IMEON ENERGY

Your Power, Your Rules

THE SELF USE SMART GRID INVERTER NEW GENERATION

5 YEAR GUARANTEE • GARANTIE • GARANZIA • GARANTIA

- SMART GRID INVERTER
- COMPACT "ALL-IN-ONE" SYSTEM
- ON-GRID / OFF-GRID / BACK-UP
- SMART STORAGE MANAGEMENT
- 30% MORE EFFICIENCY(1)
- PLUG-&-PLAY INSTALLATION
- USER FRIENDLY OPERATION & INTERFACE
- LOCAL OR DISTANT MONITORING

ABOUT IMEON ENERGY

With over five years of R&D and thousands of projects in self-consumption and electrification of isolated sites, IMEON ENERGY designed a revolutionary Smart Grid inverter : IMEON. This intelligent inverter provides a solution to the intermittency and fluctuation of solar energy by managing multiple sources (PV/ Batteries/Grid). Since several years, the prices of electricity from the grid are rising while the cost of photovoltaic modules continues to fall. By increasing the overall efficiency of photovoltaic installations with smart storage management, IMEON generates a solar kWh more competitive than that of the public grid. IMEON is able to optimally integrate solar energy to existing infrastructures by relieving the public grid during solar production peaks (battery charging) and supporting it during consumption peaks (battery discharge). The IMEON solutions renders solar electricity economically viable and accessible to all.

IMEON ENERGY'S CONCEPT

Solar energy is limitless. In the current context of fossil resources exhaustion, and the rising cost of conventional energy, self-use or self-consumption of electricity produced through solar installations becomes more logical. The IMEON ENERGY team has been long convinced of the need to combine ecological solutions with economical savings for energy self-use and, as a result, we developed an innovative solution to address them. By replacing functions essential to renewable energy systems (Grid -Tie inverter, Off-Grid inverter, MPPT regulator, source inversor), IMEON is designed to be the most versatile all-in-one smart grid inverter available today. IMEON does not require complex configuration; it adapts its own operation by analysing real time available energy sources and consumption patterns. At the centre of the installation, IMEON intelligently directs energy where needed to ensure optimum performance. This "Grid Optimised Storage" technique reduces the storage capacity requirements and significantly increases battery life.

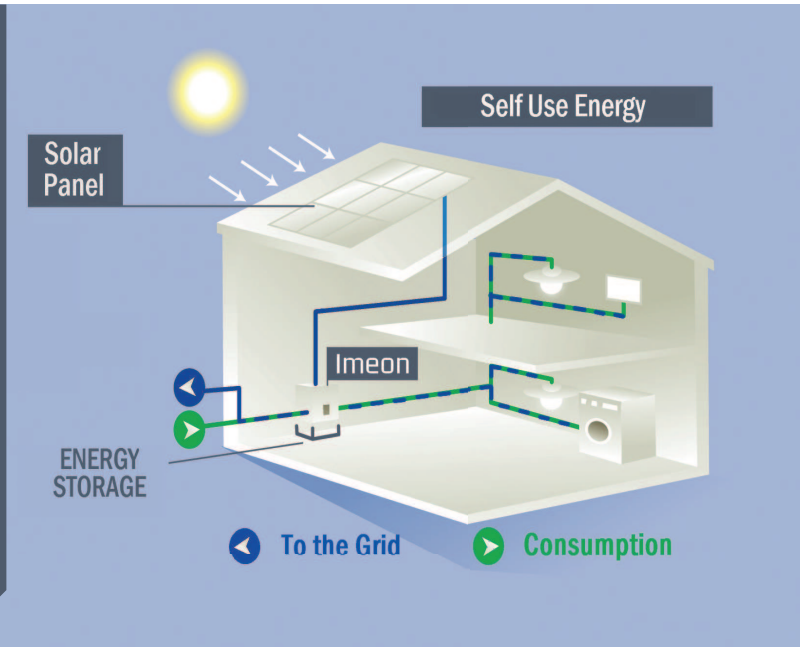
« WITH IMEON: PRODUCE, MANAGE, STORE AND OPTIMISE YOUR OWN ENERGY »

SELF CONSUMPTION OF SOLAR ENERGY

Connected to the grid (Grid-Tie) / Isolated sites (Off-Grid) / Hybrid (Grid-Tie & Off-Grid) / Back-up (UPS) / Smart Grid

SMART GRID

IMEON is the ideal solution for electricity producing systems using Grid-Tie, Off-Grid, and/or Back-up photovoltaic technologies. IMEON is dedicated to cleverly use generated solar energy for an optimal performance. Its technical conception by specific microprocessor orients energy from different sources (PV/Batteries/Grid) according to the production conditions and the consumption needs. IMEON prioritises solar energy first and ensures the compliment of power by drawing energy to the batteries and the public grid during consumption peaks.



OPTIMISED STORAGE

The «Grid Optimized Storage» intelligently manages solar storage systems. IMEON orients the generated energy according directs the energy generated as needed. Only the excess production is stored. Battery discharge takes place only to provide complimentary power to solar energy. The overall efficiency and yields of the system is improved and thereby battery life is optimised.

ECONOMIC

No more need for solar chargers, commutators or additional inverters. The clever energy management and all-in-one features of IMEON inverters help reduce the price of the photovoltaic electricity down to 30%[1]. The innovative Smart Grid function of IMEON allows to lower the storage capacity and reduce battery cycles, as well as further prolonging the battery life.

ALL IN ONE

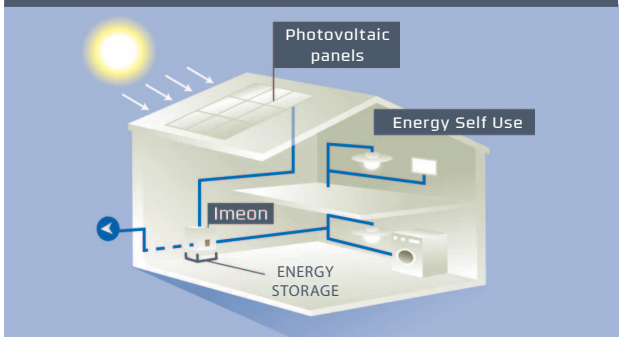
IMEON is conceived for all solar installation types: isolated sites (Off-Grid), connected to the grid (Grid-Tie), hybrid (On and Off-Grid). It replaces inverters, load regulator, commutator, etc. IMEON is a Plug & Play smart inverter, simplifying the implementation of a solar photovoltaic system and thereby also reducing and facilitating an otherwise long installation procedure.

SMART GRID & ENERGY SOURCES MANAGEMENT

IMEON PRIORITISES RENEWABLE ENERGY USING THE IMEON SOLUTION IS TAKING A STEP TOWARDS AUTONOMY

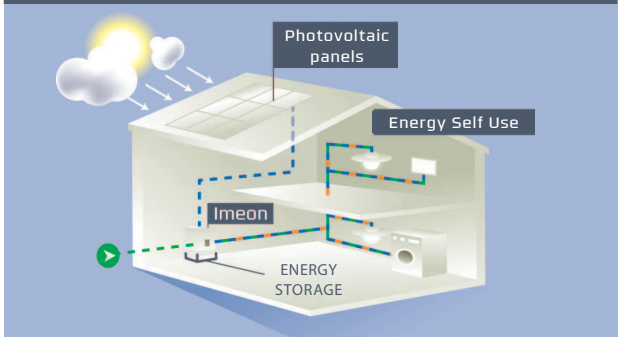
IMEON manages multiple energy sources (PV / Batteries / Grid) and orients available power according to the conditions of solar production and overall consumption. Each kWh generated is directly consumed stored in batteries when sold to an operator.

More energy produced than consumed: 1



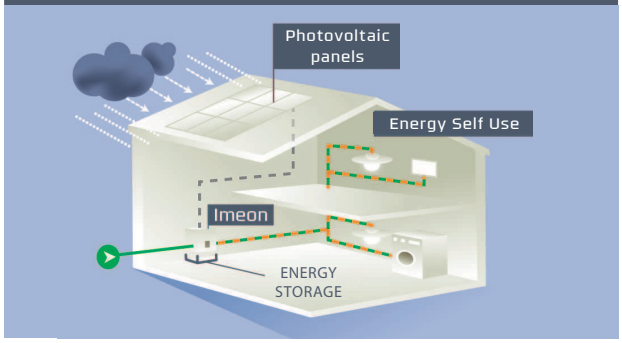
Solar energy power feeds consumption needs and simultaneously charges the batteries. An eventual surplus of solar power is then injected to the grid.

Less energy produced than consumed: 2



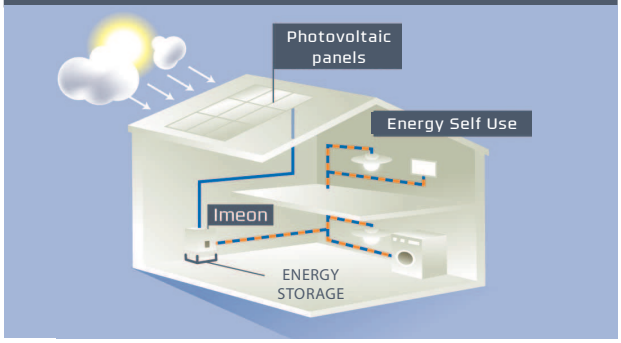
Solar power feeds a part of the consumption needs. The batteries and the public grid provide the remaining complimentary power.

No production of solar energy 3



The batteries feed the domestic consumption needs. When needed, an eventual compliment of electricity is supplied by the public grid.

Isolated site, black outs or grid failure: 4



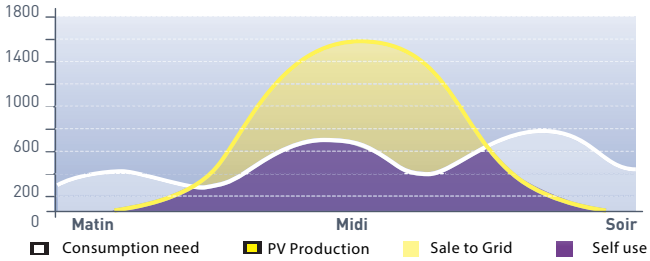
The solar installation feeds the domestic consumption needs first and charges batteries. The batteries then provide the eventual complimentary power.

Towards the grid Consumption Stored Energy

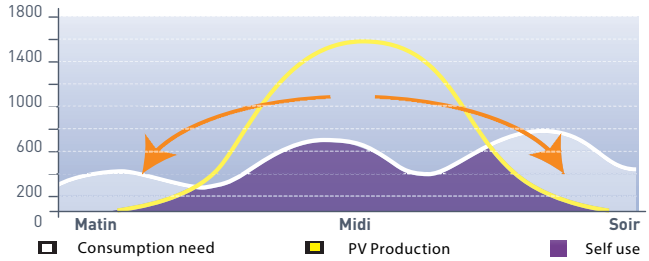
INTELLIGENT BATTERY MANAGEMENT

Reduced & Optimised Storage

IMEON intelligently manages storage systems by limiting battery use. The system uses excess energy to charge the batteries, and only discharges them when additional power is needed to compliment renewable energy production. IMEON thus reduces storage capacity needs and extends the battery life-span by minimising its use (reduced number of cycles). Most Off-Grid technologies manage storage using fixed thresholds. In contrast, by using dynamic compensation, IMEON permanently adjusts the thresholds according to the charge (production) and discharge (consumption) currents. In addition, IMEON provides two different levels of discharge depth in accordance to the grid availability: the first threshold is to optimise the storage life-span, and the second is to increase the autonomy in case of grid failure. IMEON is configurable for use with differenttechnologies of batteries: GeL, AGM, Lithium[2]



Operation without battery bank:
selling excess power to the grid.



Operation with uncharged battery bank:
excess power is stored for later consumption.

Day time

Solar production feeds the needs of the home. The production surplus is then stored in the battery bank to avoid any loss of production. In the case of an eventual solar surplus, IMEON injects it to the public grid.

Evening

Solar production is low, the batteries restores a portion of the energy stored during the day to cover the power gap of solar energy. If necessary, IMEON draws additional power from the public grid.

Night Time

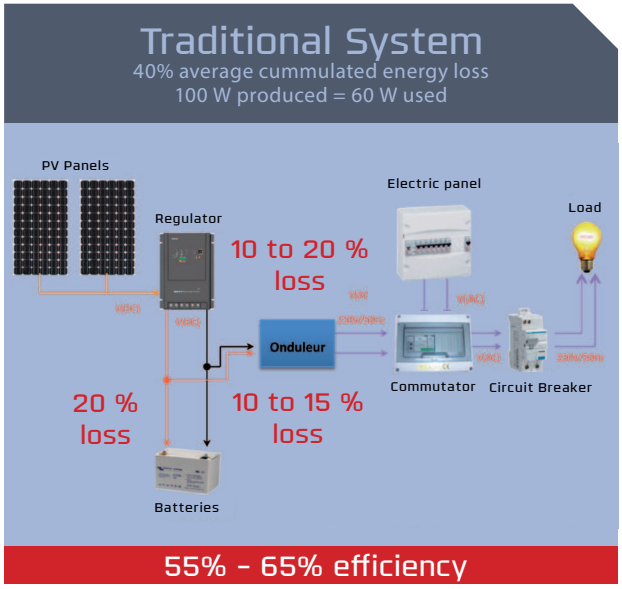
IMEON meets the needs of residential electricity by drawing from batteries first. The public network may provide the additional power if needed.

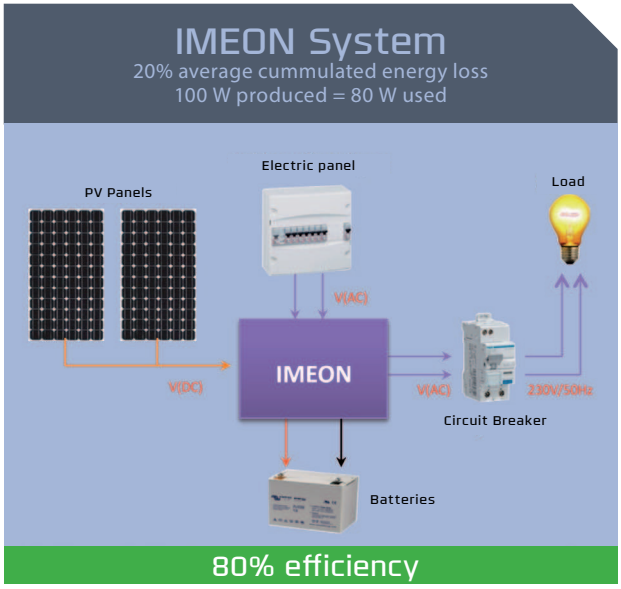
Grid Power Outage

IMEON's "Back-Up" function assures feeding the house with electricity in case of grid failure[1]. This function ensures continual operation of certain appliances under all circumstances.

OPTIMISED EFFICIENCY

No more need of complicated installation to be studied and tailor made. IMEON adjusts itself and chooses the best optimization of energy. IMEON reduces the price of your renewable energy by more than 30%[1] compared to a traditional Off-Grid systems by decreasing the use of the energy storage. By only storing the surplus of energy, IMEON drastically improves the self-use installed system's efficiency and increase yields.

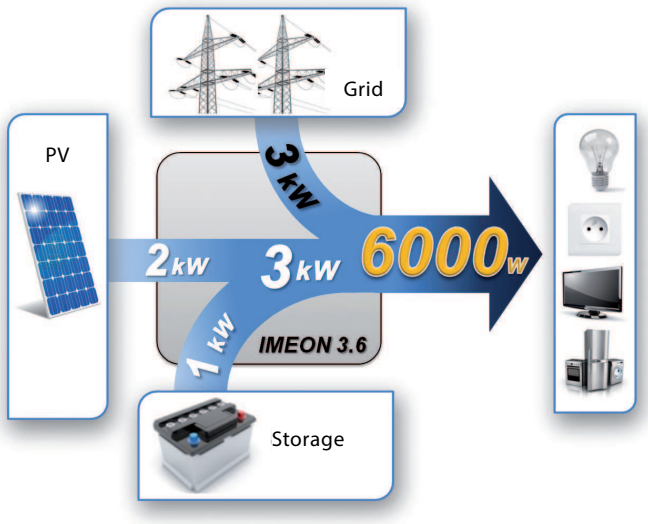




INNOVATIVE PHASE COUPLING

Multi-energy coupling

IMEON is a concentration of innovation and technology. Multi-sources phase coupling (Phase Coupling Energy, or PCE) is used to couple several energy sources (eg: PV / batteries / grid). There is no more need for source switching which often leads to micro-cuts. PCE solves the age long renewable energy concerns such as intermittence and fluctuation. IMEON's PCE has now made it possible to guarantee constant feed and optimals yields.



Doubled Output

When grid power is available, IMEON accepts double its nominal power through constant draw. For example, IMEON 3.6 can draw up to 6kW: using 2kW of solar energy, 1kW of battery power and 3 kW from the grid for a total draw and output of 6kW . Thus, the installer does not need to modify the domestic electrical panel if it can provide energy less than or equal to 6kW.

SMART MONITORING

IMEON provides real-time operational data as well as energy source selection so that, at any time, the user can choose to optimise his or her consumption based on the level of production.

IMEON is an intelligent and communicative inverter

- Constant monitoring of installation
- Ergonomic, user-friendly LCD screen
- Real-time operational display
- Visual alert in the case of malfunctions
- RS232/USB and Ethernet/IP communication (optional)
- Remote monitoring and management

The user can consult the system at home as well as remotely (via the internet) using the monitoring software (via USB or optional Ethernet/IP). It is also possible to configure IMEON 3.6 to automatically send specific system information via email or SMS. Configuration changes can be made to accommodate technical modifications (batteries, grid, etc.). The system provides permanent monitoring and can inform the user of various events when necessary (alerts can be sent via email or SMS).

With an ergonomic, user-friendly display, the user can monitor the system status at any time. A variety of system parameters can be consulted in a simple and intuitive manner: instantaneous solar production and consumption, battery charge and discharge status, grid usage, etc.

QUALITY & SECURITY

Of French conception and design, IMEON's high quality guarantees safe installation and secured maintenance. Connection to solar panels, the electrical grid and battery storage is performed through safe "Plug-&-Play" connecters thus avoiding all direct electrical contact and simplifying the installation procedure. IMEON is certified in conformity to European (EC) and international norms ensuring a maximum level of performance, reliability and safety. IMEON is covered by a 5-year warranty which, as on option, can be extended to 10 years.

(1) According to condition of use (2) According to manufacturers' technical specifications

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