enjoyelec

enjoyelec HEMS

Home Energy Management based on local integration and AI-powered cloud-edge collaboration.

enjoyelec HEMS

enjoyelec offers a multi-asset HEMS solution for the whole home and leads the way in energy device interoperability.

Interoperability:

The enjoyelec Controller bridges the gap between diverse energy devices, seamlessly integrating all your home's energy systems for smooth, harmonious operation.

Dynamic Tariff:

Our system intelligently monitors dynamic electricity pricing via OpenADR, automatically scheduling device usage to optimize for lower costs.

User Engagement:

The enjoyelec App provides clear, intuitive graphs, charts, and breakdowns to help you easily understand your energy usage.

AI-Powered Strategy:

Powered by advanced AI, our system automatically optimizes your home's energy usage to maximize green energy consumption and savings.

Nightmare for energy devices management

Managing the increasing number of decentralized devices requires smarter solutions to optimize electricity usage and reduce costs.

OEM Cloud

Chaos!
So many devices
in a house
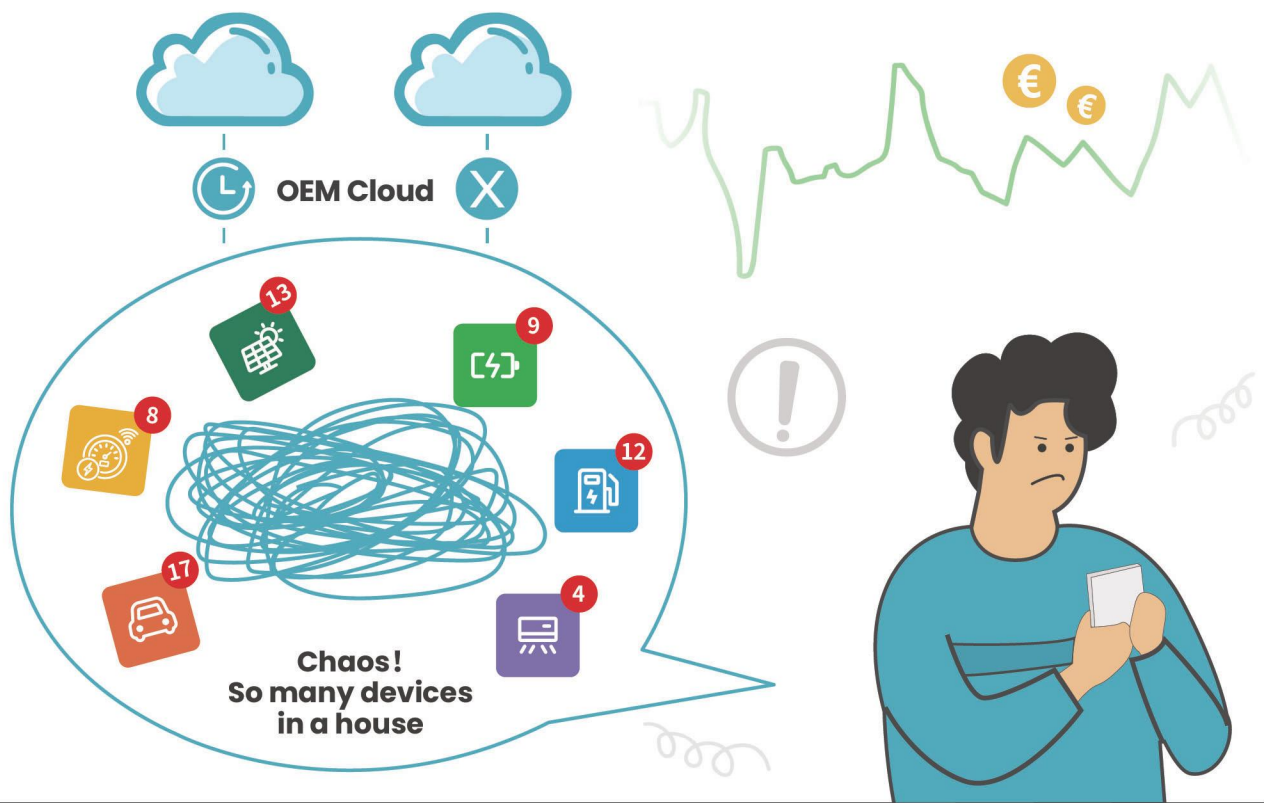
Isolated monitoring

Scheduling chaos
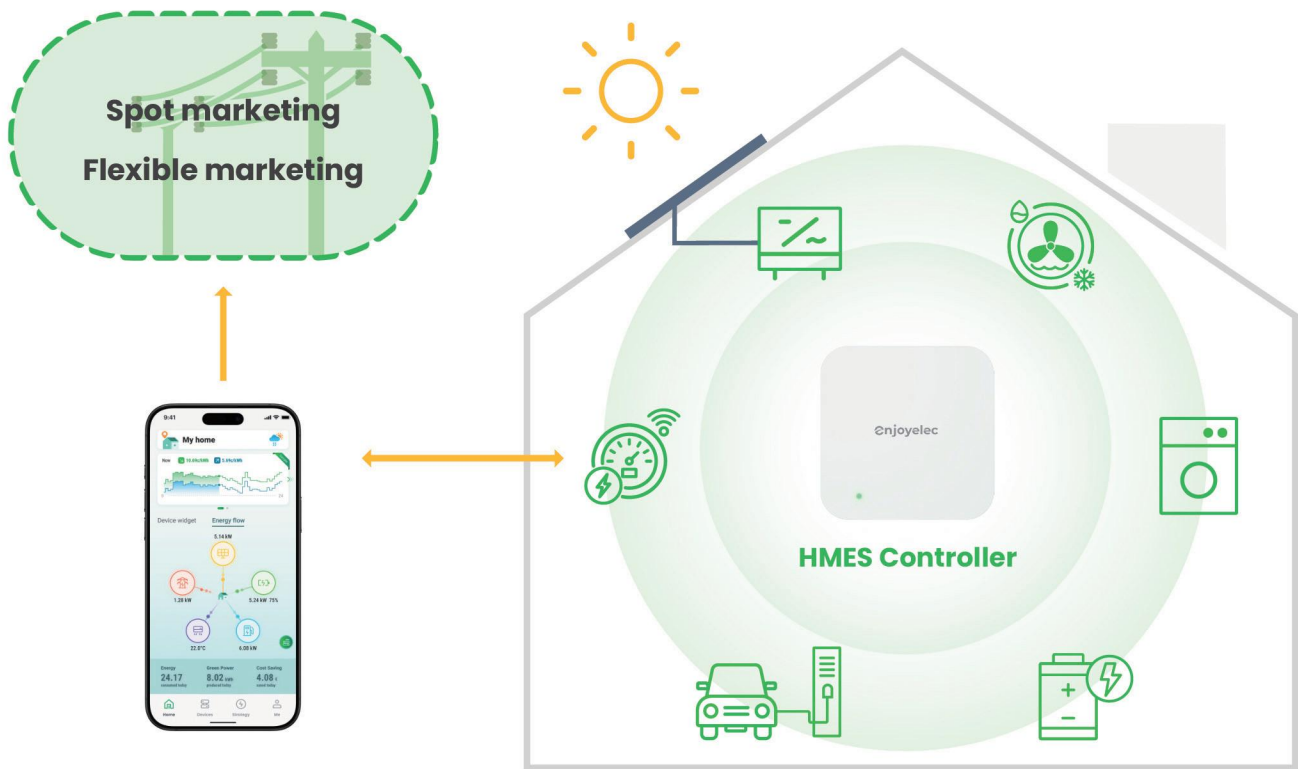
Fragmented control

Interoperability

Latency of monitor and control

Lack of offline capability

Local integration with controller

Integrating home energy components for effortless interoperability.

Spot marketing

Flexible marketing

HMES Controller

EEBUS · Modbus · SG Ready · OCPP · zigbee · Linky · eMUCs – P1 · openADR ALLIANCE

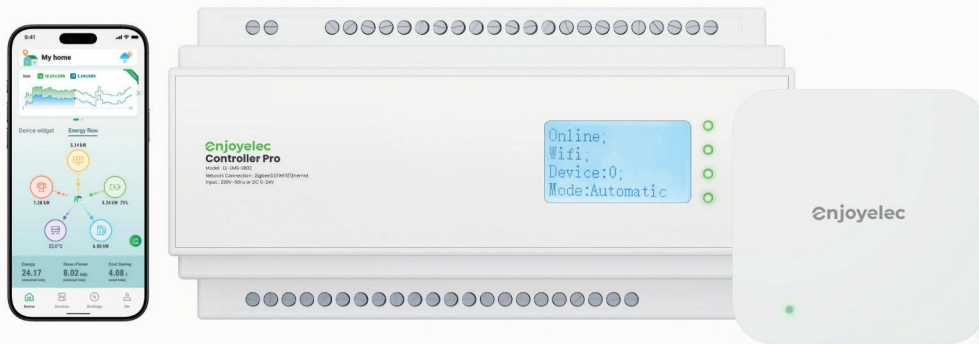**All-in-One Control** for Interoperability

Intelligent Optimization of Energy Use

Cost Savings with **Dynamic Tariffs**

Data Security & Privacy

Connection capability of enjoyelec HEMS

The enjoyelec Controller is the interface between your home energy devices and the enjoyelec applications, which you can use to control your home energy.

37+
Solar Inverter

20+
Battery

15+
EV Charger

17+
Heat Pump

4+
Smart Meter

30+
Retailer

30+ Energy suppliers connected accross **7** countries

HEMS Controller Air 2

Enjoy smart control in an easy and quick way.

HEMS Controller Air 2

*USB-C(Expansion)
√P1 √CAN √Linky √IO √SO

RS485(1): Baud rate 9600
RS485(2): Baud rate 9600
Baud rate can be configured via software

RJ45, 10/100 Mbps

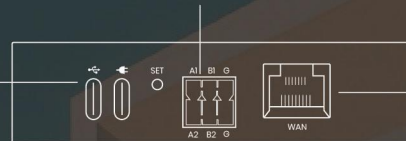**Dimensions(WxHxD)：** 90x90x30mm
Weight： 110g

*Expand a variety of interface types using adapter cables, allowing for customization.
Currently available combinations include:
Expansion combination A： P1*1+IO*1
Expansion combination B： S0*1+linky*1+CAN*1
Future support for the customization of new interfaces and combinations will be available.

Application Scenario： Residential-oriented

Installation： Free placement and friendly installation for plug-and-play

Communication： WAN, WiFi, Bluetooth, CAN, RS485, zigbee

Protocols： Modbus, Zigbee, OCPP, EEBUS, eMUCs-P1, Linky, OpenADR

Over-the-air(OTA) updates

AI chip with powerful data processing capabilities

Quick & easy to install with basic tools

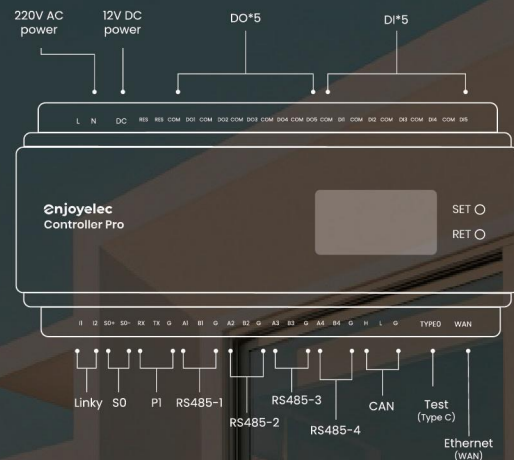Small size with powerful performance

Less than5 minutes setup time

Expandable interfaces with strong compatibility

HEMS Controller Pro

Experience advanced control to meet demanding requirement.

CAN _Bus

HEMS Controller Pro

220V AC power   12V DC power   DO*5   DI*5

L N DC RES RES COM DO1 COM DO2 COM DO3 COM DO4 COM DO5 COM DI1 COM DI2 COM DI3 COM DI4 COM DI5

enjoyelec Controller Pro   SET ○   RET ○

I1 I2 SD+ S0- RX TX G A1 B1 G A2 B2 G A3 B3 G A4 B4 G H L G TYPEC WAN

Linky   S0   P1   RS485-1   RS485-3   CAN   Test (Type C)

RS485-2   RS485-4   Ethernet (WAN)

Dimensions(WxHxD)：158x87x60mm   **Weight： 323g**

Application Scenario： Residential-oriented and C&I-Oriented

Installation： Rail-mounting and professional installation recommended onboard

Communication： WAN, WiFi, Bluetooth, CAN, RS485, zigbee

Protocols： Modbus, Zigbee, OCPP, EEBUS, eMUCs-P1, Linky, OpenADR

Over-the-air(OTA) updates

AI chip with powerful data processing capabilities

Diverse interfaces for every scenario

AC frequency measurement for ancillary services

Seamless Compatible with relays

3 million daily datapoints perdevice

enjoyelec HEMS App

Transform the power of your energy with smart insights and savings at your fingertips.
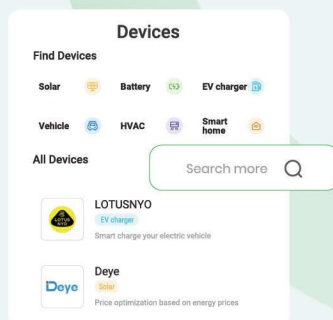
The enjoyelec App makes it easy to view and manage real-time data from your home energy system through the enjoyelec Controller. Plus, you can control your energy devices directly, no matter where you are.
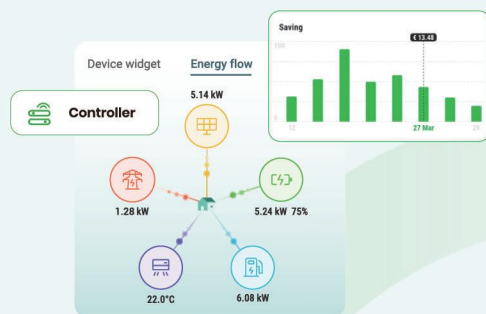
Real-time visualization of energy flow
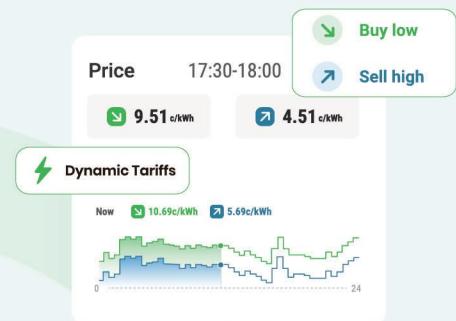
Maximize profits with dynamic tariffs

Powerful compatibility for device integration

AI-powered strategy

enjoyelec HEMS App

Make flexibility your new revenue source

Seamless Integration

enjoyelec App enables households to integrate all their energy assets in one platform

AI Optimization

Our optimization model reduces energy costs for consumers by leveraging accurate electricity and load forecasting

Asset Monetization

Monetize flexibility in the energy market through demand response, grid services, and energy storage optimization
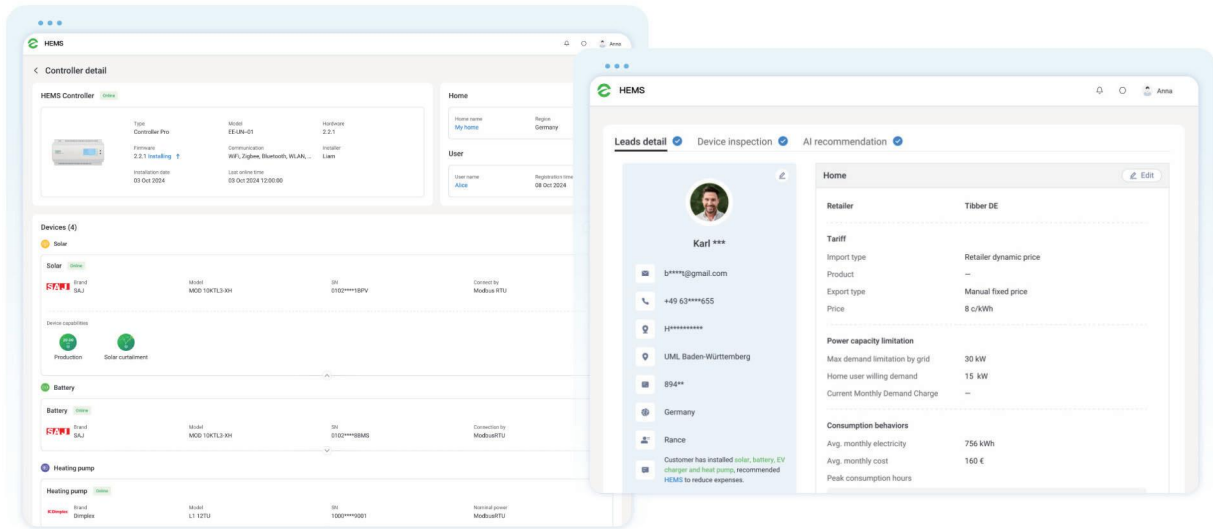

The User Portal offers:

- ✓ Centralized Data Overview
- ✓ Detailed Energy Saving Analysis
- ✓ Visualization of Generation and Consumption
- ✓ Energy Monitoring for Each Device

enjoyelec Partner Portal

The enjoyelec Partner Portal streamlines operation and maintenance, allowing efficient management of multiple home energy systems.

Business Leads Management

- Intelligant record device details, simplify data collection and services
- Provide with tariff and device recommendations via AI-driven calculations.
- Centrally manage potential customer information

Devices Management

- A unified platform for installer to monitor, configure, and manage the controller and its connected devices.
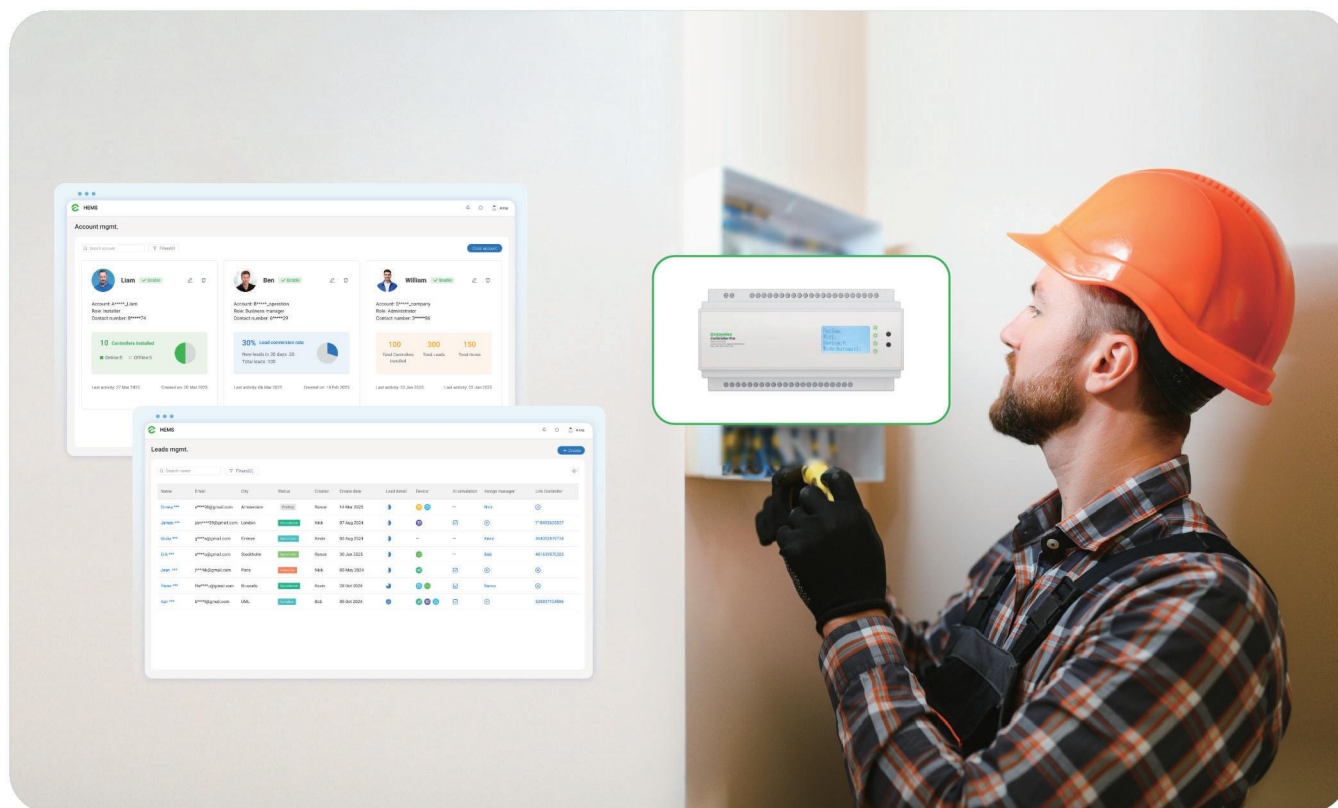
Home Management

- Centralized management for homes and end-users, allowing partners to easily monitor customers and energy systems for quick troubleshooting.

Account Management

- Account management enables partners to assign platform access based on employee roles.

Maxmize the Benefits for Partner

Faster sales and revenue growth
Bring all your leads into one platform to streamline follow-ups, speed up the sales process, and convert more prospects into customers.

Operational efficiency & cost optimization
Monitor and adjust controllers and devices remotely to minimize on-site visits, reduce labor expenses, and deliver better service across a wider area.

Seamless tracking with sub-accounts
Installers can set up sub-accounts to facilitate full-process tracking from sales to installation to operation and maintenance.

Enhance customer retention
Use device data to anticipate maintenance needs, allowing partners to offer proactive care instead of just reacting to issues, ultimately boosting long-term customer value.

Monetize flexible assets
By integrating customers into our HEMS, you can tap into revenue opportunities across TSO markets, local flexibility markets, and day-ahead or intraday trading.

AI strategy empowers your business

The AI-powered HEMS strategy revolutionizes home energy management, delivering significant cost-saving benefits.

Smart Charging

Smart Heating

Energy Trading

Vehicle to Grid

Capacity Charge
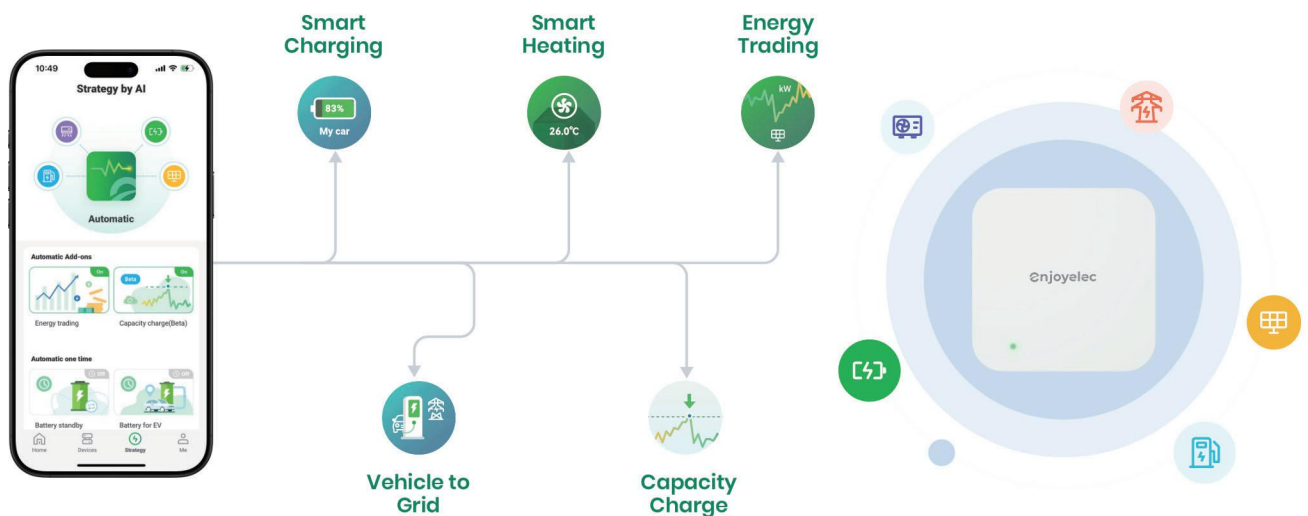
Home Load Prediction

Solar Production Prediction

Electricity Price Prediction

Energy Optimization

Tailor Your AI Rules

IF There's extra solar

THEN Turn on the heating

Auto

- Customize multiple trigger conditions.
- Meet the personalized energy needs of households.

- Automatically adjust device status.

Smart Charging

Intelligent charge the car with dynamic tariff.

Integrate EV and charger with HEMS

Ensure seamless interoperability between EV and other energy devices, including home battery, heat pump and PV system. Optimize energy usage and maximize cost savings.

Reduce energy cost with dynamic tariff

Easily set charging times, departure schedules, and target SOC. AI optimizes smart charging for off-peak hours to save on costs.
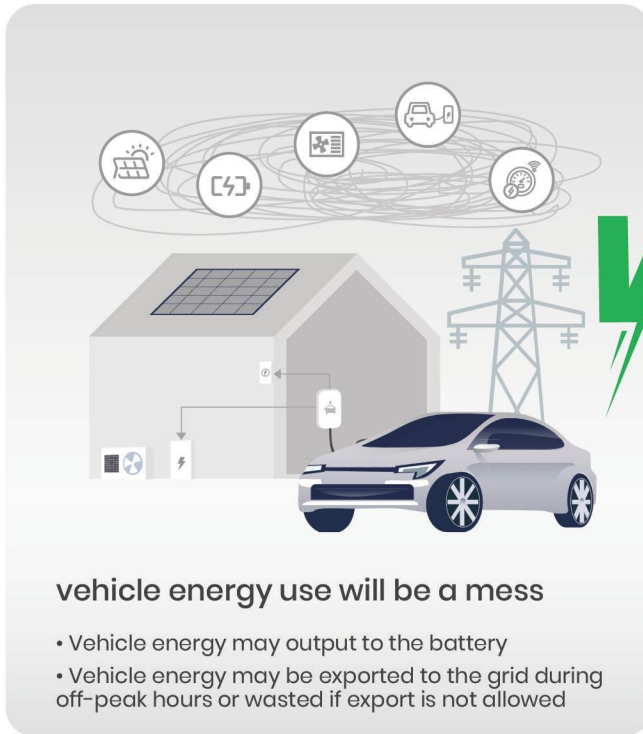
Maximize solar energy self-consumption

Automatically schedule solar consumption based on electricity prices, prioritizing solar energy for EV charging in HEMS.

Support OCPP 1.6 and V2G

Compatible with multiple EV chargers from different brands and models, ensuring broad interoperability.

Vehicle to Grid (V2G)

enjoyelec HEMS, as the energy management center in the home, coordinates V2G capabilities in home scenarios.

VS

vehicle energy use will be a mess

- Vehicle energy may output to the battery
- Vehicle energy may be exported to the grid during off-peak hours or wasted if export is not allowed

ISO 15118-20

Intelligent control for orderly discharge with HEMS

With enjoyelec HEMS

- Intelligent vehicle discharging control to suite home usage and optimize EV energy based on dynamic tariffs.

- Real-time adjustment of the EV power including discharging power, min SoC, etc.

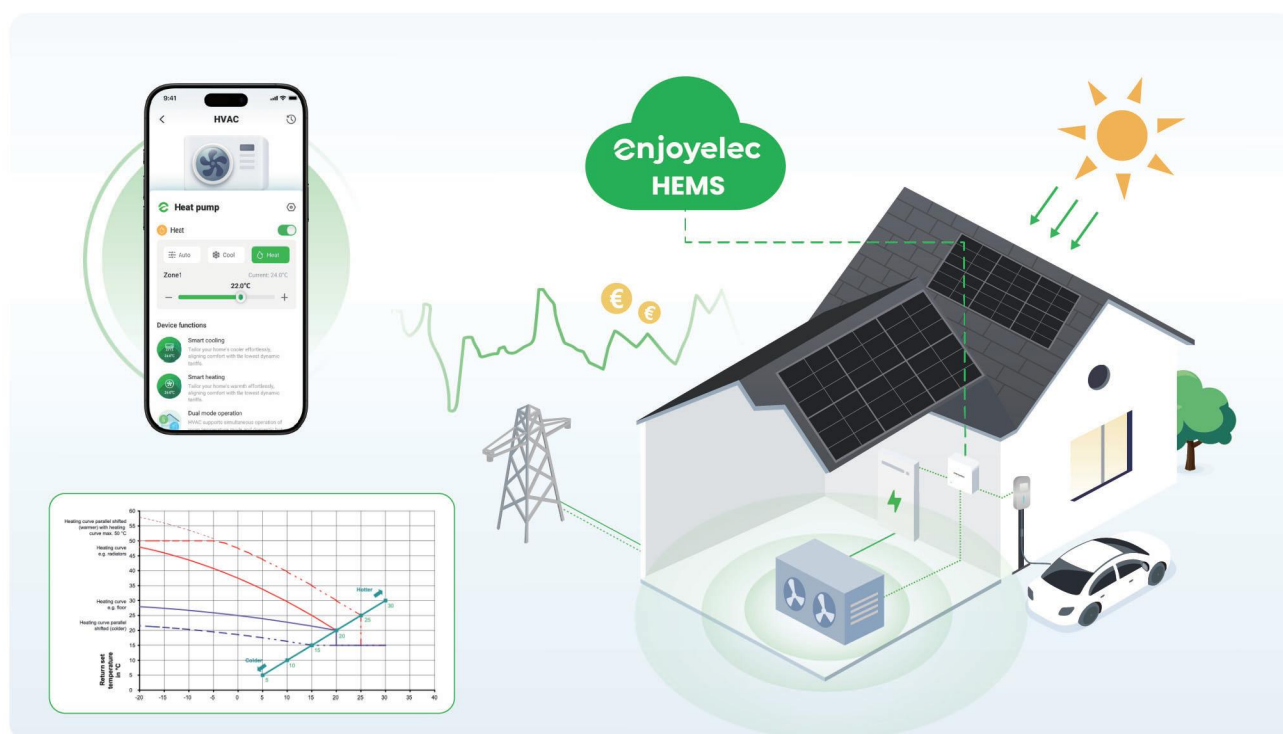|	
Optimize Home Energy Use With EV	**Improve Solar Self-Consumption**
Protect Home Overload	**Unlock Demand-Side Flexibility**
Supports Both AC And DC Chargers	**Communication Between EV Charger And Grid Operators**

Smart Heating

Intelligent control of the heating and cooling system based on user's behavior and energy tariff.

Efficient heating and domestic hot water management

Smartly control heat pump operations to optimize comfort and energy consumption.

Maximized solar utilization

Automatically direct surplus solar energy to power heating, cutting reliance on the grid and reducing energy bills.

Dynamic pricing optimization

Adapt your heating and energy usage to fluctuating electricity prices for cost savings and sustainable performance.

Intelligent load balancing with HEMS

Coordinate energy flow between PV system, home battery, and EV chargers to maintain a stable and optimized home energy ecosystem.

Battery Optimization

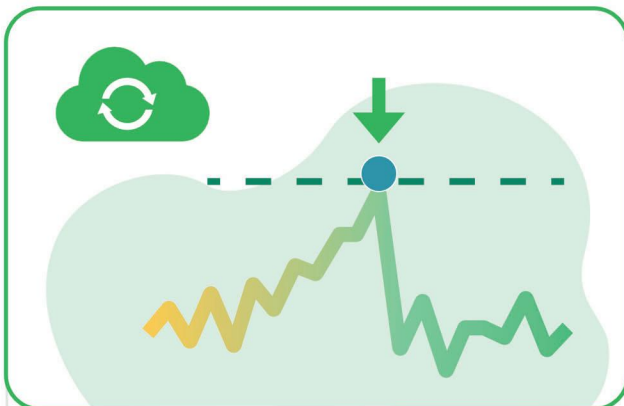Ensure reliable and sustainable home with battery optimization.
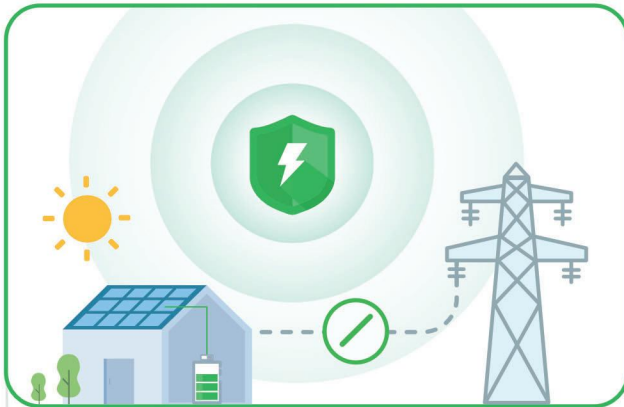
Anti-backflow Protection

Prioritize solar power self-consumption and store excess energy in the battery to prevent backflow, ensuring grid stability.

Overload Protection

Coordinate with PV system, EV charger, and heat pump to maintain a balanced and optimized home energy system.

Capacity Management

Balance energy usage to minimize peak demand and cut capacity costs.

Battery For Cost Saving

Prioritize battery energy for EV charging and home consumption during periods of high electricity prices.

AI-driven optimization for smarter, cheaper energy

Optimize energy use and reduce costs with AI-driven forecasting, automated scheduling, and real-time market monitoring.
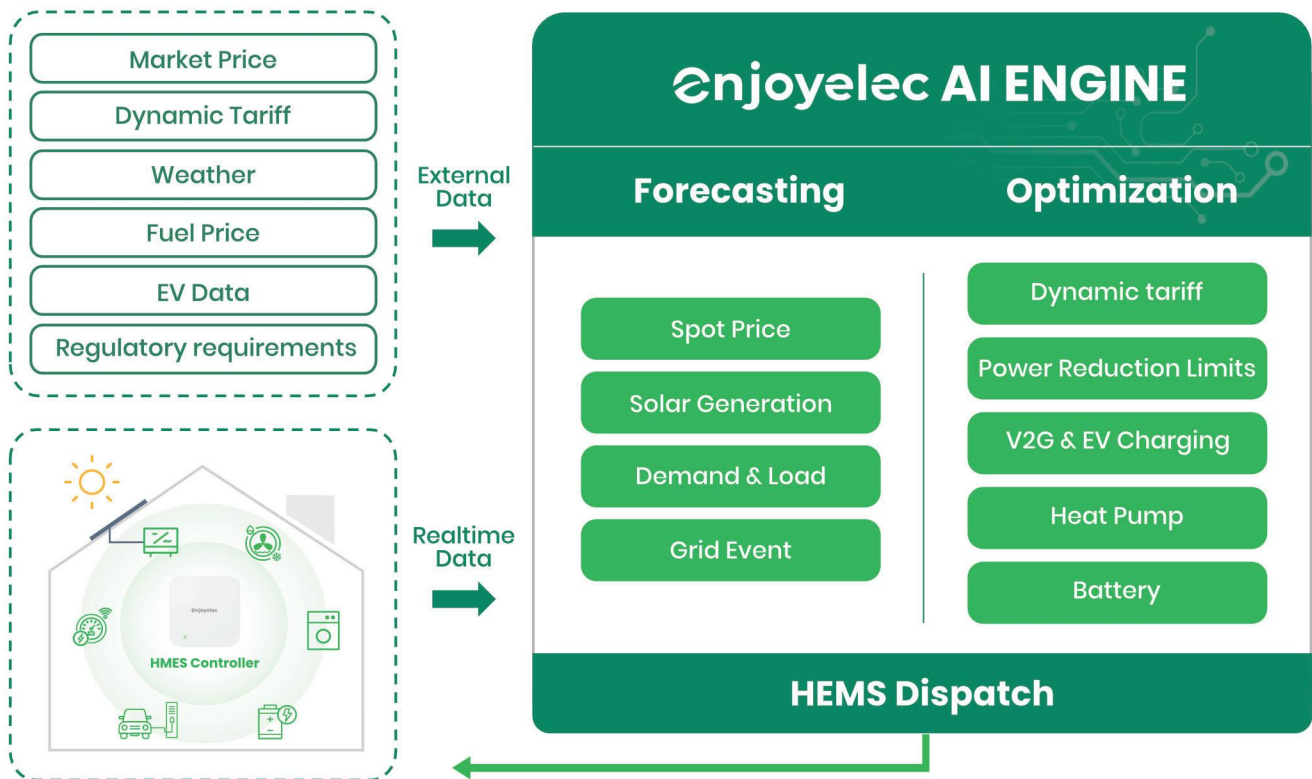
Electricity market and load forecasting
Predict electricity prices and accurately analyze home energy consumption, ensuring that appliances run at the most cost-effective times.

Negative price monitoring
Leverage negative electricity prices by adjusting energy use and storage automatically to lower costs.
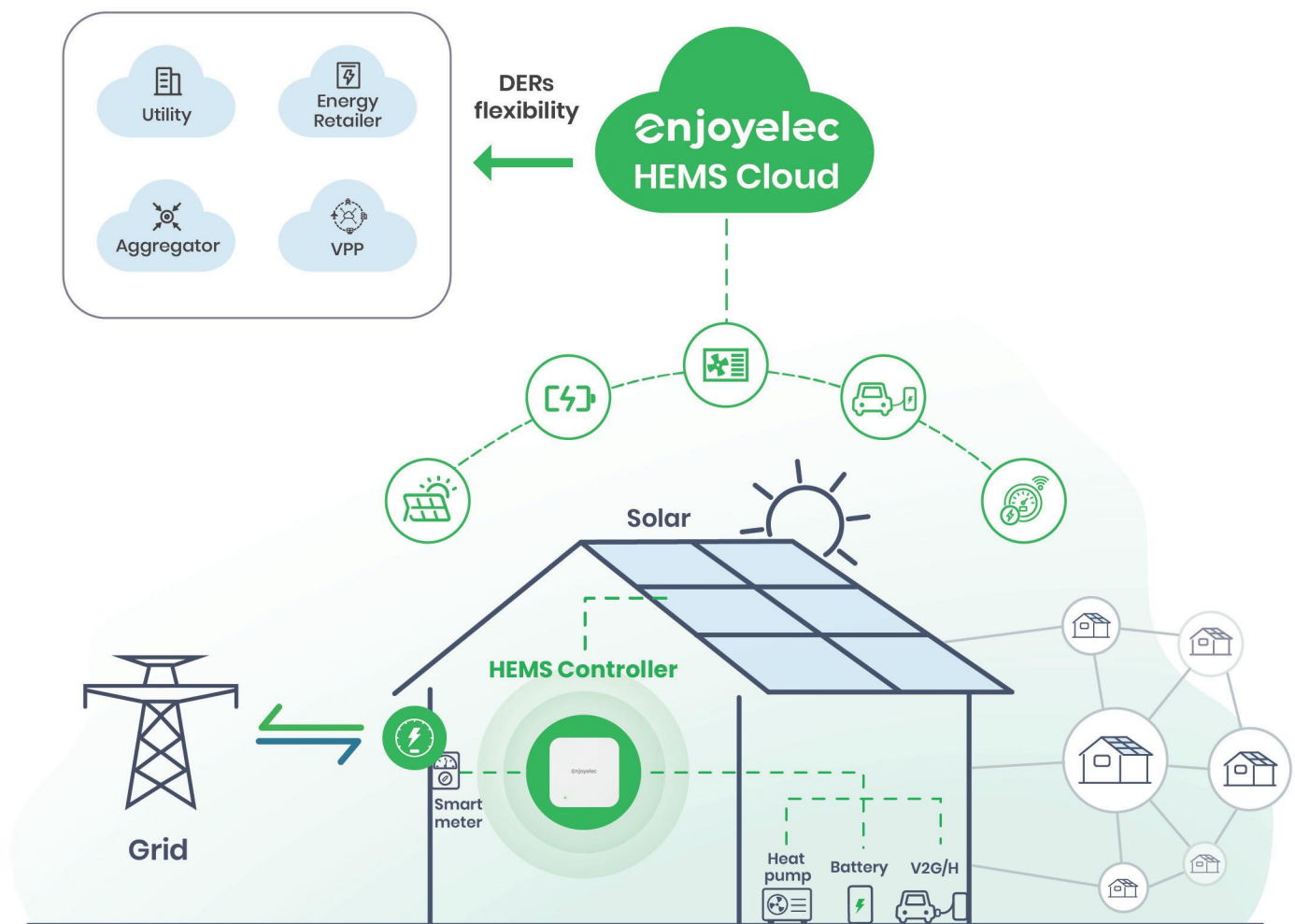
AI-powered insights
Leverage AI-driven analysis to identify inefficiencies in energy use and provide actionable recommendations to reduce expenses.

Smarter energy, lower costs
Combine with smart forecasting, automated scheduling, and real-time market monitoring, empower homeowners to take control of their energy use and reduce costs.

Delivering demand-side flexibility with HEMS

enjoyelec HEMS integrate flexible and controllable home energy asserts, including solar, battery, heat pump, and EV charger, providing group control and dispatch for grid flexibility service providers.

Utility

Energy Retailer

Aggregator

VPP

DERs flexibility

enjoyelec HEMS Cloud

Solar

HEMS Controller

enjoyelec

Smart meter

Grid

Heat pump

Battery

V2G/H

Integrate DERs via local controller to respond to grid demand

Maximize renewable energy value for home asserts

Vehicle-to-Grid for grid resilience

Become our eco-partner

White-label
We can offer the white - label service for your demand.
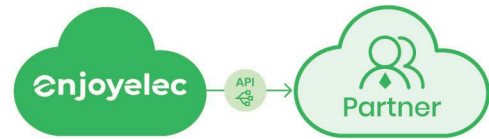
Cloud to Cloud
enjoyelec HEMS provide APIs to our partners, including OEMs and aggregators, for aggregation and utilization.

Ecosystem integration
enjoyelec HEMS Controller supports multiple local protocols, such as EEBUS, Modbus,SGReady, OCPP, Zigbee.

Empowered by enjoyelec OpenAPI
Driven by AI-powered insights to predict prices, loads, PV output, and dynamic tariffs.

Case

20%
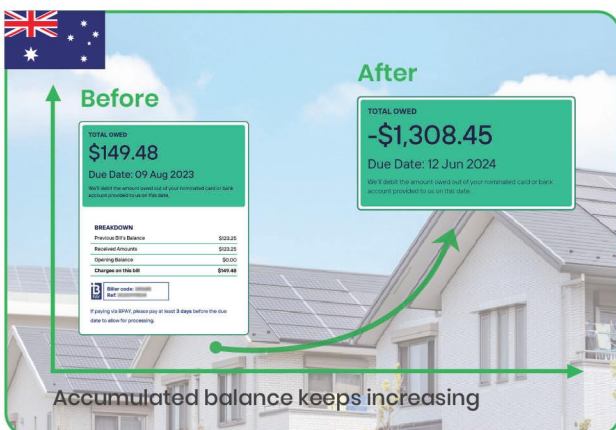### energy bills reduction

Basic information:

- Growatte pv : 11.3 kWp
- Growatte battery : 5 kW / 10kWh
- Tariff : Tibber
- Dimplex heat pump manager

Solar power self-consumption improved
15%

Basic information:

- KOSTAL pv : 5.04 kWp
- BYD EV and charger
- Tariff : Ostrom

Before

After

TOTAL OWED
$149.48
Due Date: 09 Aug 2023

We'll debit the amount owed out of your nominated card in bank account provided to us on this date.

TOTAL OWED
-$1,308.45
Due Date: 12 Jun 2024

We'll debit the amount owed out of your nominated card or bank account provided to us on this date.

BREAKDOWN

Previous Bill's Balance	$123.25
Received Amounts	$123.25
Opening Balance	$0.00
Charges on this bill	**$149.48**

Biller code:
Ref:

If paying via BPAY, please pay at least 3 days before the due date to allow for processing.

Accumulated balance keeps increasing

Saving over
$2,268
over half a year on energy bill

Basic information:

- Deye solar : 13kWp
- Battery : 20kWh
- Tariff : Amber

Case

Integrate
Solar + battery
for cost saving

Basic information:

- SAJ hybrid inverter : 5kW/10kwh
- Tariff : PVPC

Highlights:

- Cross-brand integration
- Ready for energy trading

Benefits:

- Enhanced energy efficiency
- Expand the selling points

Smart heating
for max Self-consumption

Basic information:

- Deye pv&battery
- my -PV heater
- Tariff : TOU

Highlights:

- HEMS + TOU pricing
- No feed-in to the grid

Benefits:

- Heat pump bills cut
- Generate ongoing revenue via subscription fees

About enjoyelec

enjoyelec B.V. is a sustainable energy digital services provider powered by AI and cloud technologies. We specialize in home energy management systems (HEMS), battery energy storage systems (BESS), vehicle-to-grid (V2G), and commercial and industrial energy management systems (C&I EMS).

Our technologies empower demand-side flexibility (DSF) and enable the delivery of ancillary services, allowing consumers and businesses to adjust electricity usage based on grid conditions while maintaining grid stability and reliability.

By integrating energy AI, battery AI, IoT, and big data, enjoyelec provides intelligent, responsive solutions that accelerate the transition to a low-carbon future.

Strategy Investors

bp

VOLVO

RENAULT NISSAN MITSUBISHI

PORSCHE VENTURES

ENERGY TECH SUMMIT
AI APPLICATION TOP10

FREE ELECTRONS™
FREE ELECTRONS TOP15

KPMG
ESG TECHNOLOGY AWARDS

advancing low carbon
ADVANCING LOW CARBON AWARDS

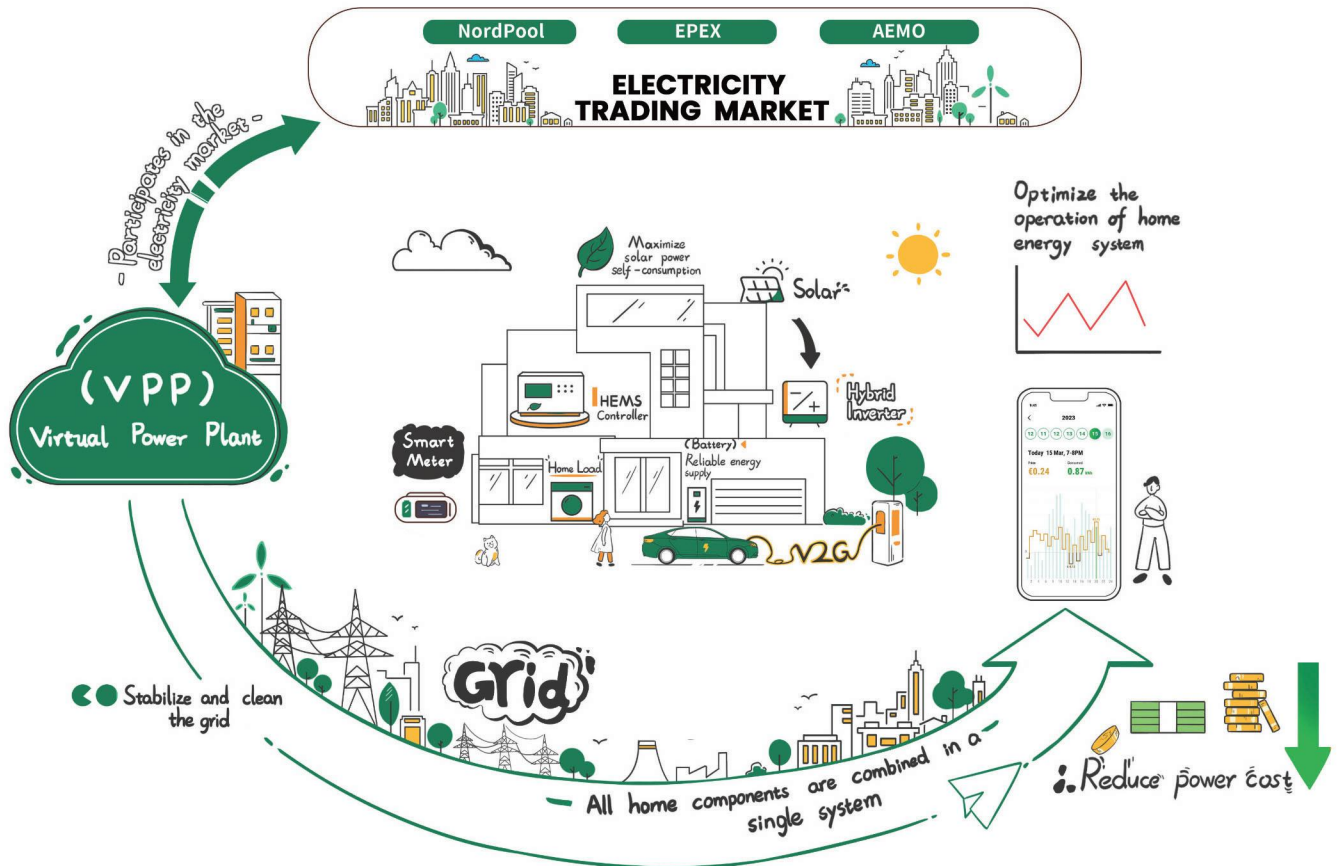2020 APAC 25 COMPANY
CLEANTECH TOP25

BEYOND
SUSTAINABILITY INNOVATION AWARDS

Our vision

Driving clean technologies, enabling people to enjoy sustainable living.

Establish a stable and secure power system,ensuring that everyone can access clean and affordable electricity

Facilitate the global energy sector's transition from fossil fuel-based sources to zero carbon alternatives in order to mitigate climate change

Enable humanity to inhabit a sustainable planet powered by renewable energy sources

Achieve ESG goals for sustainable development and guide the transition to Net Zero Carbon

enjoyelec

DRIVE
THE LOW CARBON
FUTURE

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