homeowners to make, use, save, and sell their own power. We rely on great distribution partners who have a wide reach and can service installers with inventory and working capital. Installers are our lifeblood, and we rely on them to sell our products to homeowners. We recognize the problems that installers face such as soft costs, disparate sales and design tools, and manual processes. We are committed to building an end-to-end installer platform to help streamline and make the entire sales and design process more efficient.

Raghu Belur and Martin Fornage founded Enphase in 2006 based on their deep-rooted belief that an AC-coupled distributed architecture wins in the long run on cost, performance, and reliability. To build products based on this architecture, we developed core competencies in semiconductor-based power conversion, software-defined Internet of Things (IoT) systems, and energy management. We build our own ASICs that allow our solar and battery products to convert power efficiently, reliably, and intelligently. Our products are compatible with utility grid and microgrid conditions in virtually every place in the world. Our Ensemble™ technology can manage energy flow within a home and between homes. This technology coordinates distributed energy resources (DERS) such as solar microinverters, batteries, and EVs to deliver different use cases for the homeowner such as bill savings, resilience, or self-consumption.

Ensemble AC-coupled distributed architecture



“The grid-forming capability of IQ8 also enables Sunlight Backup, allowing solar systems to function in the absence of the grid.”

IQ8 Microinverters, our latest and current product family, are inherently bi-directional and grid-forming power conversion devices. IQ8 Microinverters are completely software-defined, using a new ASIC that is approximately 1,000x faster than the previous IQ7™ ASIC. This allows them to respond instantly to changing conditions and eliminates all sizing constraints between batteries and solar inverters. The grid-forming capability of IQ8 also enables Sunlight Backup™, allowing solar systems to function in the absence of the grid. The IQ8 family includes microinverters with peak output AC power ranging from 245W to 384W. IQ8 Microinverters pair seamlessly with solar modules up to 540W of DC power and up to 14 amperes of DC current. In 2022, the majority of our U.S. customers transitioned from IQ7 to IQ8; our European customers started transitioning as well towards the end of the year.



The IQ8M Microinverter with 330W peak power is the industry’s first grid-forming microinverter with split-phase power conversion capability

“IQ8P Microinverter systems offer the same grid compatibility, high quality, and rapid shutdown capability as the standard IQ8 Microinverter systems.”

In 2023, we are extending the IQ8 Microinverter product family with IQ8P™, supporting up to 480W AC output power. This inverter will support modules rated up to 650W DC allowing us to address markets where larger format panels are popular, e.g. in Latin America and other emerging markets such as India. The IQ8P Microinverter, along with a new 3-phase cabling system and IQ™ Gateway, is also planned for U.S. small commercial solar installations ranging from 20 to 200 kW, which is ideal for gas stations, schools, hospitals, churches, small businesses, and other similar facilities. IQ8P Microinverter systems offer the same grid compatibility, high quality, and rapid shutdown capability as the standard IQ8 Microinverter systems.



The IQ8P Microinverter with 480W peak power is the highest power Enphase product

Beyond the IQ8 family of microinverters, we are working on the IQ9™ family, which we expect to introduce to the market in 2024. We expect the IQ9 family to support even higher DC input currents up to 18 A, as well as higher AC grid voltages up to 480/277 V. The IQ9 Microinverters will use Gallium Nitride (GaN) high-voltage transistors to enable higher output power and lower cost. We are working closely with our GaN suppliers to maximize the benefits of this wide bandgap (WBG) technology for our application. We will also use a proprietary novel isolated driver technology and multiple innovations in magnetics, mechanical, and thermal design to deliver the higher power at a lower cost.

After IQ9, we will introduce the IQ10™ family of microinverters that is built around a new ASIC chipset that will raise the bar for functional safety and security in the solar industry, including many features found today in automotive products. This new ASIC utilizes an advanced 22 nm digital CMOS process that enables a higher level of integration and performance without adding cost or power loss. IQ10 further reduces cost and size by operating our microinverters at 4x the switching frequency, which allows us to maximize the benefits of GaN and use novel magnetics technologies. IQ10 also supports native 3-phase generation as well as neutral-forming.

We started shipping batteries to North America in 2020. Since then, we have received a lot of feedback from our installers asking for higher power and robust communication. Our third generation battery delivers double the continuous power and triple the peak power at the same cost. This means homeowners will be able to start heavy loads such as air conditioners and pool pumps more easily. The higher charging and discharging rate of the third generation battery will also be uniquely beneficial for NEM 3.0 systems in California through its ability to generate revenue by exporting into the grid at the appropriate time. The battery uses a wired Controller Area Network (CAN) for increased robustness, and it will be introduced in 2023.

We are already working on our fourth generation battery, increasing our energy density by as much as 40%, while reducing cost substantially. This is achieved primarily by further integrating and optimizing the electronics inside the battery, utilizing our new 1.92 kW AC microinverter variant with integrated battery management. We are also working closely with our battery cell suppliers to advance our battery design life up to 20 years, and to further improve battery safety and reliability.

“The higher charging and discharging rate of the third generation battery will also be uniquely beneficial for NEM 3.0 systems in California through its ability to generate revenue by exporting into the grid at the appropriate time.”



IQ Battery with 10 kWh capacity

The adoption of EVs is growing rapidly worldwide, especially in Europe and the U.S. EV adoption will nearly double the electricity consumption of a typical home, since 80% of charging takes place at home. The charging of EVs will require more solar and storage because the grid does not have the capacity to serve this increased demand; each EV requires around 10-15 kWh of stationary storage and around 2-3 kWp of solar. In 2021, we acquired ClipperCreek to enter the EV charging market with a brand that stands for quality and service. We recently introduced chargers under the Enphase brand and transferred our EV charger manufacturing to our contract manufacturer Flex in Mexico.

We are working on smart EV chargers with internet connectivity that integrate seamlessly into the Ensemble system, enabling use cases such as green charging, which means charging the EV only using clean energy, allowing homeowners to view EV charging, solar and batteries all in one app. Smart EV chargers will provide cost savings for homeowners, depending on the time of day, due to the utility's high tariff rates. We plan to bring these chargers to market initially in the U.S. in 2023, followed by Europe next year.

Recently, we also [demonstrated](#) bi-directional EV charging and the integration of EVs with our Ensemble technology. Using the same proven bi-directional inverter technology for solar and batteries, we showed an EV charger that can both charge and discharge an EV based on CHAdeMO (CHAdeMO) and the Combined Charging Standard (CCS) protocol. We demonstrated the vehicle-to-home use case, where the vehicle is providing power to a home while the utility grid is down, and the vehicle-to-grid use case where the vehicle is discharging and providing power back to the home for self-consumption or exporting to the utility grid in times of need. We are collaborating with car makers to ensure interoperability and plan to make this technology available to the market when vehicles with this bi-directional capability are released.

We continue to partner with aggregators and utilities to enable grid services. The grid services programs enable more homeowners with IQ Batteries the chance to participate in utility programs and earn money. The programs pay homeowners to send the stored energy in their home batteries to the grid when it is needed most. As a result, utilities can rely less on the expensive, polluting power plants that traditionally address peak power demand.

“We demonstrated the vehicle-to-home use case, where the vehicle is providing power to a home while the utility grid is down, and the vehicle-to-grid use case where the vehicle is discharging and providing power back to the home for self-consumption or exporting to the utility grid in times of need.”

Bi-directional EV charging

Bi-directional EV chargers leverage the power of IQ8 Microinverters and Ensemble to seamlessly integrate into home energy management systems



Our Ensemble technology fully supports the use of a generator or fuel cell. These devices fulfill a need when solar is weak or non-existent, especially during the winter in places such as the Northeast region of the U.S. During extended outages in the winter season, battery storage may not last, and a generator or fuel cell become invaluable. These devices are used infrequently, which makes them a good option to enhance resilience in clean energy systems. We made our storage system compatible to accept generator and fuel cell inputs without the need for an expensive automatic transfer switch (ATS). A generator or fuel cell appears in the Enphase® App and offers a seamless customer experience.

“In geographies with a large difference in tariffs between importing and exporting electricity, the difference between basic and optimal energy management can amount to more than \$1,000 annually per home.”

The combination of full home electrification, EVs, increasing energy prices, and complex tariff structures makes it essential that all DERs and major loads in the home are managed optimally. This means coordinating the charging and discharging of residential batteries, the charging and discharging of EVs and major home loads such as heat pumps, air conditioners, pool pumps, and domestic hot water heaters to ensure that the cost of electricity imported from the grid is minimized and the value of electricity exported to the grid is maximized. In geographies with a large difference in tariffs between importing and exporting electricity, the difference between basic and optimal energy management can amount to more than \$1,000 annually per home. A system for managing resources and loads in the home is called a home energy management system (HEMS).

Our Ensemble technology affords us enormous flexibility in managing DERs and major loads in the home. Our solar and battery systems are capable of maximizing savings, carbon offset, and resilience. Our acquisition of GreenCom Networks will support our efforts to provide a premier HEMS solution as GreenCom Networks has extensive experience integrating a diverse set of devices such as solar inverters, battery systems, EV chargers, and heat pumps. GreenCom’s software can manage these devices intelligently and help maximize self-consumption for the homeowner. We plan to integrate GreenCom’s software into our Ensemble systems in 2023.

The introduction of this HEMS software not only allows us to optimally control the home’s equipment, but also further extends the capability of our systems to participate in grid service programs. Where most grid service programs today only allow utilities to leverage specific resources in the home, HEMS software can provide a coordinate response to utility requests, creating more reliable participation for the utility and more incentive value with less disruption for the homeowner.

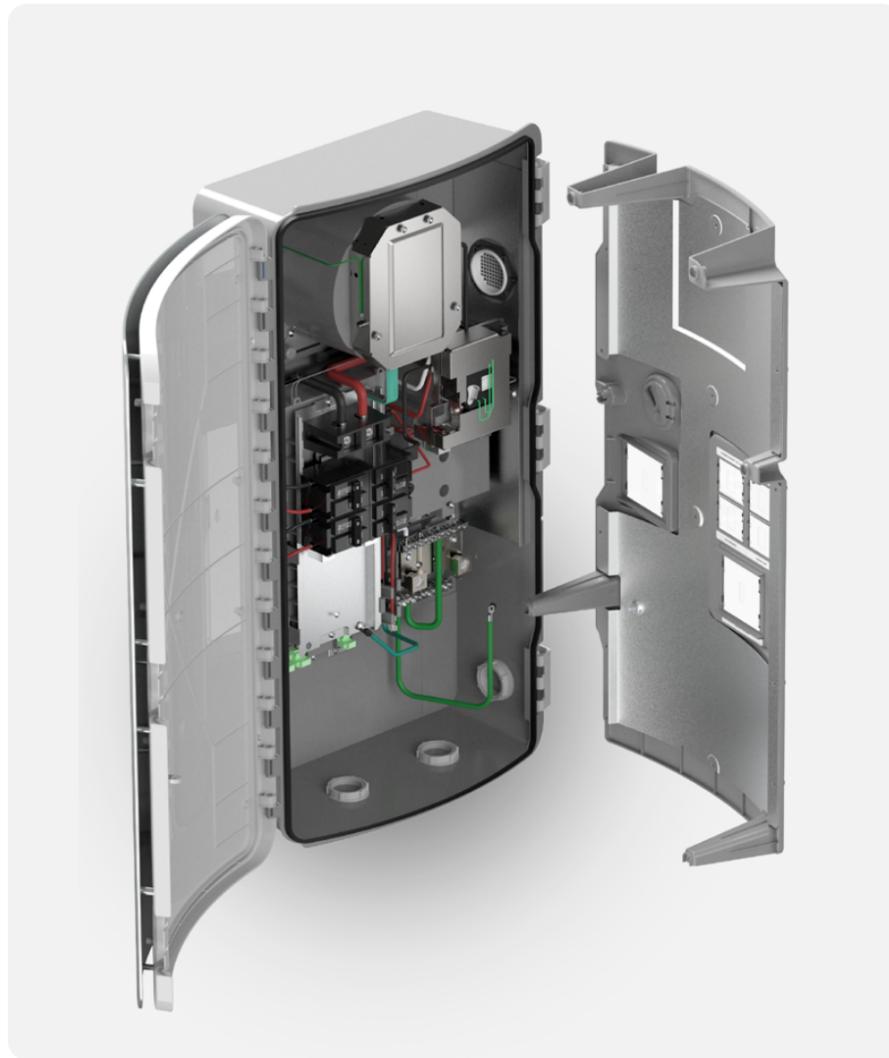
We have discussed our strategy for all the AC-coupled elements of an Enphase home energy management system: microinverters, batteries, EV chargers, generator or fuel cells, home energy management software, and grid services.



Enphase EV chargers with a charging power range between 32 amperes and 64 amperes

“The IQ Gateway uploads data to the Enphase cloud at a regular cadence and all this data is available at the homeowner’s fingertips through the Enphase App.”

The IQ™ System Controller brings it all together, as it performs the functions of microgrid interconnection (MID) for safety, power aggregation, connectivity, and neutral forming. It interfaces with the grid, solar microinverters, batteries, EV, home loads, and provides local control, as well as receives instructions from the cloud and dispatches them to the distributed energy resources onsite. The IQ Gateway uploads data to the Enphase cloud at a regular cadence and all this data is available at the homeowner’s fingertips through the Enphase App. The App provides deep insight into the consumption and production of energy in the home and offers unprecedented control to the homeowner including disconnecting the home from the utility grid on-demand, and controlling the operation of batteries, electric vehicle supply equipment (EVSE), and home loads in the event of an outage and more.



IQ System Controller performs safety, power aggregation, connectivity, and neutral forming functions

“The PES will have a connected user experience providing insight into its state of charge and power flowing into and out of the product through a mobile app, in addition to the touch-screen on the product.”

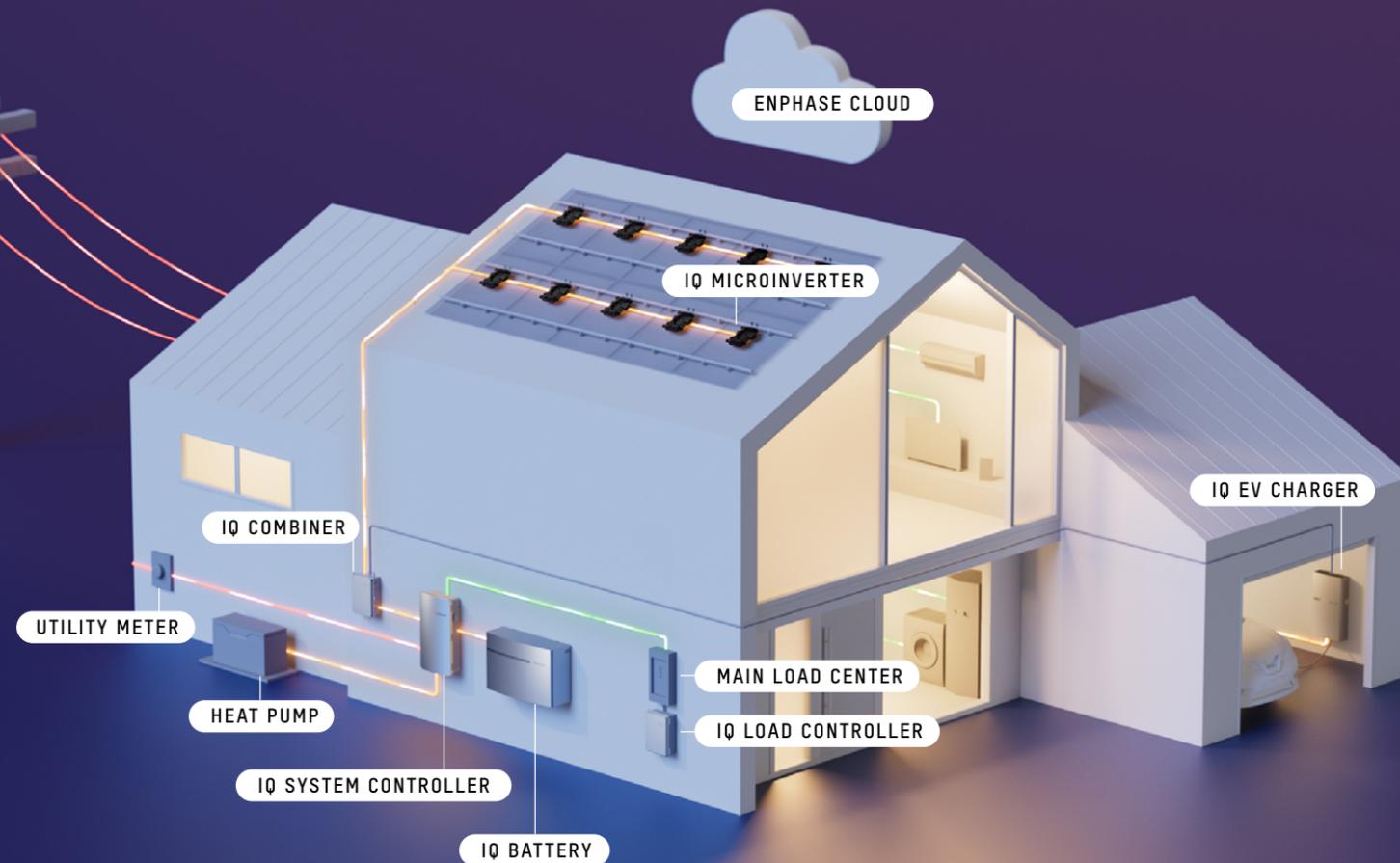
Finally, we are planning to introduce the IQ™ Portable Energy System (PES) for both energy security and energy-on-the-go. The product offers 1.6 kW of power from a 1.5 kWh LFP battery. In 2022, we decided to use LFP battery chemistry in our PES product to leverage safety and battery management knowledge from our IQ Batteries. This product can be thought of as Ensemble-in-a-Box; we have integrated our battery management, power conversion, and control technologies into a single self-contained product. The PES will have a connected user experience providing insight into its state of charge and power flowing into and out of the product through a mobile app, in addition to the touch-screen on the product. This product can be used as a portable energy system, recharging from portable solar panels while providing power to plugged-in loads. The PES offers a plug-and-play solution, as it does not require any installation or wiring.

In summary, we further expanded our portfolio of home energy management systems in 2022, with many more products to come to market in 2023 and beyond. There is a lot more to be done, but it is exciting to see that our transformation from a solar company to an energy systems company is well underway.



The IQ Portable Energy System is for both energy security and energy-on-the-go

Our 2023 priorities



Enphase Home Energy Management System

“Our #1 core value is “customer first” and we are focused on providing a great experience for our customers and partners.”

Our solid execution has positioned us well as we move into 2023. We plan to focus on the following priorities and take advantage of key growth opportunities we see ahead.

Delight customers

Our #1 core value is “customer first” and we are focused on providing a great experience for our customers and partners. A great experience means easy-to-use products with high-quality and 24x7 customer service, with NPS > 70%. We are going to digitize our sales operations to better service our distributor and installer partners. We will be relentless in ensuring a great installation and commissioning experience on our microinverters and batteries, accompanied by easy-to-find collateral. We will apply our zero defect approach and achieve outstanding quality on batteries similar to what we have done on our microinverters. We are upscaling our cloud infrastructure to enable better monitoring and fleet management. We are also going to have world-class proposal and permitting software for our installers.

Make the world’s best home energy management systems

Innovation is at the core of everything we do at Enphase. We have an exciting lineup of new products in 2023 which will increase our served available market and contribute to our top line growth. We look forward to introducing IQ8 Microinverters worldwide, introducing IQ Batteries into more countries in Europe, launching our third generation IQ Batteries into North America and Australia, as well as introducing our highest power 480W IQ8P Microinverters for the U.S. small commercial market and the emerging residential markets in Latin America and Asia. We are also excited about the upcoming Solargraf software functionality, especially NEM 3.0, and finally, the work we are doing to bring IQ Portable Energy Systems and smart IQ EV chargers to market.

Maintain operational excellence, navigating macro-economic uncertainties

We will continue to be operationally excellent in 2023. We measure everything that matters. We are bolstering our team in Europe to support the rapid growth we are experiencing. We are scaling up business processes across Enphase as we grow rapidly. We are learning from problems by adopting the rigorous 8D problem-solving process in all areas of the company. Our value-based pricing and relentless efforts to drive down costs are integral parts of our operational discipline. We are planning to leverage the IRA and bring domestic manufacturing to our U.S. customers, while balancing manufacturing worldwide. We will stay disciplined as usual in everything we do. Irrespective of the macroeconomic conditions, we will continue to make the necessary investments in innovation, and stay lean and frugal, while remaining a high-performing organization.

Join the energy revolution

Be your own source of power.

Enphase IQ Battery 5P™



IQ Battery 5P
5 kWh capacity

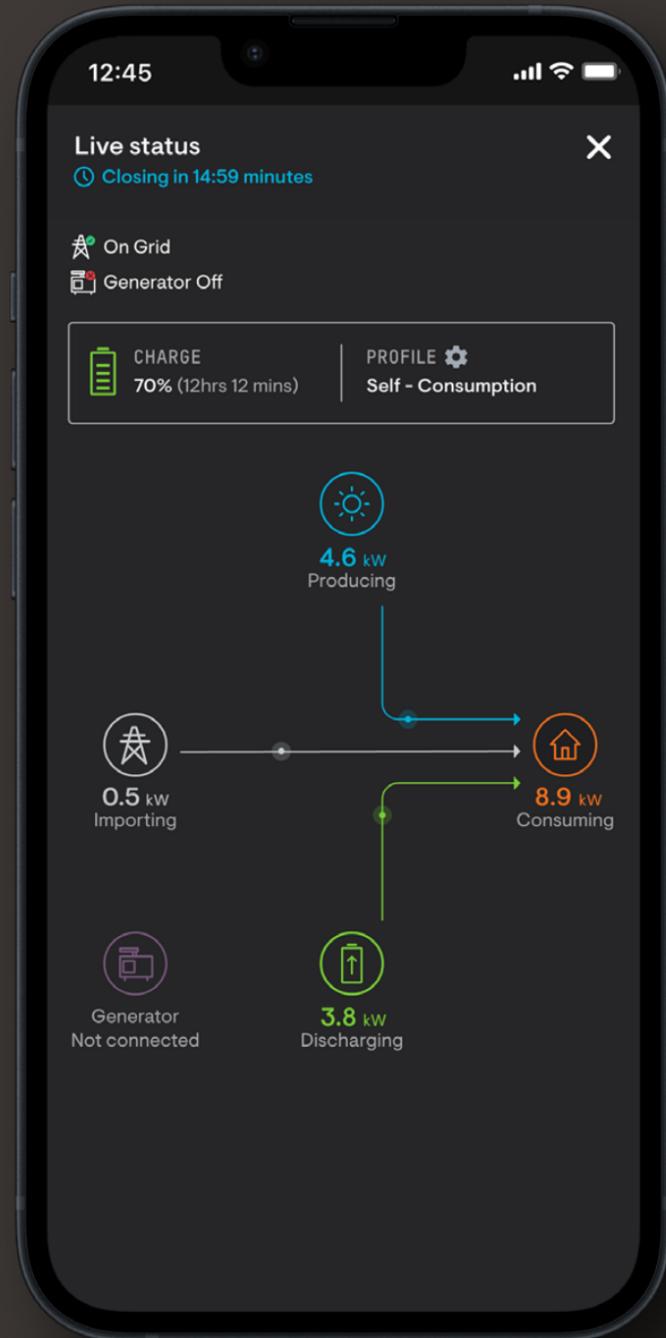
IQ Battery 5P
5 kWh capacity

IQ System Controller with
an integrated gateway

Coming soon to Australia in 2023

The Enphase App

Make, use, save, and sell your own power right from the palm of your hand.



Final thoughts

We had a terrific 2022. We exited the year with a strong balance sheet that gives us a lot of flexibility. To put things in context, it is worthwhile to do a comparison with 2017 when Enphase went through a leadership transition. We had 336 employees in 2017; our revenue was \$286.2 million; and our non-GAAP net loss was \$20.5 million.¹ We exited 2022 with 2,821 employees; our revenue was \$2.33 billion; and our non-GAAP net income was \$647.4 million.¹ We are now shipping complete solar-plus-storage systems with high quality and superior customer experience.

I am proud to say that since inception, we have shipped approximately 58 million solar microinverters and more than 815 MWh hours of IQ Batteries. Over 3.0 million Enphase-based systems have been deployed in more than 145 countries, helping millions of people gain access to clean, affordable, and reliable energy. This corresponds to approximately 19 GW DC power of solar system installations with microinverters, preventing 45 million metrics tons of carbon dioxide equivalent (MTCO_{2e}).² The penetration of solar in the U.S. is close to 4% of all homes, meaning that 96% of its residential market is untapped. In Europe, the number is around 10% of all homes. Enphase is well-positioned, with its differentiated products and solid financials, to continue its strong growth in the years to come.

What is 2023 going to look like? With the residential solar and storage markets growing rapidly in Europe, we are in a great position to accelerate our business. The situation in the U.S. is a little different, though. The macroeconomic situation in the U.S. is causing a business slowdown due to rising interest rates. California switched to NEM 3.0 effective mid-April 2023, which will result in slightly reduced solar economics compared to NEM 2.0, while encouraging more battery storage adoption. We do not know how these factors are going to play out exactly in the near term, but the long term fundamentals are intact. The 30% ITC tax credit for the next 9 years, the rising utility rates, the focus on climate change, and the desire for resilience are all going to push the need for solar-plus-storage more than ever before. We are in a strong position to capitalize on this trend. Our focus is to make great products, enter more countries, and provide customers with an unparalleled experience.

I would like to thank our employees for their dedication and hard work, and our customers, partners, and shareholders for their continued trust and commitment.

To be continued,

Badri Kothandaraman
President and CEO
April 20, 2023

¹See Appendix for reconciliation to comparable GAAP measures

²Estimate based on Enphase managed systems data as of December 31, 2022 grossed up for non-managed systems based on performance monitoring data; CO_{2e} calculations based on [U.S. Environmental Protection Agency \(U.S. EPA\) Greenhouse Gas \(GHG\) calculator](#).

Appendix

Enphase Energy, Inc. reconciliation of Non-GAAP financial measures

In thousands, except per share data and percentages

	Year ended		
	December 31, 2022	December 31, 2021	December 31, 2017
Gross profit (GAAP)	\$ 974,595	\$ 554,422	\$ 56,043
Stock-based compensation	13,097	7,366	1,072
Acquisition related amortization	6,324	184	-
Gross profit (Non-GAAP)	\$ 994,016	\$ 561,972	\$ 57,115
Gross margin (GAAP)	41.8 %	40.1 %	19.6 %
Stock-based compensation	0.5 %	0.6 %	0.4 %
Acquisition related amortization	0.3 %	- %	- %
Gross margin (Non-GAAP)	42.6 %	40.7 %	20.0 %
Operating expenses (GAAP)	\$ 526,334	\$ 338,590	\$ 95,421
Stock-based compensation	(203,705)	(106,920)	(5,655)
Acquisition related expenses and amortization	(16,521)	(10,752)	-
Restructuring, asset impairment and other charges	(2,384)	-	(16,918)
Operating expenses (Non-GAAP)	\$ 303,724	\$ 220,918	\$ 72,848
Operating expense % of revenue	13.0 %	16.0 %	25.5 %
Income (loss) from operations (GAAP)	\$ 448,261	\$ 215,832	\$ (39,378)
Stock-based compensation	216,802	114,286	6,727
Acquisition related expenses and amortization	22,845	10,936	-
Restructuring, asset impairment and other charges	2,384	-	16,918
Income (loss) from operations (non-GAAP)	\$ 690,292	\$ 341,054	\$ (15,733)
Net income (loss) (GAAP)	\$ 397,362	\$ 145,449	\$ (45,192)
Stock-based compensation	216,802	114,286	6,727
Acquisition related expenses and amortization	22,845	10,936	-
Restructuring, asset impairment and other charges	2,384	-	16,918
Non-cash interest expense	8,169	44,387	1,017
Loss on partial settlement of convertible notes	-	56,497	-
Non-GAAP income tax adjustment	(138)	(31,241)	-
Net income (loss) (non-GAAP)	\$ 647,424	\$ 340,314	\$ (20,530)

Enphase Energy, Inc. reconciliation of Non-GAAP financial measures (continued)

In thousands, except per share data and percentages

	Year ended		
	December 31, 2022	December 31, 2021	December 31, 2017
Net income (loss) per share, basic (GAAP)	\$ 2.94	\$ 1.09	\$ (0.54)
Stock-based compensation	1.60	0.85	0.08
Acquisition related expenses and amortization	0.17	0.08	-
Restructuring and asset impairment charges	0.02	-	0.20
Non-cash interest expense	0.06	0.33	0.01
Loss on partial settlement of convertible notes	-	0.42	-
Non-GAAP income tax adjustment	(0.01)	(0.23)	-
Net income (loss) per share, basic (non-GAAP)	\$ 4.78	\$ 2.54	\$ (0.25)
Shares used in per share calculation, basic and diluted (GAAP and non-GAAP)	135,349	134,025	82,939
Net income (loss) per share, diluted (GAAP)	\$ 2.77	\$ 1.02	\$ (0.54)
Stock-based compensation	1.55	0.81	0.08
Acquisition related expenses and amortization	0.16	0.08	-
Restructuring, asset impairment and other charges	0.02	-	0.20
Non-cash interest expense	0.06	0.32	0.01
Loss on partial settlement of convertible notes	-	0.40	-
Non-GAAP income tax adjustment	0.06	(0.22)	-
Net income (loss) per share, diluted (non-GAAP)¹	\$ 4.62	\$ 2.41	\$ (0.25)
Shares used in per share calculation GAAP	144,390	142,878	82,939
Shares used in per share calculation non-GAAP ²	140,315	141,181	82,939
Net cash provided by (used for) operating activities (GAAP)	\$ 744,817	\$ 352,028	\$ (28,442)
Purchases of property and equipment	(46,443)	(52,258)	(4,121)
Deemed repayment of convertible notes due 2024 and notes due 2025 attributable to accreted debt discount	-	15,718	-
Free cash flow (non-GAAP)	\$ 698,374	\$ 315,488	\$ (32,563)

¹ Calculation of non-GAAP diluted net income per share for the year ended December 31, 2022 and 2021, excludes convertible notes due 2023 interest expense, net of tax of approximately \$0.1 million in each period from non-GAAP net income.

² Effect of dilutive portion of convertible senior notes and warrants are included in the GAAP weighted-average diluted shares in periods where we have GAAP net income. We excluded dilutive portion of convertible Notes due 2026 and Notes due 2028 totaling 4,075 thousand shares in the twelve months ended December 31, 2022, and we excluded dilutive portion of convertible Notes due 2024 and Notes due 2025 totaling 1,697 thousand shares in the twelve months ended December 31, 2021, from non-GAAP weighted-average diluted shares as we entered into convertible note hedge transactions that reduce potential dilution to our common stock upon any conversion of the Notes due 2024, Notes due 2025, Notes due 2026 and Notes due 2028.



This page is intentionally left blank.



Enphase Energy, Inc.

Corporate headquarters

47281 Bayside Parkway
Fremont, CA 94538
enphase.com
877-797-4743

Investor relations

investor.enphase.com
ir@enphaseenergy.com

Transfer agent and registrar

American Stock Transfer & Trust Company, LLC
Operations Center
6201 15th Avenue
Brooklyn, New York 11219
astfinancial.com
800-937-5449

Independent registered public accounting firm

Deloitte & Touche LLP

Stock exchange listing

Enphase Energy, Inc. common stock trades on the NASDAQ Global Market under the symbol ENPH
Financial and investor information is available on the company's investor relations website at investor.enphase.com