Austria: Heat Pump Market Report

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The historical development of the heat pump market shows an early phase of technology diffusion in the 1980s, mainly heat pumps for water heating, followed by a significant market decrease in the 1990s and a strong market diffusion starting from the year 2001, now mainly heat pumps for space heating.

From 2001 onwards, the diffusion of heat pumps for space heating coincided with the introduction of energy-efficient buildings with low heating energy demand, which offered good conditions for an energy-efficient and economically attractive operation of heat pumps. This is due to low-temperature needs in heating systems and low specific energy consumption for space heating.

The total sales volume of heat pumps (domestic market plus export market for all uses and power classes) increased in 2021 from 50,210 units sold in the previous year to 57,399 units. This corresponds to a growth of 14.3%. Growth was observed mainly in the domestic market (+21.6%) but also in the export market (+1.9%). Strong growth was particularly noticeable for heat pumps for space heating in the domestic market in all power classes up to 350 kW. Domestic hot water heat pumps showed an increase of 9.3% in the home market and an increase of 23.4% in the export market.

In 2021 the Austrian heat pump sector (production, trade, installation and monetary value of heat) had an amount

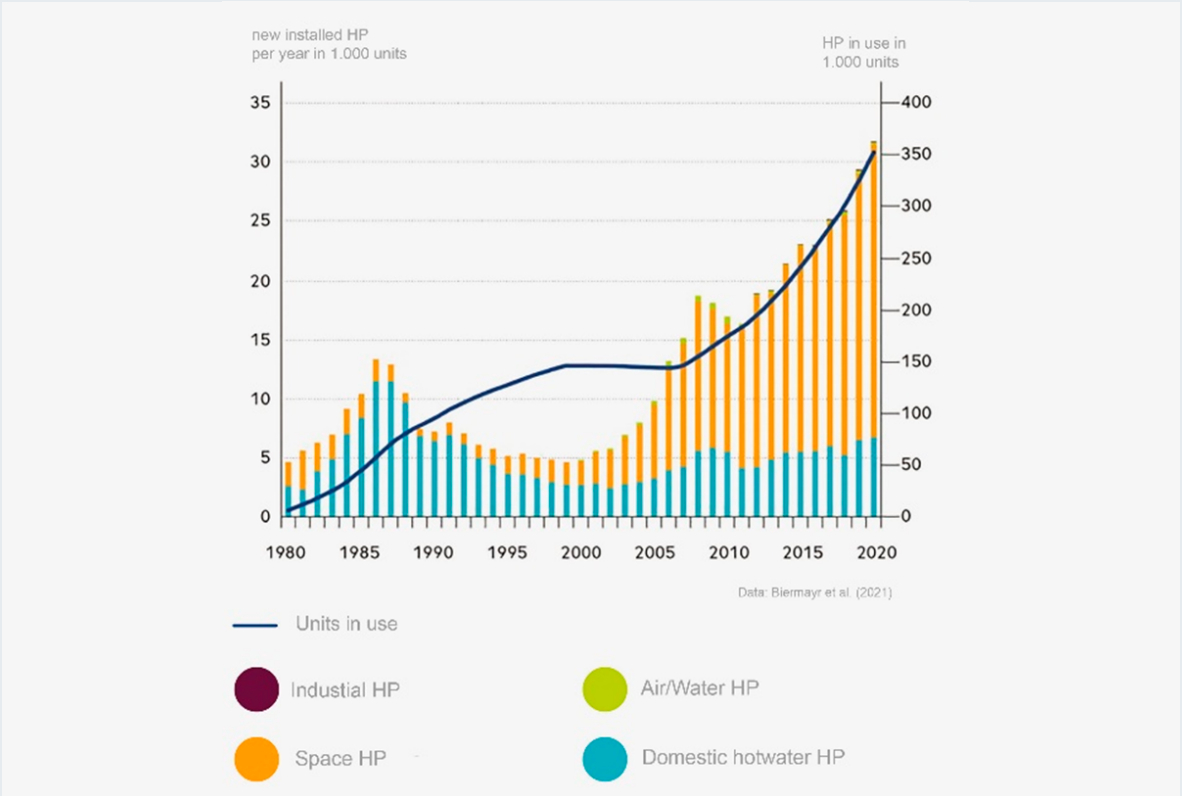

Figure 1. All new installed heat pumps per year as well as all heat pumps in use since 1980 in Austria. Data: Biermayr et al. (2021)

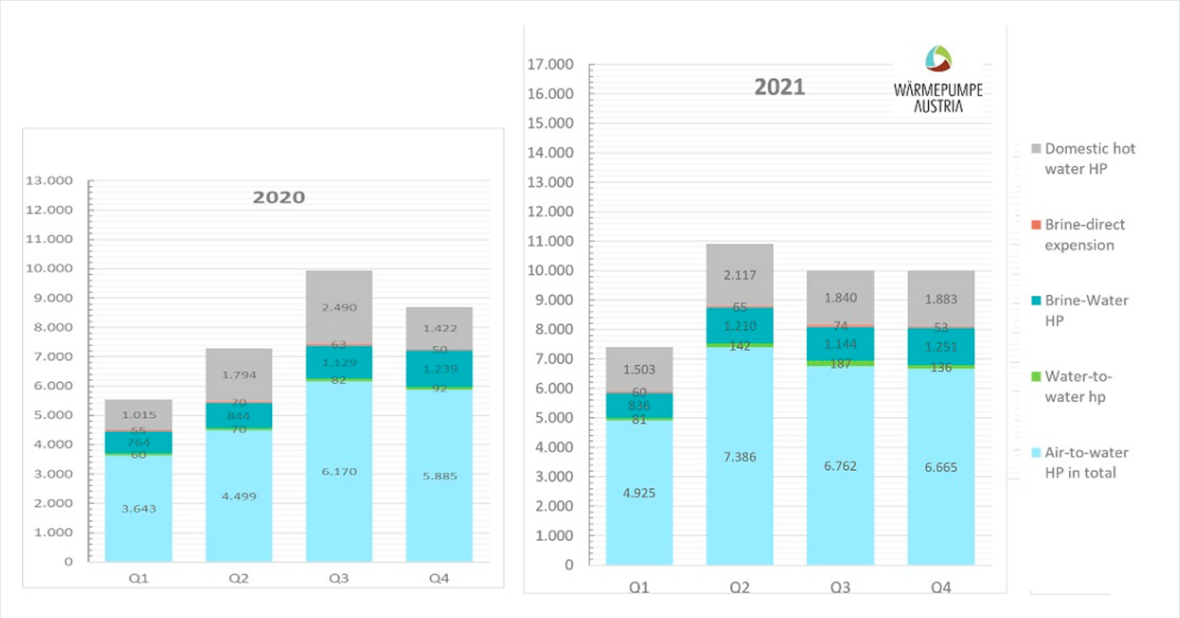

Figure 2. Quarterly sales of all heat pump types. Reference: Marketdata 2021, Business Association Wärmepumpe Austria

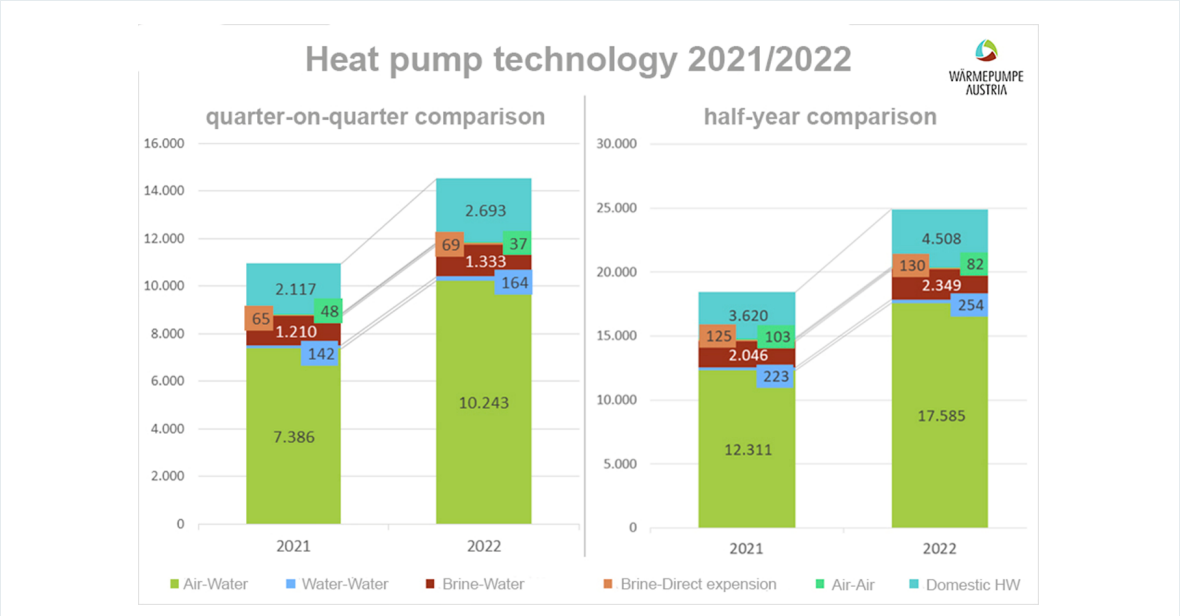

Figure 3. Sales figures for all types of heat pumps as well as the development from 2021 to 2022 in the first half-year. Reference: bmk – Österreichische Technologie-Roadmap für Wärmepumpen, 2021, P. Biermayr

of total sales of 1,015 million Euros and 2,160 full-time jobs. The percentage of the export market was 32.8% in quantity of the total sales in 2021 and, therefore, a little lower than in the previous year. Due to the existing heat pump stock in Austria, about 872,384 tons of CO_2equ of net emissions could be avoided in 2021.

Presently research and development of heat pump systems focus on innovative installations combined with other technologies: e.g. solar thermal systems or photovoltaic systems, new energy services such as air-conditioning, space cooling, or applications in the context of renovating buildings in regard to humidity problems. The range of innovations is completed with the use of heat pump technology in smart grids.

Market scenarios till 2030

The market scenarios developed are based on findings from finished research projects, analysis of the historical market development, and results from the series of expert workshops held. They are presented for the different heat pump types and capacities as yearly sales

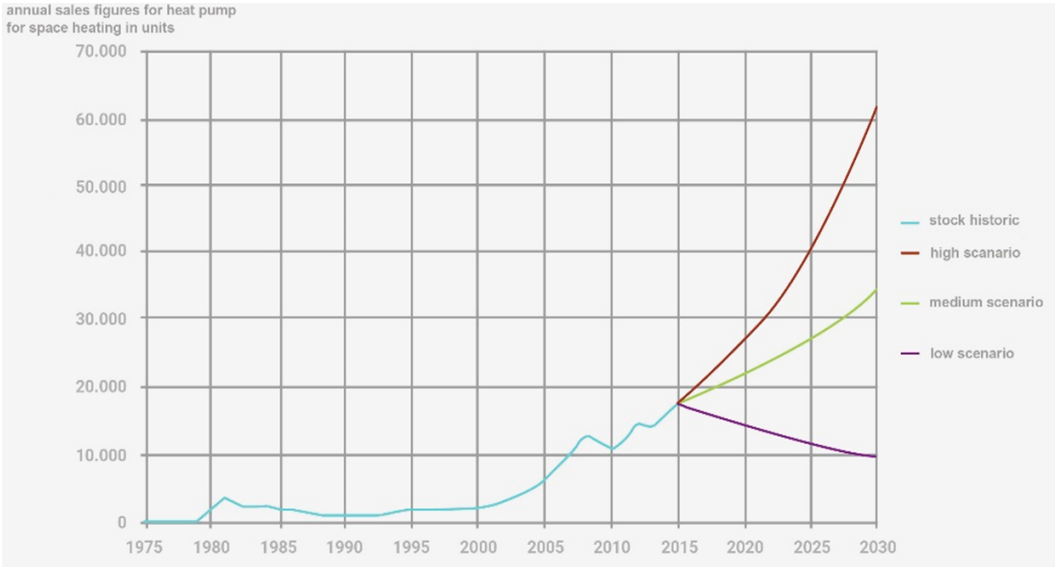

Figure 4. Results of the scenarios up to 2030 for the aggregate of the heat pump for space heating (all power classes). Shown are the annual sales and the number of systems in operations.

numbers and numbers of heat pump systems in operation for the period 2015 to 2030 quantitatively and qualitatively. For each heat pump type and capacity range, three scenarios – low, medium, and high – were developed.

The distribution of heat pumps for space heating (H-HP) onto the two capacity ranges up to 10kW and from 10 to 20kW will depend on the quality of thermal renovation work undertaken till 2030. In case the average quality of the renovation is high, the lower capacity range will dominate. If the quality of the renovation is low, the higher of the two capacity ranges will profit. The future sales figures of heat pumps for space heating will mainly depend on how heat pumps will be recognized as sustainable heating systems in the refurbishment segment, on how the challenge of noise emission of air/water systems can be overcome, and how the exogenous factors such as the prices for heating oil or natural gas will develop till 2030. According to industry experts, the influence of national market stimulating programs will decrease. In 2015, two of three heat pumps were sold without state subsidies.

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