



# The Market For Heat Pumps Is Heating Up

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## Key Insights

- *Heat pumps are available in over 30 countries which collectively constitute more than 70% of global heating demand for buildings.*
- *Despite this, heat pumps currently only represent approximately 13% of all heating systems in Europe and around 5% in the US, indicating significant growth potential.*
- *We find the investment theme interesting and have portfolio positions in some of the big players in the market.*

Financial incentives for new heat pumps are now available in over 30 countries, primarily in Europe and North America. Collectively, countries subsidizing the purchase of new heat pumps make up more than 70% of global heating demand for buildings<sup>1</sup>. However, heat pumps only make up an estimated 13% of all heating systems installed in Europe and around 5% in the US, indicating the potential runway for growth is long<sup>2</sup>.

*“In recent years, the growth of the heat pump market has accelerated.”*

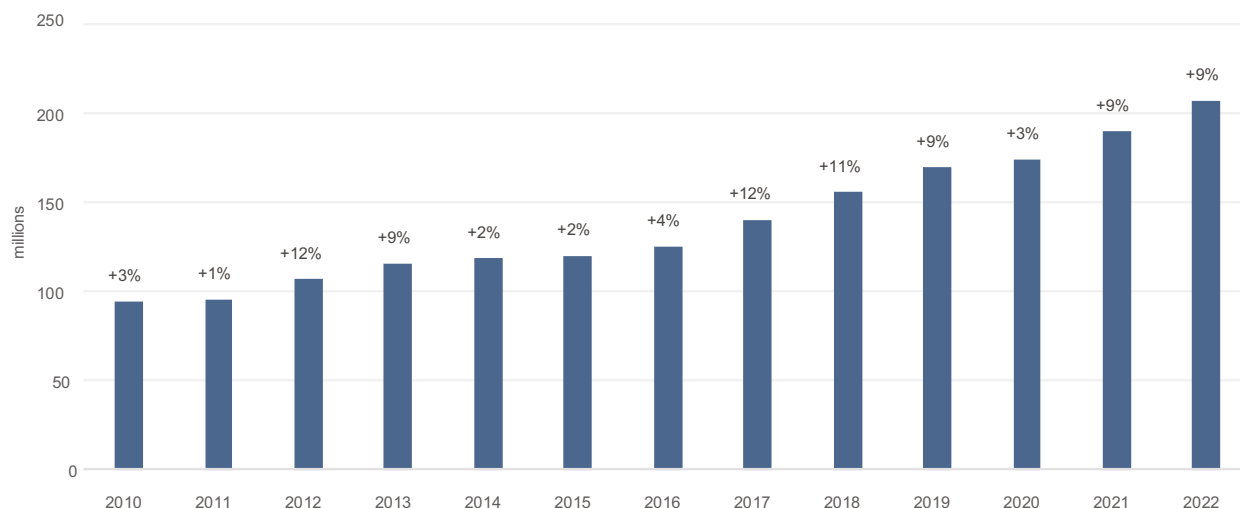
In recent years, the growth of the heat pump market has accelerated. Figure 1 shows the development in installed heat pumps. We attribute this to several factors: increasing environmental awareness, more generous subsidies, and higher gas prices (especially in 2022).

*“Any government serious about its climate targets must address it.”*

Growth may moderate in the coming years, as some countries’ subsidy schemes have been slightly reduced and gas prices have come off their peaks. For example, Bank of America expects the growth in new installations in Europe and the US, which together make up 65% of the market<sup>3</sup>, to decline to 3-4% in 2023-2024, compared with a 20-21% increase in 2021-2022.

However, the main driving force is still in play – heating of buildings typically accounts for 15-20% of CO<sub>2</sub> emissions in countries with cool climates<sup>4</sup> meaning that any government serious about its climate targets must address it.

Figure 1  
**Heat pumps installed globally and y/y growth**



Source: IEA, October 2023.

1 Source: IEA (*The Future of Heat Pumps*) as of November 2022  
 2 Source: EHPA (*Market data - The european heat pump market*) as of June 2023  
 3 Source: IEA (*Heat pump capacity in buildings by country and region in the Announced Pledges Scenario*) as of November 2022  
 4 Source: Catapult Energy Systems (*A Guide to Decarbonisation of Heat*) as of November 2023

## Market landscape

The heat pump market is highly fragmented. There are many local and regional players, and although larger companies have a global presence, heat pumps typically constitute a fraction of their total revenue (making market shares hard to gauge).

Carrier, which we own in our Global Equities portfolio, is an example of one of these large companies. In 2022, Carrier generated USD 20bn of revenue whereas USD 4bn was attributable to heat pumps. That makes Carrier one of the larger players in the heat pump market. Yet, its market share is only an estimated 2.5%. However, it should be noted that certain markets, e.g. the United States, are less fragmented. Here, Carrier's market share is likely above around 10%.

In our Sweden Equities and Nordic Equities portfolios, we are invested in NIBE, which has a strong foothold in its home market (Sweden), but also a solid market presence in Germany and many other European countries as well as in North America.

Other large companies active in the heat pump market are Bosch, Daikin, Johnson Controls, Mitsubishi, Panasonic, Stiebel, and not least Viessman, which is about to be acquired by Carrier.

Carrier's acquisition of Viessmann highlights another market trend, namely consolidation. This trend has been accentuated in recent years as market growth has increased. Acquisitions primarily occur for two reasons: cost synergies and expansion of product portfolios.

## How heat pumps work

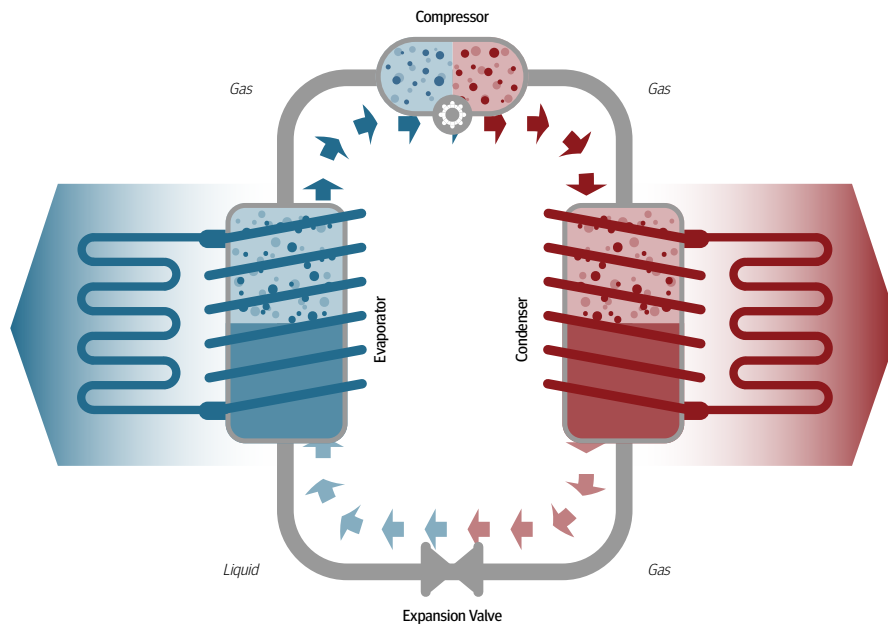
Read about heat pumps online and you will find that they generate 3-4x as much energy as they consume. That may seem like a violation of the laws of physics, but it is not:

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*“Heat pumps defy physics, generating 3-4x more energy than they consume.”*



Figure 2  
**Heat pumps in action**



Source: Mesh Energy, October 2023.

heat pumps do not generate heat – they merely move heat from one place to another.

**How they work – see figure 2:**

- A special liquid (in a pipe) is heated by the surrounding air/ground/water so that it turns into gas.
- The gas is compressed, which raises its temperature (just like how a manual bicycle pump gets warm when used).
- Heat from the gas is transferred to e.g. water in radiators via a heat exchanger.
- The now-cooler gas is decompressed, which cools it further and turns it into liquid again.

The energy in the heat moved around in this system is far greater than in the electricity needed to power it. That is why heat pumps are said to have an efficiency ratio of 300-400%.

The process described above can also be reversed, allowing the heat pump to be used for cooling (a small heat

pump cools your fridge and freezer!). The technology is thus more versatile than its name suggests.

**The economics of heat pumps**

Heat pumps are reasonably simple systems. Yet, they are more complex than traditional oil and gas boilers and therefore more expensive. The cost of a gas boiler for an ordinary house may be EUR 2,500, while the equivalent heat pump may cost EUR 10,000.

However, since gas boilers generate heat, they are bound by the laws of physics – their efficiency is typically 90-95%. The EUR 7,500 price difference can thus be recouped because the cost of the electricity needed to run a heat pump is typically lower than the cost of the gas that fuels a boiler.

In figure 3, on the following page, we illustrate how the choice between a heat pump and a gas boiler may be

Figure 3  
**Gas price in relation to electricity price**



Source: Bloomberg as of October 2023. Calculations exclude taxes and levies and are therefore approximate.

affected by the prices of electricity and gas (in continental Europe).

Heat pumps have a life expectancy of around 20 years (gas boilers slightly less). As indicated in the chart above, that is not necessarily enough to make it a good investment. However, many governments subsidize heat pumps since they, unlike gas boilers, emit no CO<sub>2</sub>. For instance, Germany, provides subsidies corresponding to between 30% and 70% of the heat pump cost. With a 30% subsidy, the 31-year payback time indicated in the chart above is shortened to 18 years, and with a 70% subsidy, it becomes a mere two years.

## Conclusion

In addition to Carrier and NIBE, we own the heat pump makers Amber (Asia, Emerging Markets, and India portfolios) and Daikin (International Equities portfolio). They are also relatively large players in the heat pump market.

We think the large players are best positioned to deal with bottlenecks caused by the strong growth, such as a shortage of skilled labour (for the installation of heat pumps). They are also more likely to drive and benefit from the consolidation within the industry. Finally, the larger players, with their well-known brands, may have better chances of fighting off new competitors that are emerging in the wake of accelerating market growth.

However, the main attraction of companies active in the heat pump market is that they can help reduce CO<sub>2</sub> emissions associated with the heating of buildings. In many cases, heat pumps are the only viable option for doing so and that is why this technology enjoys such strong support from governments all over the world.

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