

ecoSMART e-manager · ecoSMART e-system



Trust in ecological innovation

History

Ecoforest was founded in 1959 by José Carlos Alonso who began his professional career selling steam boilers, burners and products from the heating sector.

His vision was to develop innovative products that would provide an economic and environmentally friendly solution, with the intention of making the world a better place..

Today almost 60 years later, Ecoforest is a technological leader in the heating sector with clean and natural energy.

It has also managed to become a benchmark manufacturer, thanks to its steadfast commitment to technology and heavy investment into both quality and R & D.



Respect for environment

Respect for and protection of the environment has become one of the great issues of our time.

To improve the environmental conditions of our planet for future generations, we must be aware of both the negative consequences associated with poor management of our natural resources, and huge benefits that our professional contribution can have.

The quality and environmental policy of Ecoforest reflects the commitment to improve customer satisfaction and the preservation of the environment, through the design and manufacture of efficient heating and air conditioning equipment with reduced emissions.



Why we need ecoSMART systems

Concerned individuals & institutions around the world are desperately searching for the means to become more sustainable. For most, the goal is to create a future where all families can be self-sufficient, at least with regards to their energy needs. Taking a more holistic approach to energy consumption is vital if we're going to continuing growing as a society without compromising the needs of future generations.

Currently the market is filled with companies that provide customers with the means to reduce their energy consumption, and whilst this is a step in the right direction, there are very few viable options if you want to take it a step further, and move towards a more energy independant lifestyle. Having an increasingly decentralised energy grid-system is something we believe is an absolutely necessary step our society must take to reduce its dependency on fossil fuels.

Hybridisation

Bridging the gap between energies

It's becoming increasingly clear that we cannot rely to heavily on any single energy source. Furthermore there is currently no form of renewable energy that could meet all our energy demands, that is, unless you're lucky enough to live beside a river with your own hydroelectric dam.

In terms of heating we already have all the tools needed to almost completely remove certain homes from the grid. All that's needed is to contect these pre existing systems.

Many people around the world already have some form of renewable energy in their home, such as a heat pump or solar panels. Very few however have managed to combine them in a meaningful way to maximise their efficiency.

Through hybridisation we can become greater than the sum of our parts. Alone a solar panel or ground source heat pump does little to affect the overall reliance on energy produced by fossil fuels, but when combined with multiple other sources of energy it creates results that are not only beneficial for the environment, but also from a monetary standpoint.



Introducing the ecoSMART range

e-manager

Compatible renewable energies:



Photovoltaic | Wind | Hyrdoelectric | Other



Hybridization of ecoGEO and ecoAIR heat pumps with electric power produced by renewable energy systems.

The system allows the user to reduce or eliminate the need for electric batteries, which are an expensive addition to the install, often needed for the storage of energy excess energy

The e-manager also allows for serious reduction in energy bills through a combination of management of surplus renewable energy, effective use of electricity prices changes, and the regulation of the power consumed by the installation.

Finally, it'sSmartGrid ready: compatible with smart grid SG modes and Compatible with single-phase (230V) and three-phase (400V) production systems

Smart Grid

SG Ready
Smart Heat Pumps

European patent
a different technology

Europaisches Patentamt
European Patent Office
Office européen des brevets



e-system

Compatible renewable energies:

Photovoltaic

Wind

Hyrdoelectric

Other

Similar in many ways to the e-manager, but with the added benefit of having an optimized system for domestic installations. The e-system contains a hybrid solar inverter and integrated electric storage batteries built in.

Not only does this save space but also time and money on each installation.

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Smart Grid

SG Ready
Smart Heat Pumps

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Europaisches Patentamt
European Patent Office
Office européen des brevets

e-source

Compatible renewable energies:



Air source



Water source



Ground source



There are many sources of clean renewable energy aroud us, air source, water source, ground source are all able to provide us with enough heat for large homes an buildings. But why choose one?

Our years of expereince combining several different sources of energy has helped us to create the ultimate tool for controlling mulitple energy sources all at once, under one roof.

The ecoSMART e-source source manager is an electronic control designed to manage several sources of energy capture simultaneously: geothermal, aerothermal and phreatic.

How does the e-source help your project?

New possibilities:
Create possibilities where drilling is limited, using the surrounding available resources.

Perfectly suited for large projects:Combining energy sources always creates more efficient installations. This increase in efficiency is even more valuable in high power installations, where the rewards and savings are even greater.

ecoSMART energy controllers

Compatible with all of our products



Control the elements with ecoSMART

Silent

Economical

Understated

Ecoforest is now one of the few companies in the world who aims to provide a bridge to connect all of these separate energy sources under one roof, taking a big step towards self-sufficiency and becoming more sustainable.

Easy to install and with excellent results. The E-manager isn't an end all solution to fix all heating and energy problems, but its certainly a good start.

Through our ecoSMART system you can seamlessly connect up to 4 sources or systems, each using a different catchment system for energy collection. Depending on which ecoSMART products are used, these energy sources can be used to generate heating, electricity or both.

AIR EARTH WATER SUN



The smart home of the future

Efficient

Regulate

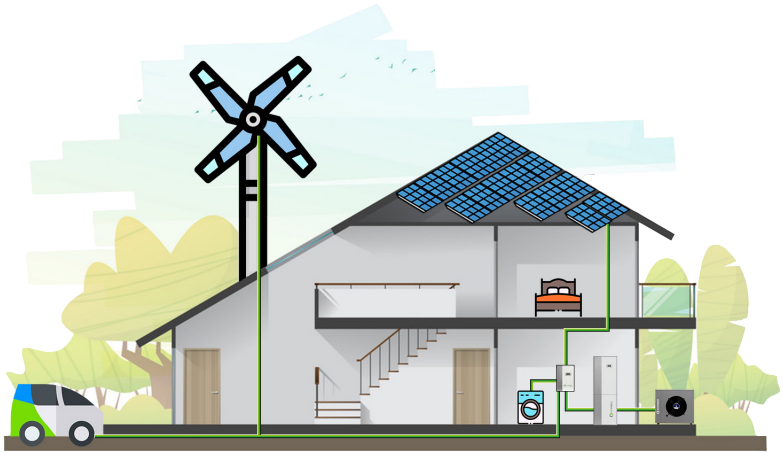
Save time

Everyday our houses are becoming increasingly connected to the numerous electrical products in our lives, and with the 5g network scheduled to be rolled out over the coming years, this trend is bound to continue. The more systems we have in place to bring comfort to our lives, the more sophisticated smart control systems are needed.

The ecoSMART range seamlessly controls these systems, providing the user with higher levels of comfort and efficiency, at a competative price.

Managing energy has never been so simple and efficient

- Ground source heat pumps can reduce the amount of energy used for heating by up to 60%, relying on electricity for the remaining 40%.
- Solar panels with the right conditions, and when combined with batteries can almost provide all the electricity needed for the heat pumps. They've also seen an inexorable price decrease over the past 10 years.
- Air source heat pumps can provide further heat and increase the efficiency of a ground source heat pump.
- Finally, wind power can provide electricity during periods when the sun isn't strong enough to.



Example of smart house with ecoSMART

The showworking office, located in Madrid, is a event organiser for emerging technologies. They specialise in renewable energy and high-tec solutions for the issues facing us in sustainable developement. Here manufactuers, installers and users come together to view and test the latest technology designed to increase comfort, at no expense to the environment.

Because their business relies on showcasing the best and and brightest, they decided to spare no expense on their own heating and cooling system, choosing to use our ecoGEOcompact heat pump, connected to e-manager and Smart flower.









Benefits of the AU12

Possibility of taking advantage of passive cooling, refreshing.

Ideal for projects where boreholes are of insufficient size, or when there are limitations placed on drilling more.

Defrost once every three hours maximum without hydraulic inversion or compressor operation.

No need for refridgerent qualification

Maximum refrigerant content of 1.7 kg.

Low external noise level

Easy to clean.

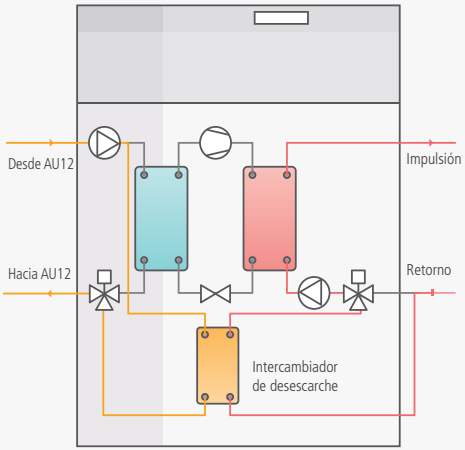
Use of glycol between outdoor and indoor unit.

The HTR® technology allows hot water to reach 70ºC.

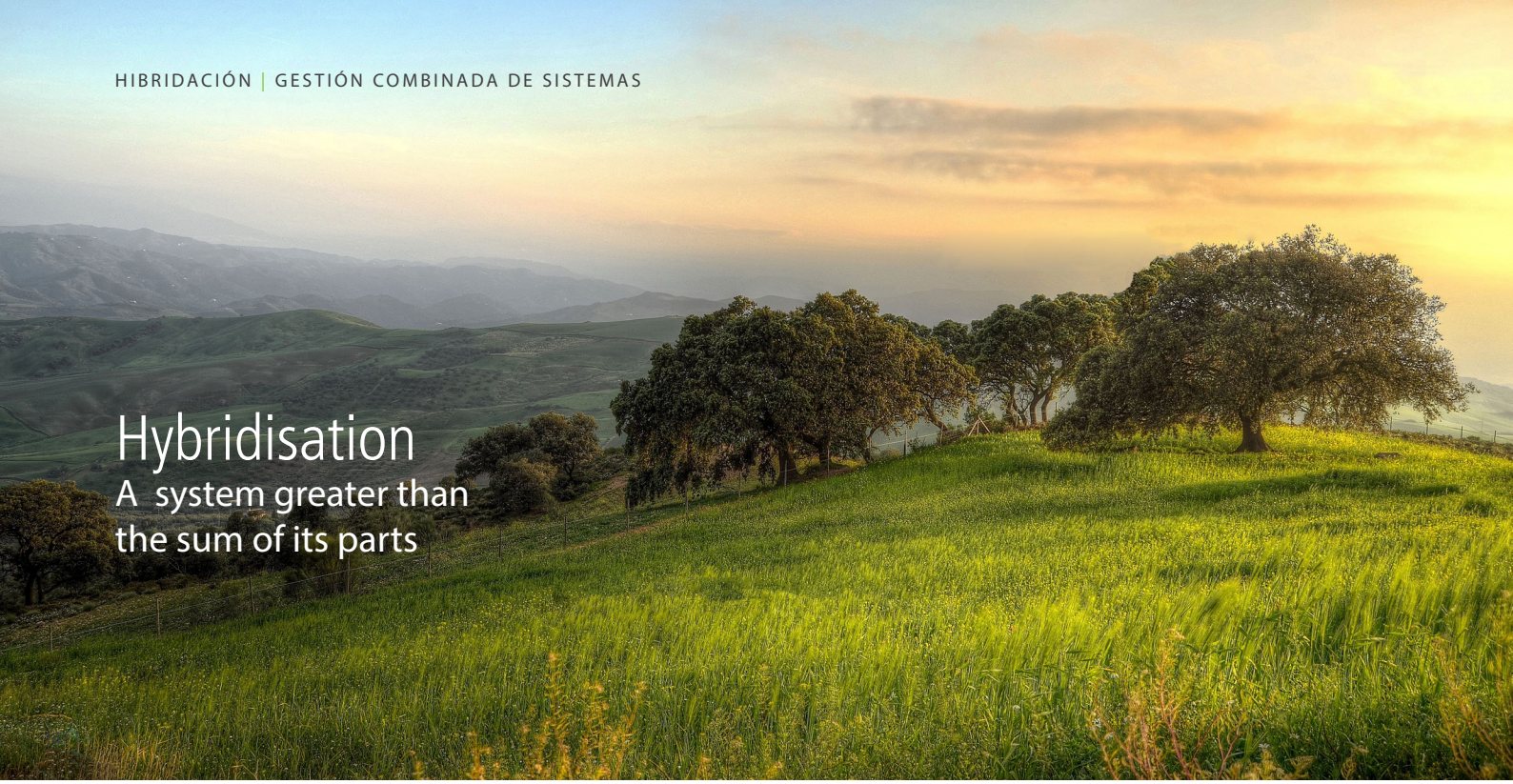
A different defrost

Exclusive defrosting system, by hot water that is already products, this our defrosting cycle contributes to significant increase in the of seasonal performance factor (SPF) since the compressor stops during this time.

The stops of the heat pump and the waiting times are completely avoided, since it is not necessary to invert the cycle or activate the electrical resistances.



AU12, A truly unique solution in the heat pump market



Hybridisation

A system greater than the sum of its parts

Hybrid heat pump

The geothermal heat pump uses the energy of the earth to produce heat or cold in your home, through the thermodynamic cycle.

The aerothermal heat pump does it in the same way, but instead of using the heat from the ground it uses the heat of the ambient air.

These products work very well alone but when they are combined using hybridization, the results are very satisfactory.

By not depending on a single source of energy the pumps are alternated depending on which is more efficient depending on the moment.

Thanks to the powerful and exclusive Ecoforest technology it is possible to combine the aerothermal energy provided by the AU12 with the realization of geothermal wells or groundwater collection.

Advantages of e-source

Cost reduction:
Significantly reduce or entirely remove the cost of drilling, which can be the most expensive part of an installation.

Greater savings:
Allows users to take advantage of multiple government grants & subsides, substantially reducing the time associated with return on investment

Advanced defrost:
Manages defrosting of the air source unit, allowing the heat pump to continue running, which hugely increases the performance of the unit



e-manager



ecoGEO HP



E-system

All the posibilities with ecoSMART

- Internet connection
- Management of the photovoltaic surplus
- Rate control
- Zero balance
- Activation of non-critical loads
- Installation power management

ecoFOREST

www.ecoforest.com

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