

# Working together to save energy

Our solutions



# What is EPBD?

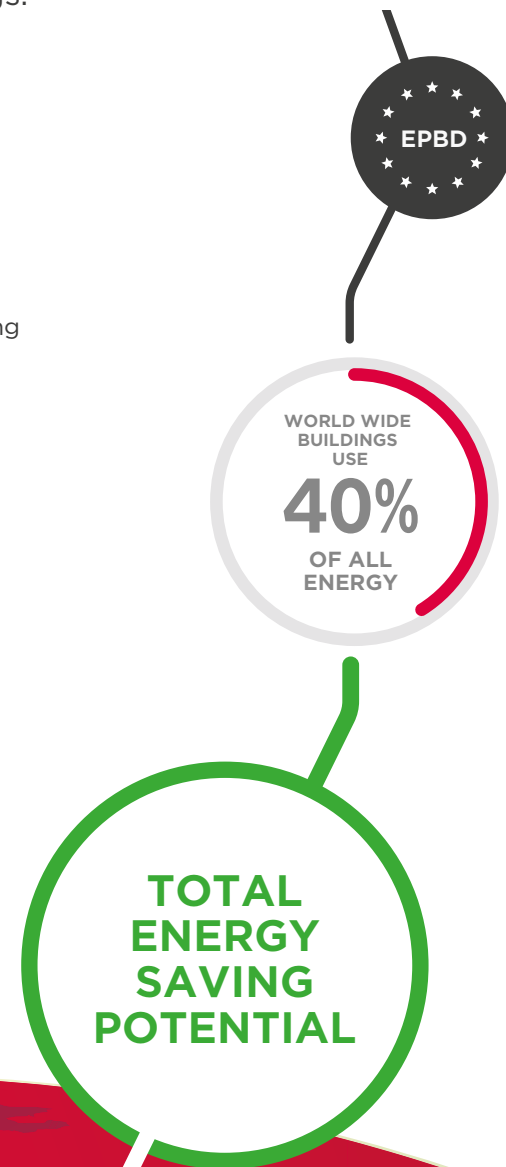
The European Energy Performance of Buildings Directive (EPBD) is the European Union's directive concerning the energy performance of buildings. Under the Aalberts hydronic flow control brand, Flamco and Comap offer a wide range of products to substantially reduce the energy consumption of residences and other buildings.

## Large savings potential

The buildings in which we live, sleep and work consume 40% of global energy. Heating and cooling systems account for half of this - that is quite a lot! The good news is that there are huge potential energy saving in buildings. 75% of buildings in the EU are energy inefficient. If we manage to optimise Europe's heating and cooling systems, we could save £60 billion on Europeans' energy bills by 2030; and in addition, a large amount of CO<sub>2</sub>.

## Join in and help out!

The revised EPBD encourages manufacturers of heating and cooling system components to develop increasingly energy-efficient products. All this makes for huge savings as well as better places to live and work. As an installer or technical adviser, you have a major influence on the success of the EPBD. With your knowledge and skills, you will help clients select the most energy-efficient solutions for their buildings.



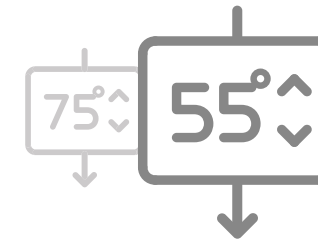
£60,000,000,000

SAVING ON ENERGY BILLS.

AND 82.000.000 CARS WORTH OF CO<sub>2</sub>.

# Our sustainable solutions: go for energy savings

## 1 Low-temperature heating



With low-temperature heating, the system water is heated to lower temperatures e.g. 55°C or lower. This can be done with low-temperature radiators, convectors and, in particular, surface heating.

## 2 System water quality



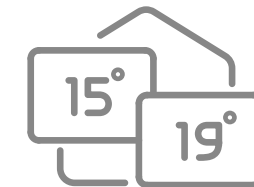
Good water quality is very important for an efficient system. Air and dirt affect efficiency. Therefore, it is very important to capture and remove air and dirt in order to improve the system water quality and maintain a good level of cleanliness

## 3 Water-side balancing



Water-side balancing involves distributing the water supply in such a way that precisely the right amount of energy is supplied per room. As a result, comfort and energy efficiency are optimal.

## 4 Room-by-room temperature regulation



Room-by-room regulation of the temperature ensures that rooms that do not require heat at that time, are not heated.

## 5 Energy storage

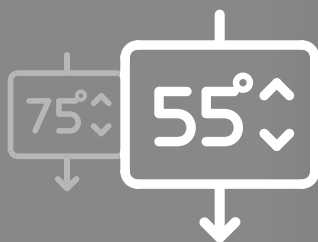


By generating their own green energy, consumers and businesses can make significant savings on their energy bills. Storing excess energy provides flexibility and is much needed to prevent renewable energy from going to waste.

## 6 Good craftsmanship!

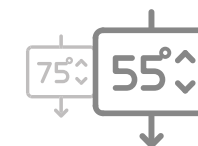


Modern heating and cooling systems are becoming increasingly complex due to the multitude of components and materials contained within them.. Good workmanship and working according to guidelines such as ISSO publication 13 are prerequisites for properly functioning and energy-efficient systems.

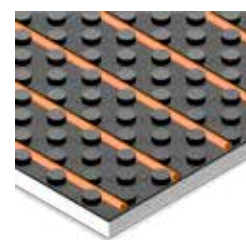


Low-temperature heating is an economical and energy-friendly way of heating. This way of heating is becoming more and more interesting as residences are increasingly well insulated. With low-temperature heating, the system water is heated to lower temperatures e.g. 55°C or lower. Think of it like driving: a car is more fuel-efficient at 55mph than at 80mph. The delivery system will have to be adjusted to this lower water temperature to transfer appropriate energy and get the room to a comfortable temperature. This can be done in several ways: with low-temperature radiators, convectors or underfloor heating. Correct control is essential for the smooth functioning of low-temperature heating systems. See Chapter 3.

# Low-temperature heating



## Savings potential



**Comap**  
Underfloor heating and cooling

Comap offers an extensive range of pipes, manifolds, fixing solutions and control systems for surface heating and cooling, for all building types. With surface heating, the supply temperature without comfort loss is 2° lower than with radiator heating. This can save about 15% energy.



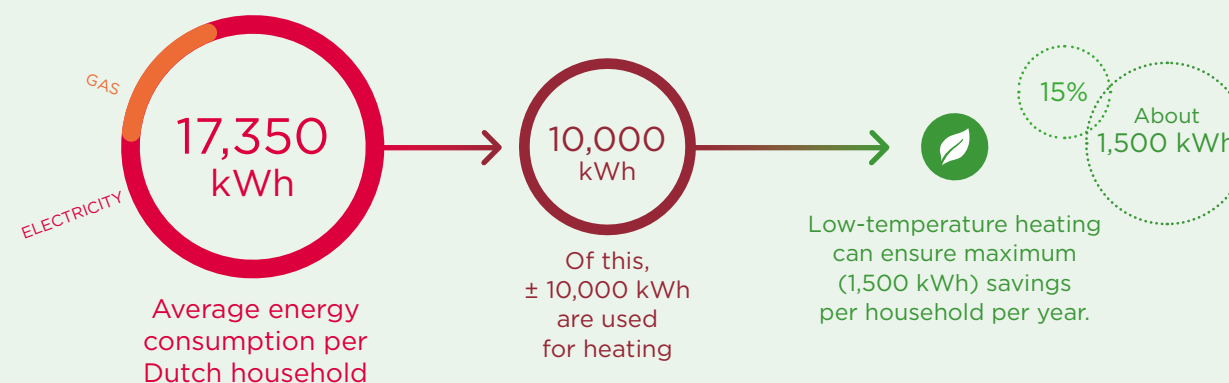
**Flamco**  
VacuStream Degasser

The VacuStream is a compact and ultra-quiet degasser for heating systems up to 500 litres capacity. Due to its size and degassing capacity the VacuStream is perfect for smaller low-temperature systems in residential and small business applications.



Products for heat pump systems

Flamco and Comap offer a wide range of products suitable for heat pump systems, including pump groups, buffer tanks, expansion vessels and safety valves.



Stated savings potential applies per separate solution. The effects cannot be calculated in combination to reach a higher level of savings.



Good water quality is very important for an efficient system. Air and dirt affect the efficiency of the system. Air can build up in radiators and cause corrosion. Air also reduces heat transfer. Corrosion and other dirt particles cause problems in components, for example pumps, valves and heat exchangers. Therefore, it is very important to capture and remove air and dirt and keep the system water and water properties within set parameters.



# System water quality

## Savings potential



**Flamco**  
XStream air and dirt separators

Flamco air and dirt separators remove air and dirt from the heating or cooling system. This results in fewer faults, a longer service life and around 14% lower energy consumption.



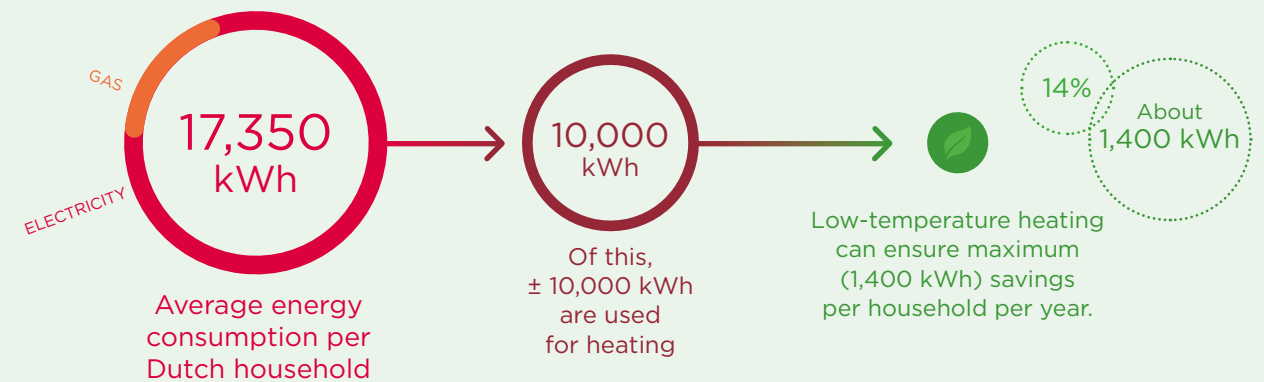
**Sentinel**  
Inhibitors

Sentinel inhibitors provide protection for central heating systems against limescale and corrosion. They extend the system's service life, maximise efficiency and reduce energy consumption.



**UWS**  
Heaty

UWS offers solutions for filling new systems or (re)filling and/or cleaning renovated installations in accordance with the VDI 2035 standard, where the properties of the water such as hardness are regulated and maintained within the set parameters.



Stated savings potential applies per solution. So not when combining them.

# 3



Water-side balancing is the process of balancing a cooling or heating system to optimise comfort and energy efficiency, especially for low-temperature systems. Water-side balancing is the process of adjusting a cooling or heating system so that comfort and energy efficiency are optimal. The water supply is distributed so that precisely the right amount of energy is supplied per room. This prevents some rooms from getting too hot or some rooms from not getting hot enough. It also ensures that the return temperature is at the right level for optimum efficiency of the heat pump or boiler.



## Water-side balancing

### Savings potential



**Comap Autosar** thermostatic valve

The AutoSar is a self-balancing thermostatic valve integrated into a thermostatic body or hydraulic module. The flow rate of each radiator remains constant regardless of pressure variations. The advantage is precise room temperature control. And energy savings as the pump runs in its optimum operating range.



**Comap Sar 970 H** lower block

Comap offers a wide range of thermostatic inserts for the flow control and shut-off of compact radiators with integrated valve.



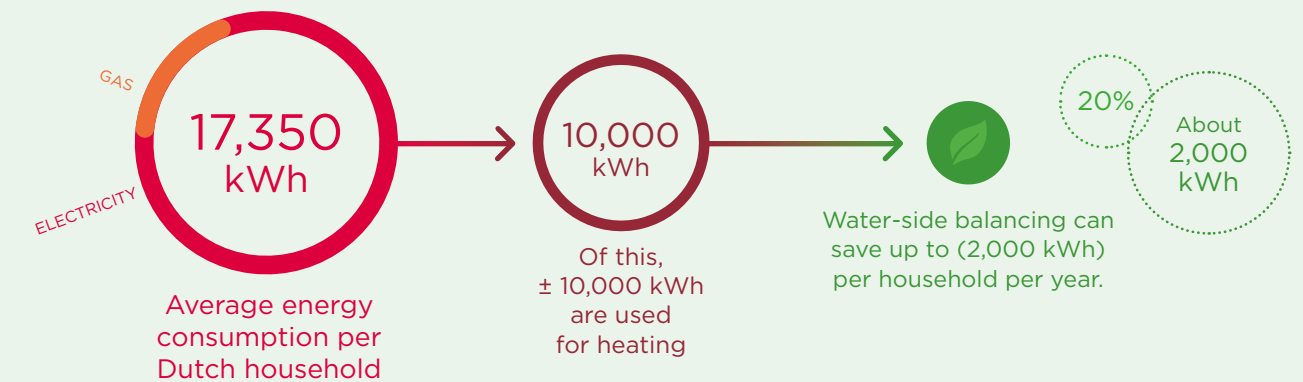
**Comap FlexoDesign** thermostatic valve

FlexoDesign thermostatic valve sets feature a designer thermostatic head and a thermostatic valve with pre-adjustable Kv. A radiator with a FlexoDesign thermostatic valve consumes 15% less energy.



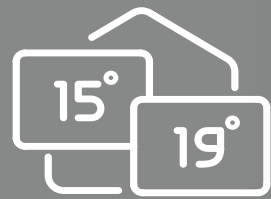
**Comap NexusValve Vivax PICV** pressure-independent circuit control valves

Pressure-independent control valves are used to regulate the correct flow and handle pressure fluctuations in a building's water-side system. They ensure optimal building temperature settings and thus contribute to reducing energy consumption.

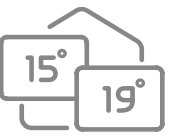




# 4



Room-by-room regulation of the temperature ensures that rooms that do not require heat at that time are not heated. Thermostatic radiator valves and knobs can be used to control the temperature for each room. It is even more economical to install 'smart' radiator knobs so that heating is only provided when there are people present.



## Room-by-room regulation of the temperature

### Savings potential



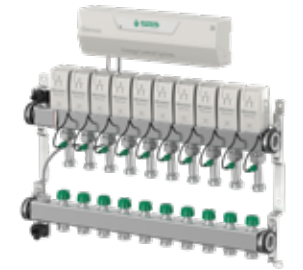
**Comap**  
Simplex TC-E1

Thermostatic head in modern design with integrated liquid sensor and slider for setting the desired temperature.



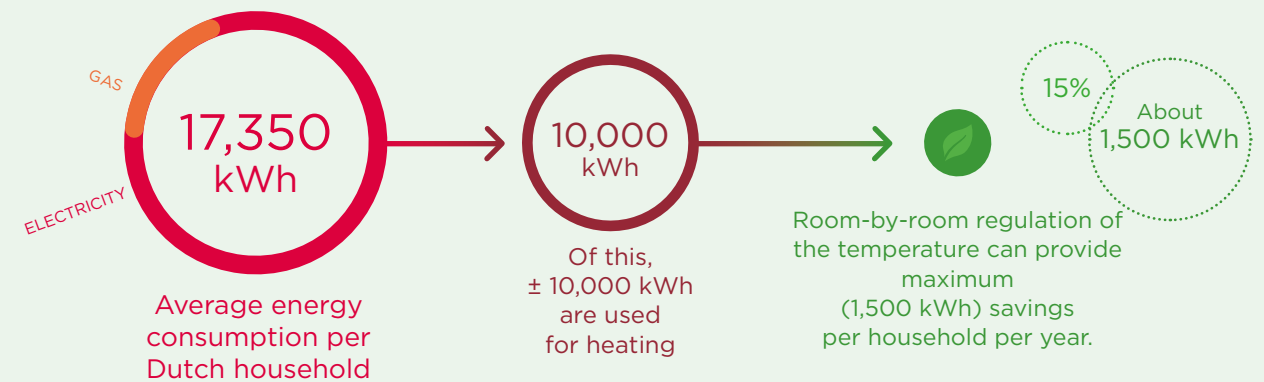
**Comap**  
Smart Home

The smart Comap Smart Home thermostat and thermostatic radiator knob respond to the presence of people. This reduces energy consumption without loss of comfort.



**Comap**  
Secos  
energy control system

Fully automatic and self-balancing energy control system for surface heating and cooling systems. Thanks to the optimised hydraulic adjustment of the system, you can save up to 25% energy compared to a system with poor hydraulic adjustment.



# 5



By generating their own green energy, consumers and businesses can save significantly on their energy bills. However, situations can arise from time to time where more green energy is generated than consumed, for example during the summer months, when the sun shines more. Storage of excess energy provides flexibility and is much needed. This reduces dependence on energy suppliers and prevents sustainable energy from going to waste.

# 6



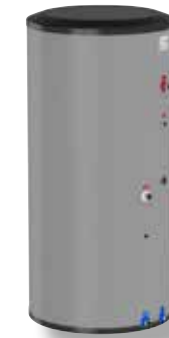
Modern heating and cooling systems are becoming increasingly complex due to the multitude of components and materials contained within them. Good workmanship and working according to guidelines such as ISSO publication 13 are prerequisites for properly functioning and energy-efficient systems.

## Energy storage



**FlexTherm Eco**  
Thermal battery

This eco-friendly device allows any household to store (renewable) energy and convert it into hot tap water or water for underfloor heating use. The device consumes no gas, is up to three times smaller than an average electric boiler and has low CO2 emissions.



**FlexTherm Duo HLS-E**  
Indirectly heated water heater

Can be combined with all types of heating systems. The diabolo-shaped spiral ensures efficient heat transfer, with a short warm-up time. The Duo HLS-E offers optimum performance combined with high energy efficiency.



**FlexTherm PS-R**  
Indirectly heated buffer vessels

For use in sealed heating installations. With permanently welded-in spiral pipe for connection to an additional heating source (such as a solar thermal system).

## Good craftsmanship



Good workmanship starts with knowledge. Did you know that Flamco and Comap have our own Academy? Here, we organise training courses and seminars in which we inform you about technical developments, our solutions and services. We enable you to further increase your skills and knowledge. Want to know more? Check out the possibilities on our website!





hydronic flow  
control



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to save energy

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