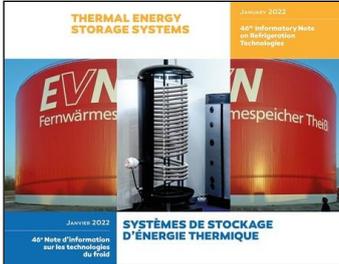




# Internasjonale nyheter Nr 34

## New IIR Informatory Note on thermal energy storage systems

IIR's latest Informatory Note demonstrates that a well-designed TES system can reduce energy consumption through more efficient equipment operation and lower investment costs, thus reducing the equipment capacity.



The IIR has just published a new Informatory Note on thermal energy storage systems (TES) prepared by Renato Lazzarin, President of IIR Section E on Air conditioning, heat pumps and energy

recovery. This note stresses that energy demand is seldom steady, and that its variation often requires oversizing of energy conversion systems to satisfy peak demand. On the other hand, the energy supply may not be steady, which is typically the case for renewable energies, such as solar or wind energy. Energy storage can mitigate or even solve the above problems. TES systems, including cold thermal storage systems, can be widely implemented in building services, such as ambient and domestic water heating, air conditioning, and many solar energy applications. Thermal storage can be sensible, i.e. based on a temperature difference, or latent, i.e. based on the phase change of a substance; if sensible, it can be done with a liquid or a solid. It can be sized to meet demand over different time periods (hours, days, weeks, etc.). A well-designed TES system can reduce energy consumption through more efficient equipment operation and lower capital costs, reducing the equipment capacity. Storage must be properly designed and managed, for example by carefully considering stratification issues in liquid systems and heat transfer for latent storage.

The note also provides a series of recommendations for developing these systems.

This Informatory Note can be downloaded from FRIDOC by following this link (free for IIR members).

## Radiative cooling coatings that can adapt to the seasons

A novel material can be used as a coating on building's rooftops or windows to provide radiative cooling in the summer without overcooling in the colder months.



IIR

## CLIMA2022 Rotterdam 22- 25 May

The REHVA World Congress CLIMA is the leading international scientific congress in the field of heating, ventilation and airconditioning (HVAC). CLIMA 2022 is set to be a conference completely dedicated to sharing knowledge,



inspiration and motivation. Sharing knowledge to face the challenges ahead, inspiration to think outside the box and come up with innovative solutions and motivation to step up and. up and work together to make that difference.

## Slight increase in HFC consumption in 2020 in Europe.

In 2020, HFC consumption in Europe increased by 7% compared to 2019 but remains in compliance with the requirements of the F-Gas Regulation, according to the European Environment Agency. IIR



## The third issue of the HPT Magazine 2021 is available

The third issue of HPT Magazine 2021 focuses on the theme Climate Leap – how investors reach major emission cuts in existing property portfolios. The topical articles of this issue are all addressing the major motivations in investment decisions in combating climate change and speeding the deployment of essential technologies. Read the full HPT Magazine here



[The Magazine - HPT - Heat Pumping Technologies](#)

## 14th IEA Heat Pump Conference



Take the opportunity to participate in the 14th IEA Heat Pump Conference in Chicago, Illinois, U.S. **15. mai - 18. mai 2023** Discuss the latest technologies in heat pumping technologies, and exchange valuable knowledge in market, policy, and standards information on related technologies, gathered around the theme; Heat Pumps – Resilient and Efficient. Exhibitions will be held at the conference, to share products and technologies. The submission is now openAbstracts (250 words maximum) covering the conference theme may be submitted on the conference website. The abstracts will be screened and authors will be advised of acceptance by June 15, 2022.

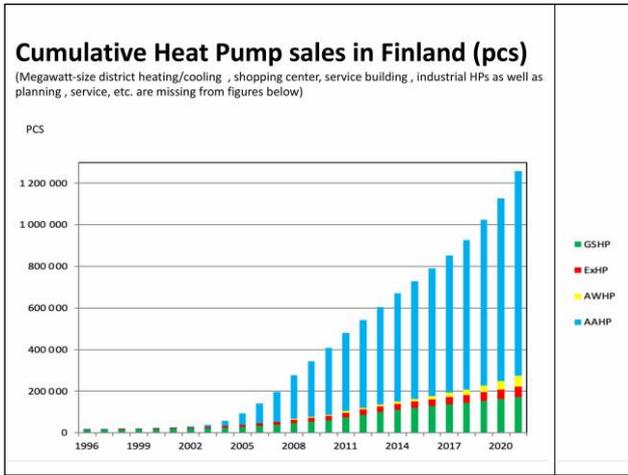
**Important dates are given below.**

Abstract submission due May 15, 2022

Full paper submission due November 15, 2022

Final paper submission due February 15, 2023

## Revolutionizing growth in the heat pump market



### Heat Pumps to be the Standard Solution for All Building Types

Over the last decade, the global heat pump market has grown steadily. However, according to the European Heat Pump Outlook, 2021: **2 million heat pumps per year are within reach**, heat pump markets made a crucial recovery in 2021, growing at an unprecedented rate across Europe despite corona-related restrictions and global supply-chain complications. Aggregated industry expert opinion hints at a market increase of more than 25% and a total sales volume exceeding 2 million units by the end of the year. As highlighted in many of the HPT TCP member country reports, the introduction of strengthened legislation governing new and existing buildings in many European countries has undoubtedly been the key driver for growth, ranging from general regulations in France such as the RE2020 regulation, which aims to restrict the use of fossil fuel and direct electric heaters and to support heat pump penetration deployment, to a ban on combustion boilers in the Netherlands. In addition, in recent years, we have seen several initiatives, particularly in Finland, Germany, the USA, Japan, etc., to promote heat pumps in the replacement market, accompanied by government incentives at both the national and local levels. Simultaneously, technology has developed to help make heat pumps an appealing option.

### The European Commission (EC) published a new revision of the Energy Performance of Buildings

Directive (EPBD) on December 15, as part of the “Fit for 55” Commission Work Programme package for 2021, which aims to make the EU’s climate, energy, land use, transportation, and taxation policies fit for reducing net greenhouse gas emissions by at least 55 percent by 2030, compared to 1990 levels. According to the Commission, all new buildings must be zero-emission by 2030, and according to the latest European Heat Pump Outlook 2021, heat pumps are fast becoming the standard solution for new buildings and in combination with smart renovation, heat pumps are a feasible option also in the existing buildings.



### Feedback period:

## Regulations on air-to-air conditioners, heat pumps & comfort fans



Two feedback rounds have been opened by the European Commission regarding air-to-air conditioners, heat pumps and comfort fans: to update the ecodesign requirements and on the energy labelling of this equipment. The Commission is planning to release new implementing (ecodesign) and delegated (labelling) regulations by Q1 2023 and are asking experts for feedback and evidence. This feedback can be given until 18 February 2022 in an open-text format with 4,000 characters maximum (with the possibility of adding an attachment). The Commission reasons that both regulation are in need of an update as the current requirements are old and no longer capture cost-effective energy savings or consumer benefits, while the energy labelling needs re-scaling to provide more incentives to manufacturers to improve products.

### Midea launches its V8 VRF system:

Midea recently held a launching event for its V8 eight-generation VRF systems. The V8 top-discharge type has a maximum capacity of 42 hp and can be connected to up to three units to achieve 126 hp. The V8 side-discharge type has a maximum capacity of 24 hp and can be connected to up to three units to achieve 72 hp. The new series has achieved breakthroughs in design, reliability, and low-carbon emissions, and can operate within a temperature range of -30 to 55°C. Unlike the previous models, in the case of a sensor failure, the V8 will continue to operate thanks to the creation of a virtual sensor, and will send alerts that activate after-sales services. The side-discharge models require half the floor space of top-discharge models, and are particularly suitable for the renovation market.

### Daikin Altherma 3 WS heat pump now works up to 16 bars, meeting high-rise building requirements

Daikin Europe unveils the latest update on Daikin Altherma 3 WS, an innovative solution to decarbonizing apartment buildings. The indoor water-to-water heat pump now works up to 16 bars and therefore meets high-rise building requirements. Decarbonizing the European building stock, and more specifically apartments, is an important step towards a greener future, since the building sector accounts for 40 % of the energy used in Europe. With more people living in flats in urban areas, Daikin Altherma 3 WS offers the perfect solution to decarbonize apartment buildings.



## **U.S. split market to take up carbon neutral challenge**

The air conditioning industry is accelerating the shift to low global warming potential (GWP) refrigerants. In the United States, due to stricter local safety standards and building codes, it seems that the shift to next-generation refrigerants is lagging behind that underway in other parts of the world. However, as CO<sub>2</sub> emissions reduction targets become stricter worldwide, steps towards a shift to low-GWP refrigerants have emerged in the United States recently.

## **Emerson celebrating 100 years of inventiveness with Copeland**

This 2021, Emerson celebrates the 100th anniversary of its Copeland brand— a name that has become synonymous with leadership in the design and manufacture of energy-efficient and reliable compressors that power air conditioning and refrigeration (AC&R) systems. Copeland solutions are designed to enhance and protect environments where people live and work.

## **Stiebel Eltron to invest €120 Million in heat pump production**

Stiebel Eltron has reported double-digit growth in 2021, with sales up by 18 % compared with 2020. The most important driver is the business with environmentally friendly heat pump systems Made in Germany. “In the last five years, our turnover from the sale of heat pumps has more than tripled,” says Nicholas Matten, one of Stiebel Eltron’s two managing directors. “By 2026, we aim to double the production

## **World AC market – Africa**

The African room air conditioner (RAC) market in 2021 was a bright spot, with 3.1 % growth and sales reaching 3.44 million units. The largest market in Africa is Egypt, followed by Nigeria, while Algeria slots in third, and South Africa is fourth.



