



# Enphase Energy Systems for Net Billing Tariff (NBT) in California

March 2024  
ING-00041-1.0



# Maximize savings under NBT with Enphase

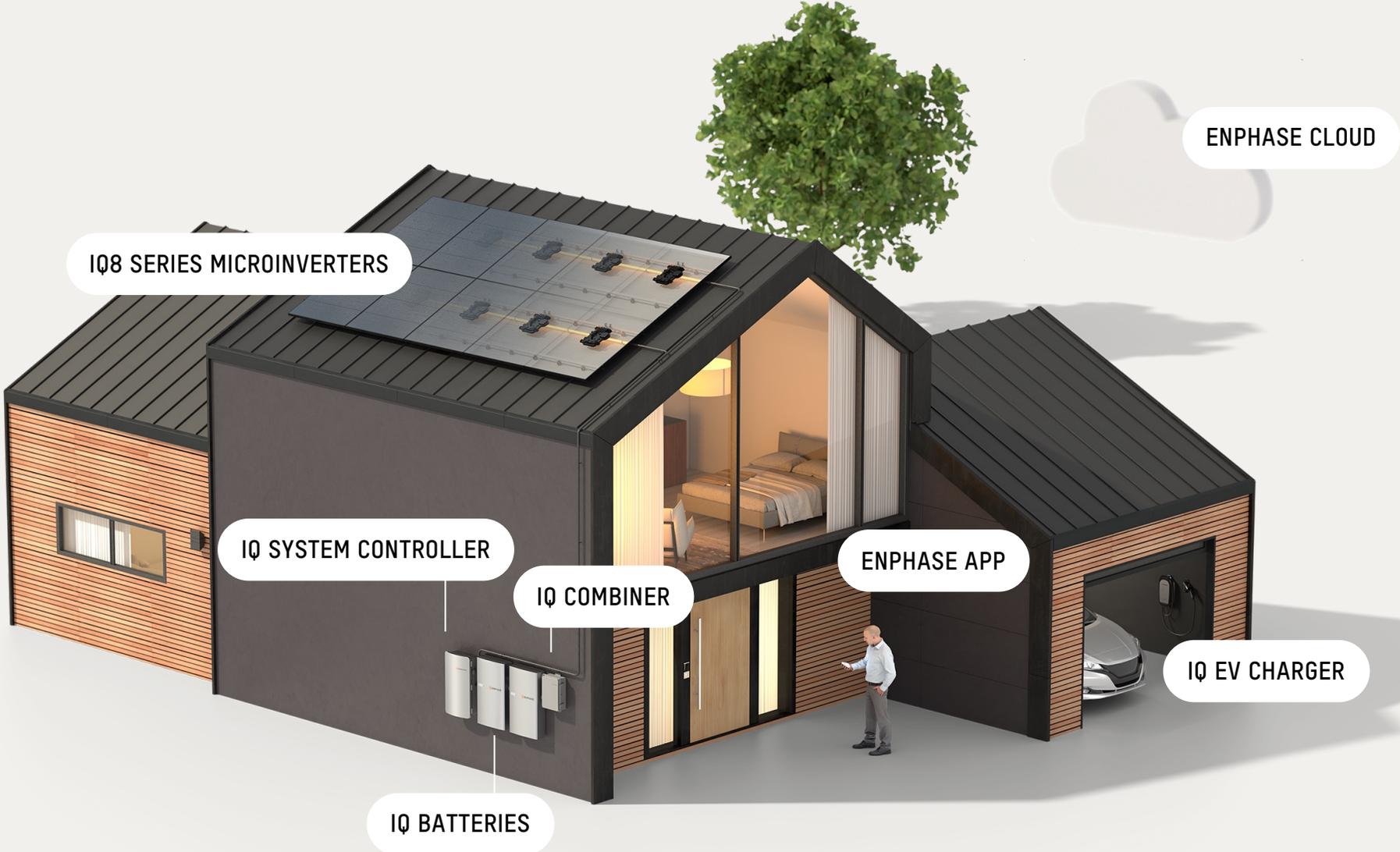
- California's NEM 2.0 was replaced by NEM 3.0 (referred to as Net Billing Tariff, or NBT) in April 2023
- NBT introduces hourly export rates that are 75% lower than previous export rates
- The path to savings under NBT is to store excess solar energy in batteries for self-consumption
- In September 2024, between 6 p.m. and 8 p.m., export rates in California can be ~6x import rates
- Enphase Systems can automatically export energy during peak export rates, offering great savings
- Install systems for NBT in export-only<sup>1</sup>, grid-tied<sup>2</sup> mode to reduce install costs and maximize savings
- Backup functionality can be added to a grid-tied system to provide energy when the grid goes down
- For additional savings, opt into a Grid Services program

**Case in point: a 5.6 kW PV system with two IQ Battery 5P units could provide a bill offset up to 90%**

<sup>1</sup> In an export-only system for NBT, energy is exported from the batteries to the grid and the batteries can only be charged from solar.

<sup>2</sup> Grid-tied systems do not include backup functionality. In these systems, an IQ System Controller is unnecessary, as the IQ Batteries are connected to the IQ Combiner.

# The Enphase Energy System



# Enphase Energy Systems for NBT

## Maximize homeowner savings with Enphase IQ Batteries.



Increase self-consumption and reduce monthly bills (increase bill offset) by pairing IQ Batteries with IQ Microinverters.



Increase bill offset by discharging the batteries to the grid in September from 6 p.m. to 8 p.m.



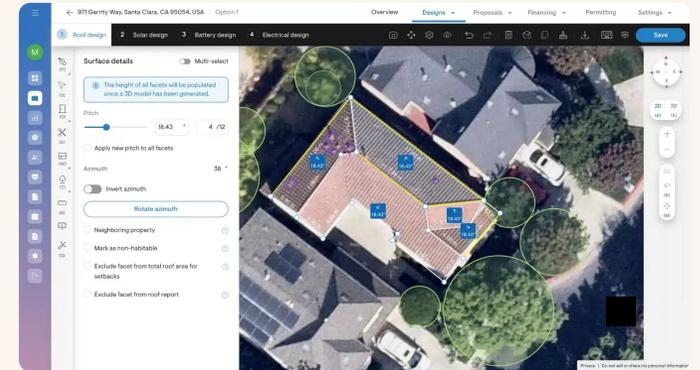
Reduce expensive labor costs with easy-to-install grid-tied, non-backup battery configurations.



Get the ultimate in peace of mind with 25-year (microinverter) and 15-year (battery) limited warranties.

## Tips for designing a system:

1. Size the solar to offset 110% of projected annual consumption
2. Optimize energy production with south and/or west facing modules
3. For each kW of solar, add two kWh of battery capacity
4. Consumers with high daytime consumption require fewer batteries
5. Model each system design using Solargraf

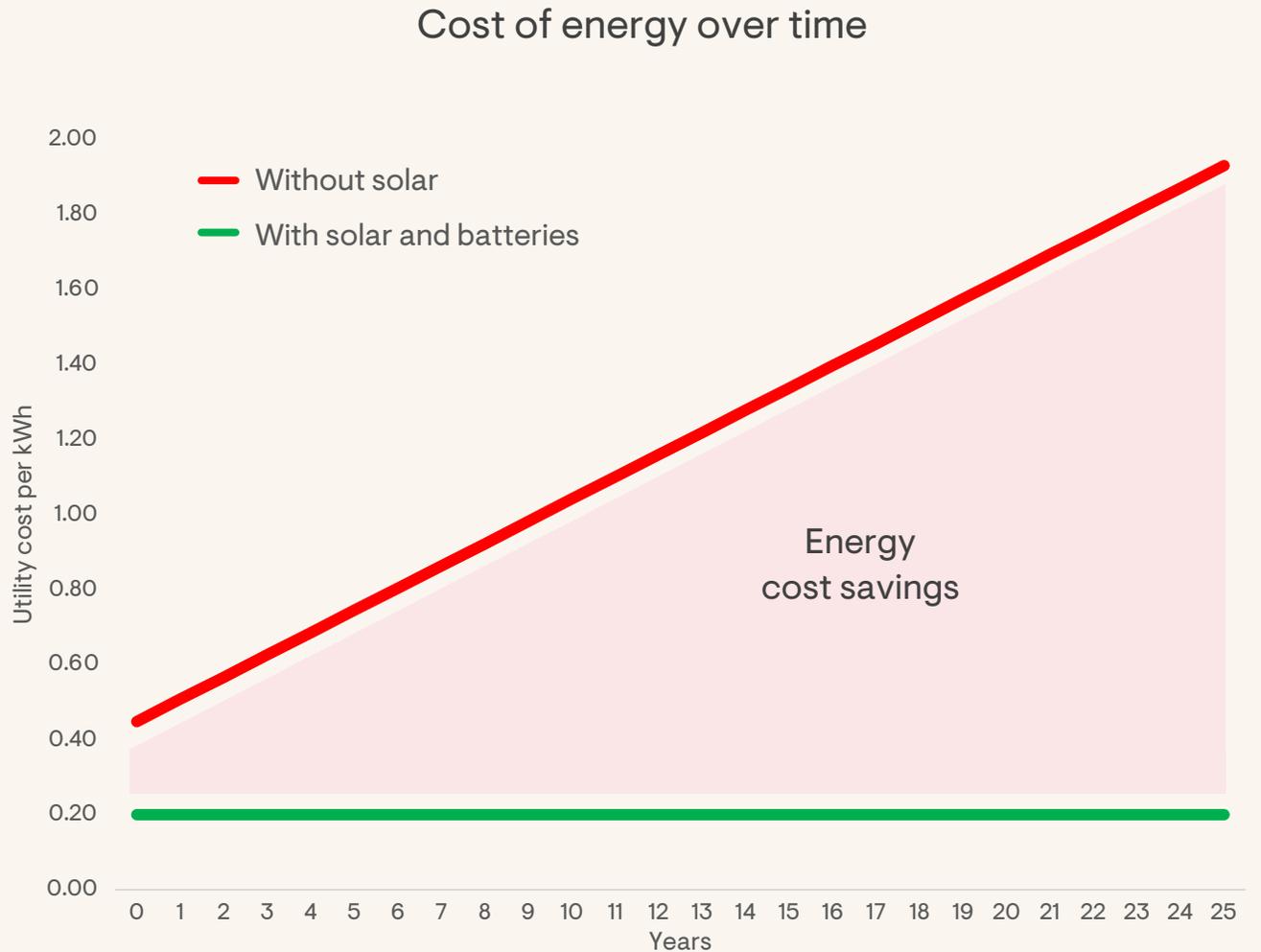


# Take control of energy costs for the life of your system.

The chart at the right shows the difference in average costs using solar and stored energy instead of importing energy from the grid.

Today, utilities are charging an average of \$0.45 per kWh<sup>1</sup> and the price is expected to keep rising.

Assuming the average cost of a 5.6 kW PV system with two 5P IQ Batteries in 2024 is \$0.20 per kWh, there is significant potential savings over the life of the system.<sup>2</sup>



PG&E utility cost \$0.45/kWh today (year 0)  
6% utility escalation rate is based on an average of CPUC data from 2013-2023<sup>3</sup>

<sup>1</sup> [pge.com, March 2024](https://www.pge.com)

<sup>2</sup> Based on a cash purchase.

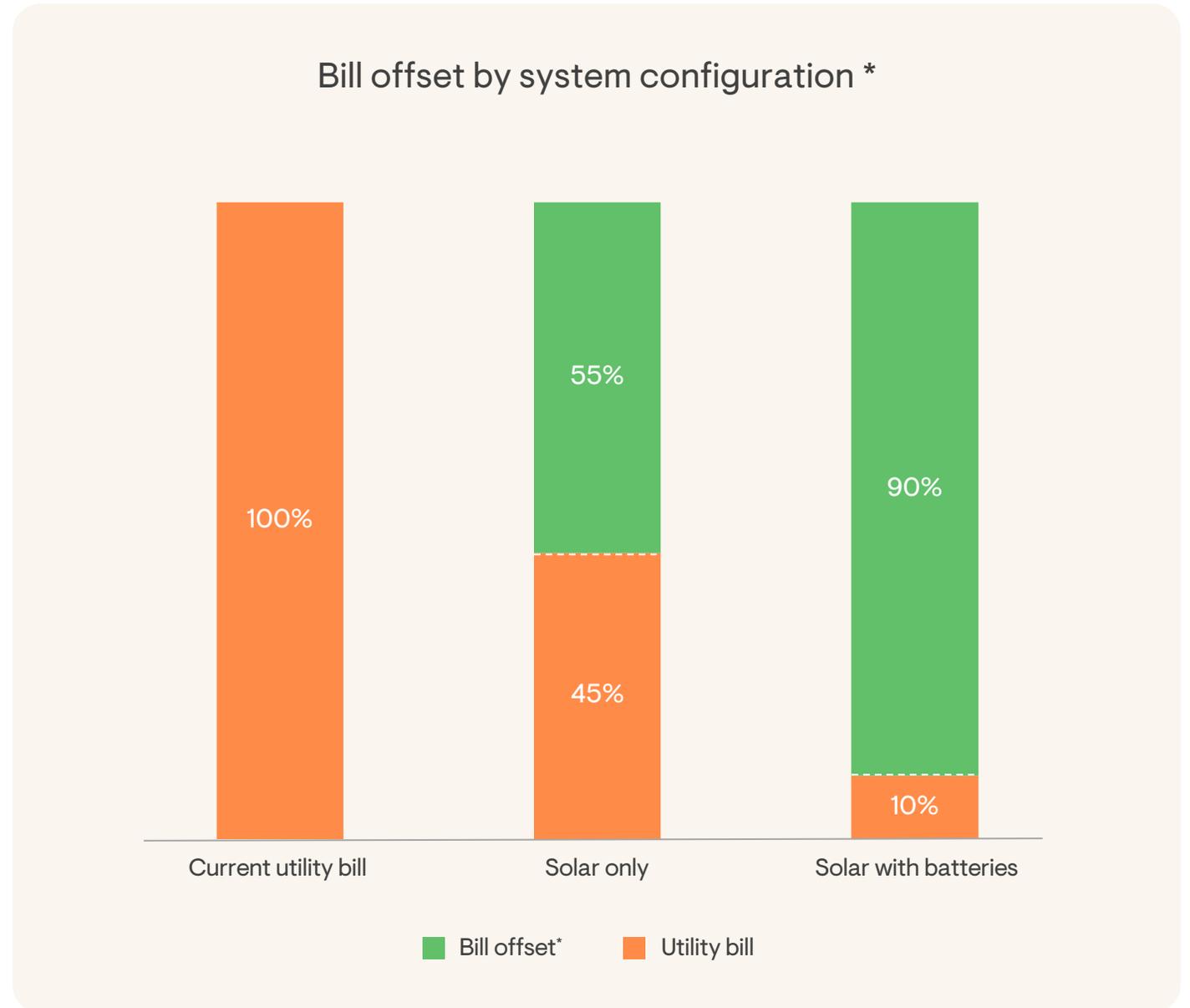
<sup>3</sup> [2023 Senate Bill 695 Report, California Public Utilities Commission](#)

# IQ Batteries unlock more savings—solar alone is not enough

With solar only under NBT, excess energy is sold back to the grid at low buy-back rates.

By adding IQ Batteries, excess solar energy can be stored and then used during high-rate periods or sold to the grid for higher buy-back rates.

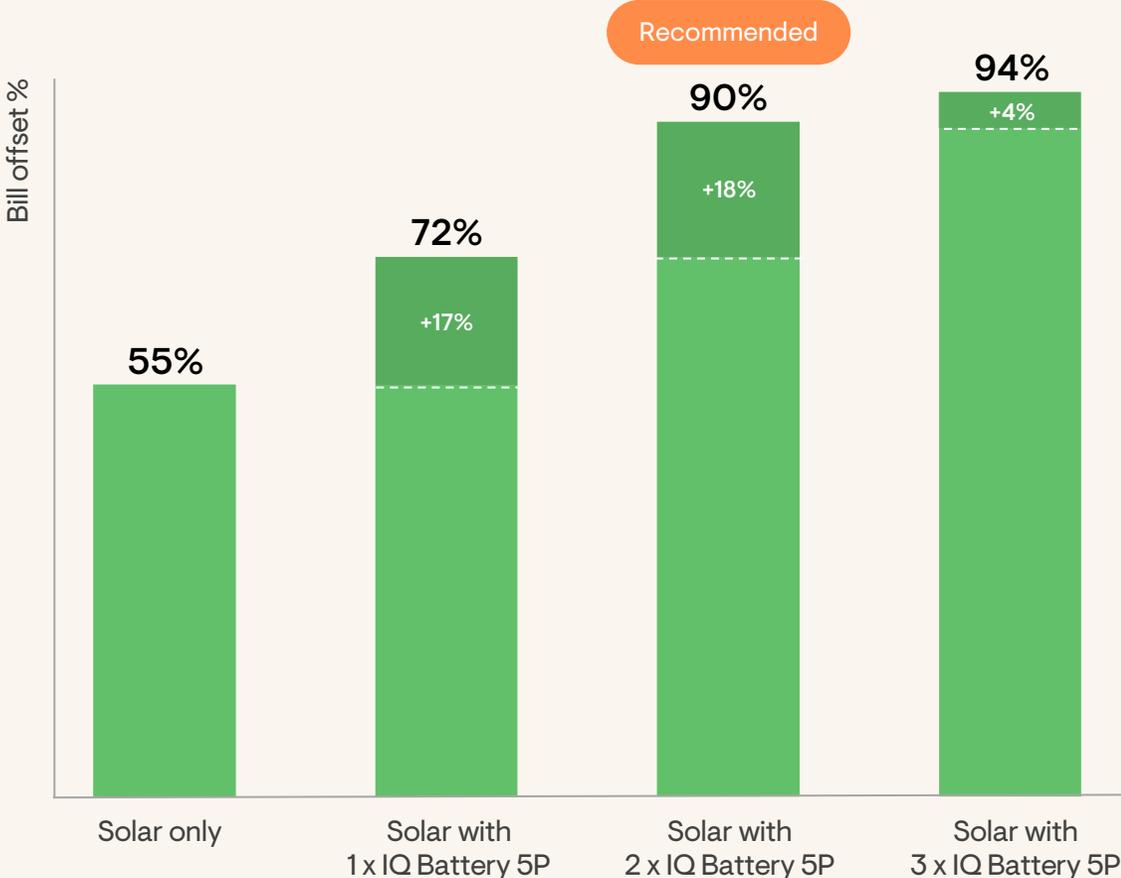
\* This example scenario is based on a 5.6 kW PV system.  
Offset will vary based on site specifics and system design.



# Utility bill offset increases as you add more batteries



Bill offset by system size and configuration



This example is based on a 5.6 kW PV system.  
Assumes export benefit is included when utility is paying highest buy-back rates.

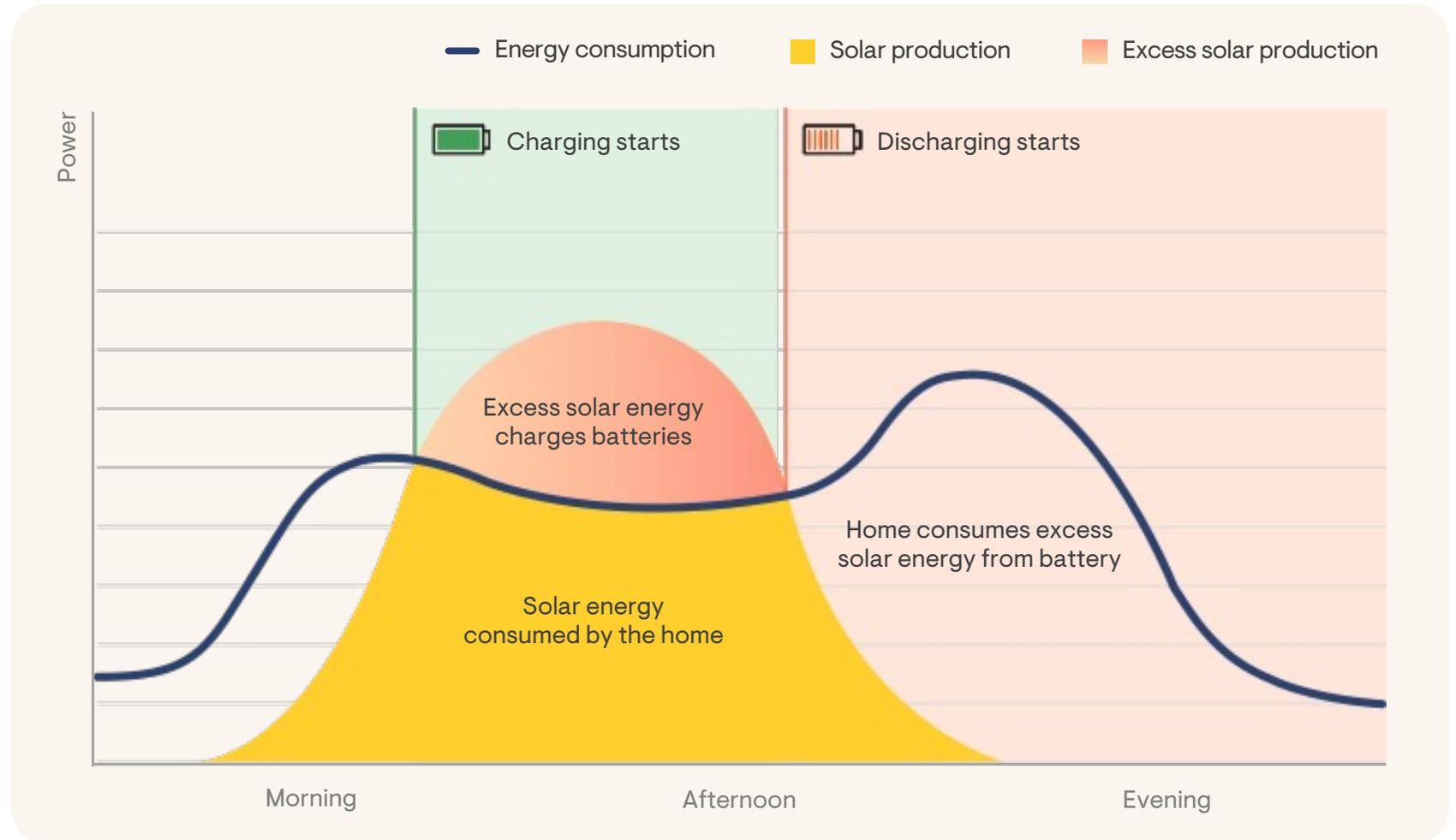
# Artificial intelligence software maximizes savings

Enphase Energy Systems can forecast energy production and consumption while tracking energy rates.

Using this forecast, every aspect of an Enphase system can be precisely controlled to help homeowners maximize savings.

How it works:

- Batteries charge during the day using excess solar energy when there is more generation than consumption.
- Batteries discharge in the evening for self-consumption when energy import rates are high.



# Easier installs with Power Control software



Learn more  
[link.enphase.com/power-control](https://link.enphase.com/power-control)

Enphase Power Control software controls the power produced and exported by an Enphase Energy System to avoid costly main panel upgrades.

## Power Control features



Save by avoiding main panel upgrades.



Install more PV than allowed by main panel.



Add up to 80 kWh of IQ Battery capacity.



Avoid utility transformer upgrades for lower cost.



Enable export mode for IQ Batteries.



Maximize savings by exporting stored energy.

## System configurations

Solar Only without backup  
IQ8 Microinverters

Solar Plus Batteries without backup  
IQ8 Microinverters and IQ Battery 5P

Solar Plus Batteries without backup  
IQ8 Microinverters and IQ Battery 3T/10T

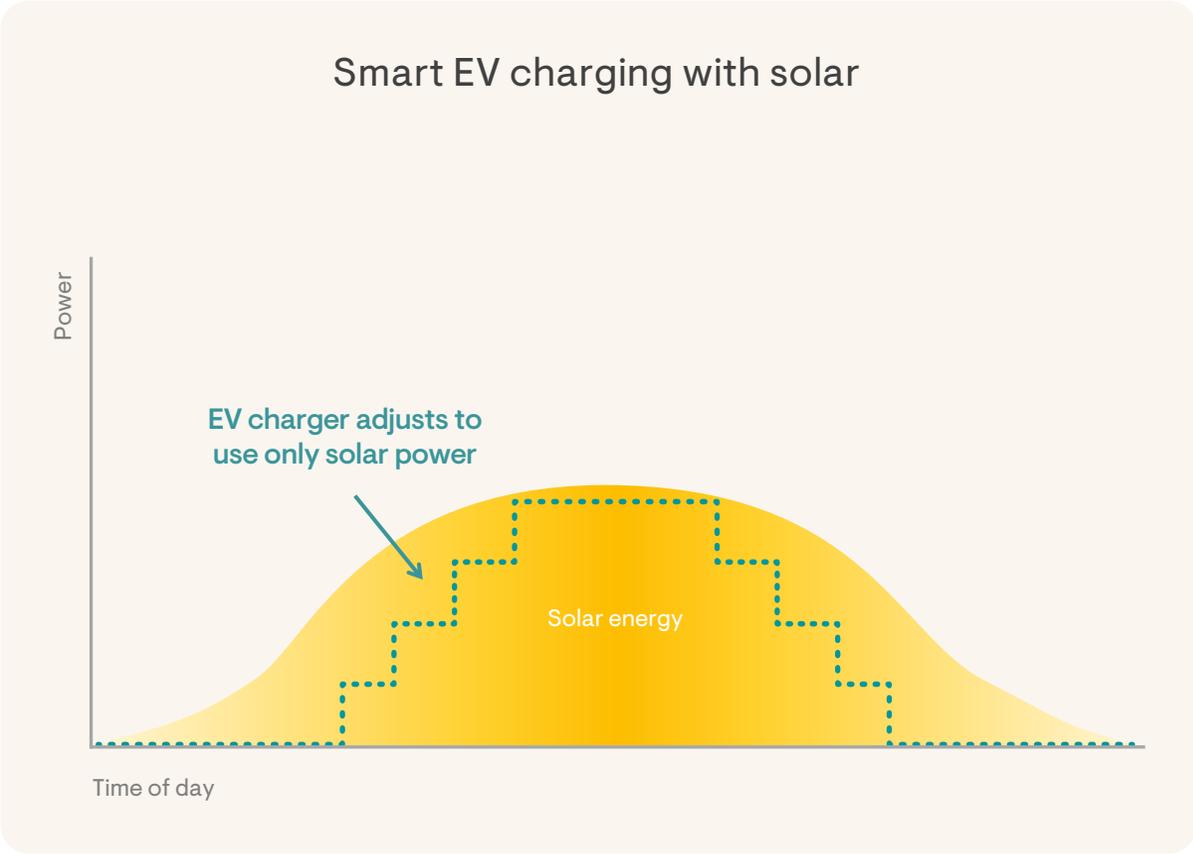
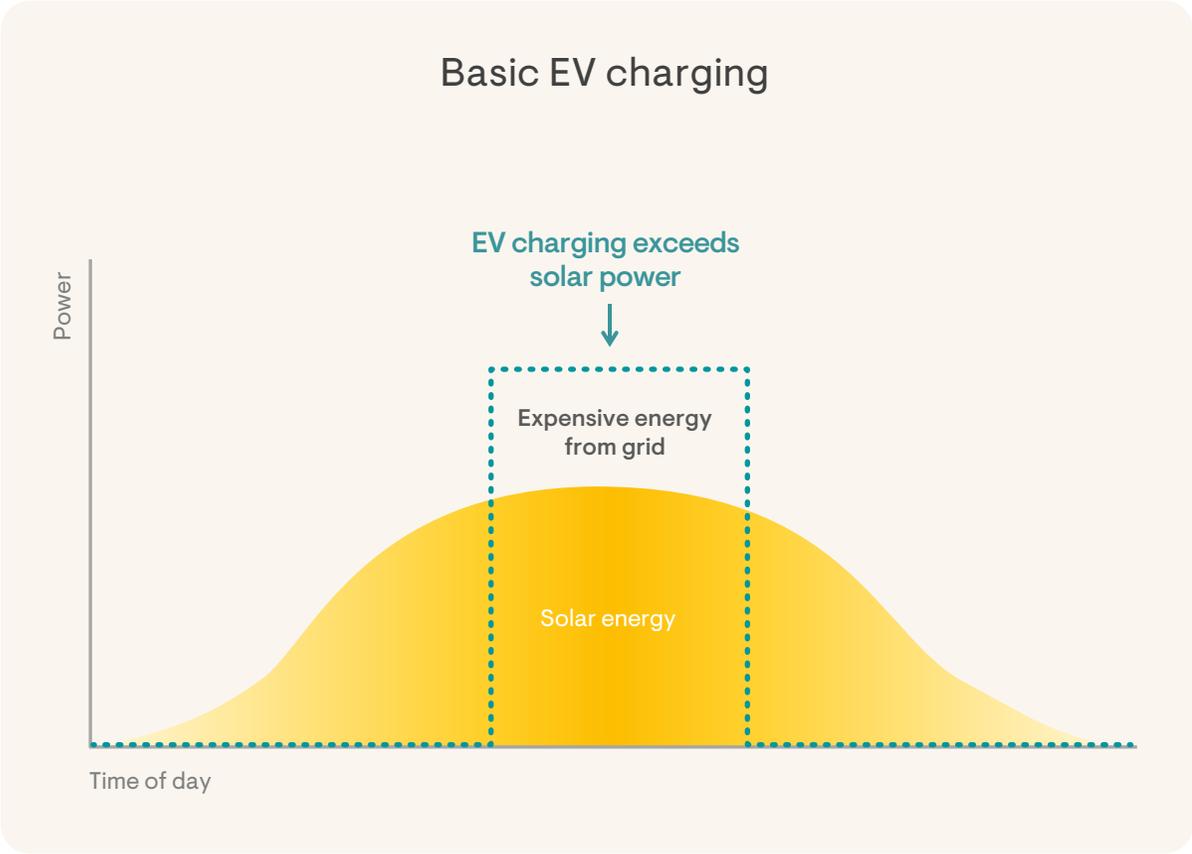
Solar Plus Batteries with backup  
IQ8 Microinverters and IQ Battery 5P

Solar Plus Batteries with backup  
IQ8 Microinverters and IQ Battery 3T/10T

# Save more money with an IQ EV Charger

Learn more  
[link.enphase.com/ev-chargers](https://link.enphase.com/ev-chargers)

EV charging should be considered in system design to enable smart charging that prioritizes the use of solar.



# For additional savings, opt into a Grid Services program

 Learn more  
[link.enphase.com/grid-services](https://link.enphase.com/grid-services)

Homeowners can easily sign up for California Grid Services programs using the Enphase App to receive substantial upfront and annual incentives from participating Utilities.

### SDCP Solar and Storage Residential Program

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Average upfront incentive amount:	Average performance-based incentive amount:
<b>\$5,250*</b>	<b>\$963 per year*</b>

### Sonoma Clean Power GridSavvy Rewards

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Average upfront incentive amount:	Average performance-based incentive amount:
<b>\$1,680*</b>	<b>\$576 per year*</b>

### PG&E Emergency Load Reduction Program

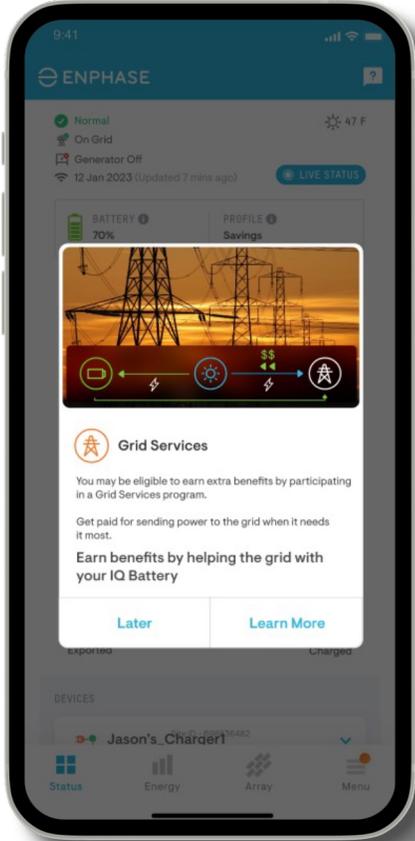
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Average incentive amount:
<b>\$100–250 per year*</b>

### SCE, SDG&E Demand Side Grid Support

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Average incentive amount:
<b>\$150–450 per year*</b>



\* Incentive estimates based on a system with 15 kWh of battery storage. Programs and incentives are subject to change. Refer to the utility for further information.

Enphase isn't just a supplier.

We're a trusted provider of reliable products with enhanced safety and better features, ensuring homeowners get the best value, performance, and savings every single day.



### Your trusted provider

- Leader in renewable energy management since 2006
- Dedicated to your success with 24/7 customer service
- Trusted by more than 4 million homes around the world
- Microinverters designed and made both in the U.S. and overseas

### Proven reliability

- Distributed architecture with no single point of production failure
- 0.05% microinverter defect rate (1 in 2000)
- 25-year (microinverter) and 15-year (battery) limited warranties
- Field-serviceable parts and a supporting team of field technicians

### Enhanced safety, better features

- Low-voltage AC architecture eliminates the risk of DC arc fault fires
- Integrated and reliable rapid shutdown
- Innovative features like Sunlight Jumpstart and Generator Support
- More features and products launching all the time

### Savings you can count on

- Microinverter design produces more solar energy
- Low installation, operating, and maintenance costs
- Avoid costly main panel upgrades with Power Control software
- Quick and easy installation of grid-tied battery systems

Under NBT, the California solar market can continue its phenomenal growth by adopting solar with batteries and energy management.

Choose Enphase for the highest-performing, most reliable, and safest solution.



# Revision history

Revision	Date	Description
ING-00041-1.0	March 2024	Initial release