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National Market

Netherlands: Heat Pump Market Report

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The 2024 calculation of the expected reduction of CO2 emissions in the Dutch built environment in 2030 is 48% compared to 1990. The reduction of emissions between 2023 and 2030 is mainly due to improved insulation and expansion of the installed base of heat pumps. The chance of meeting the required emissions reduction of 59% in 2030 in this segment is estimated at 10%. However, the sector's target thus requires a step up of another 11% points.

Introduction– The Role of Heat Pumps in The Energy Transition

Public policies across the globe are stimulating heat pumps to replace natural gas boilers as they deploy (renewable) electricity with a high efficiency: the ratio of useful heat versus the primary electrical energy used, the so-called coefficient-of-performance (COP), generally is in the range of 3-6 and may be even higher with relatively high-temperature thermal sources such as shallow geothermal systems - aquifer or borehole thermal energy sourced heat pumps. The Netherlands' subsoil is particularly suitable for the latter. The share of electricity production from renewable sources in the Netherlands in 2024 was 53% [1], thus rendering heating by heat pumps in the range of 84% to 92% sustainable. Since the ban on new gas connections in 2018, heat pumps in the Netherlands have been the standard for individual heating (and cooling) systems in new dwellings, having a market share of 75%. This technology is gradually on its way to also become the standard in renovations, with a growing progressively yet fluctuating market share in gas-boiler replacements ranging from 13 to 24% in recent years.

This article describes the recent history, current status, and near-term outlook for the Dutch heat pumps market development.

Dutch Heat Pumps' Market Developments

Heat Pumps in Residential Buildings

The Netherlands currently has some 8.2 million individual homes [2], of which in 2024, some 700.000, 1 in 12, deployed an individual heat pump. The market share of individual heat pumps in newly built dwellings is 75% on average, just over 70.000 new homes yearly.

The Dutch government's ambition is to raise new build dwellings to 100.000 annually. Public energy transition goals aiming for 1,5 million heat pumps in dwellings in 2030, depend mainly on renovations, targeting at least 1 million (hybrid) heat pumps, which should replace natural gas boilers in existing dwellings by 2030. Whilst the renovation market grew rapidly in 2022 and 2023, 'helped' by extremely high natural gas prices and a generous subsidy scheme, the market declined by 30% in 2024 from a combination of factors, including relatively low and relatively stable natural gas prices, political uncertainties, and fear of electricity grid congestion.

Heat Pumps in Commercial Buildings

Whilst the total amount of space to be climatised more sustainably is in the same range as the overall domestic buildings' supply, the current growth rate of heat pumps in commercial buildings' renovations is much smaller than in residential buildings. The heat pumps market for non-residential, i.e., commercial, buildings shows different dynamics. Policy targets and instruments are less specific than for residential applications. Three different financial schemes are the 'carrots' aimed at stimulating owners. Legally required reporting of a commercial building's energy performance, combined with mandatory measures having a payback time of less than 5 years, forms the 'stick' forcing renovations. Indoor climate control systems in commercial buildings require more one-off specific designs and are thus generally less standardized, contrary to dwellings' installations.

In 2024, the installed base of heat pumps [3] in the Netherlands, the number reached 752.000 [4] with a total installed thermal capacity of 6,9 GW. Out of this, 702.000 or 93% of the number of heat pumps were in residential and 50.000 or 7% in the utility sector, as presented in Figure 1.

***Figure 1*: Total number of heat pumps in the Netherlands (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)**

After a decade of structural increase in the sales of heat pumps in the Netherlands, reaching 179.000 for both residential and commercial buildings in 2023, the overall sales in renovation plus new buildings decreased by 30% to 125.000 in 2024, as shown in Figure 2.

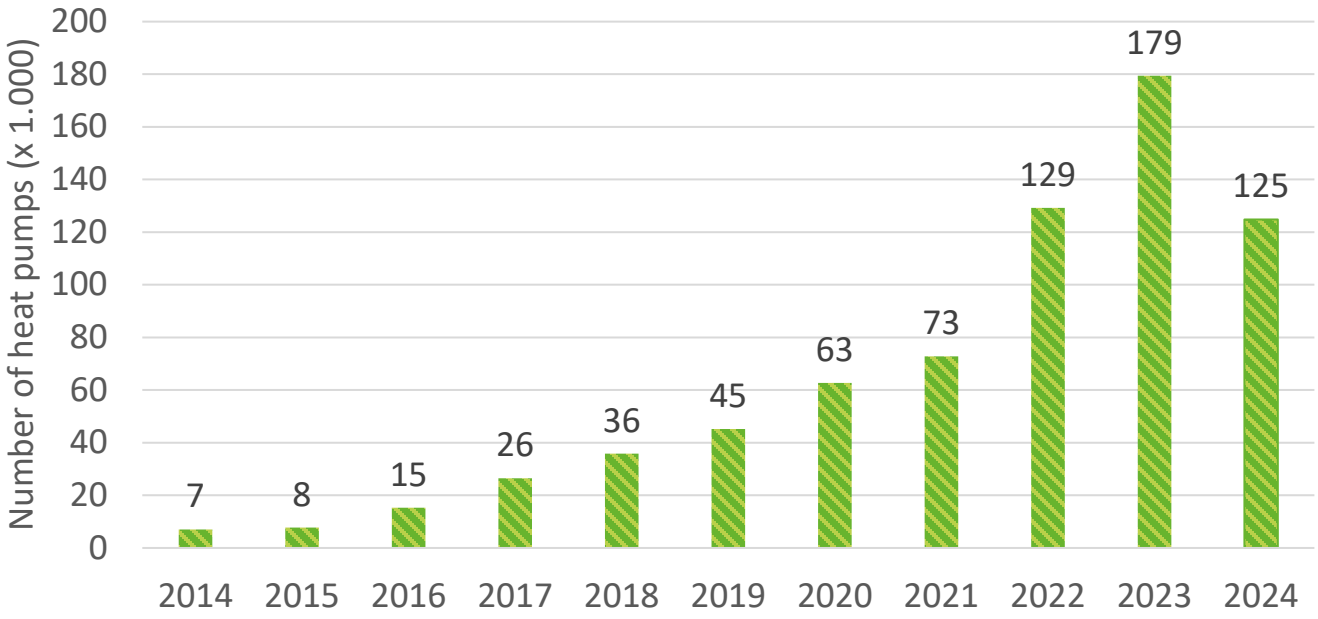

***Figure 2*: Annual sales of heat pumps in the Netherlands (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)**

But this decrease was not consistent in all sectors. As can be seen in Figure 3, the annual added capacity in the residential sector decreased by 31% from 923 MW in 2023 to 637 MW in 2024, while the added commercial scale capacity decreased by only 12%, reaching the capacity of 417 MW.

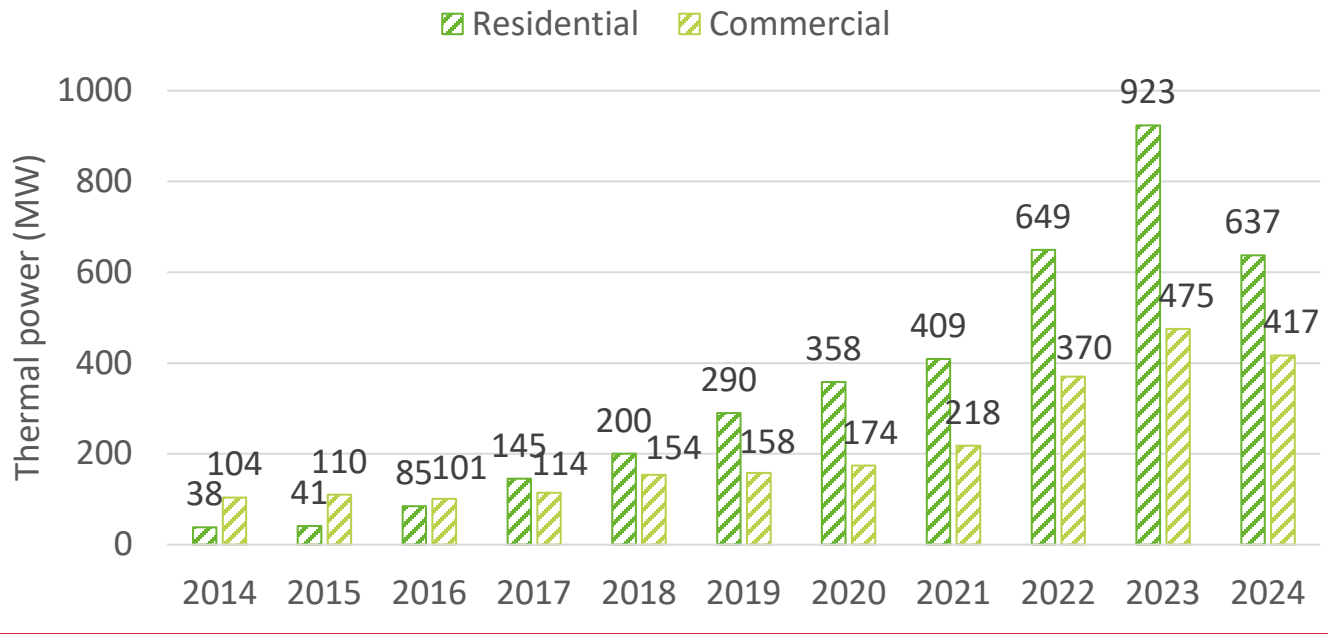

Figure 3: Annual added capacity of heat pumps in the Netherlands (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)

Air Conditioners

Contrary to heat pumps, Figure 4 shows that the air conditioners' market has remained at a similar level since 2020. Until 2019, the sales of air conditioners in the Netherlands were very limited, slowly growing to 121.000 in 2019. However, there has been a sudden increase in sales of more than 250.000 units per year since 2020. This was most probably triggered by a period of a couple of heat waves, but the continuation of this phenomenon is also in relation to the high share of solar energy in Dutch power demand (18% in 2024) [5] and the fact that due to local congestion, the owners of PV systems faced curtailments, especially during the summer period. Since the demand for cooling coincides with the peak of power generation from solar panels, which can't all be delivered to the grid, many people decided to invest in air conditioners and use their own electricity for cooling. Consequently, these homes are now also equipped with a system that can provide them with heat during the winter period. Depending on their needs, this can mean a partial, but also possibly complete coverage of heat demand, especially in homes where bedrooms are not being heated. In 2024, the sales of air conditioners reached 268.000 units.

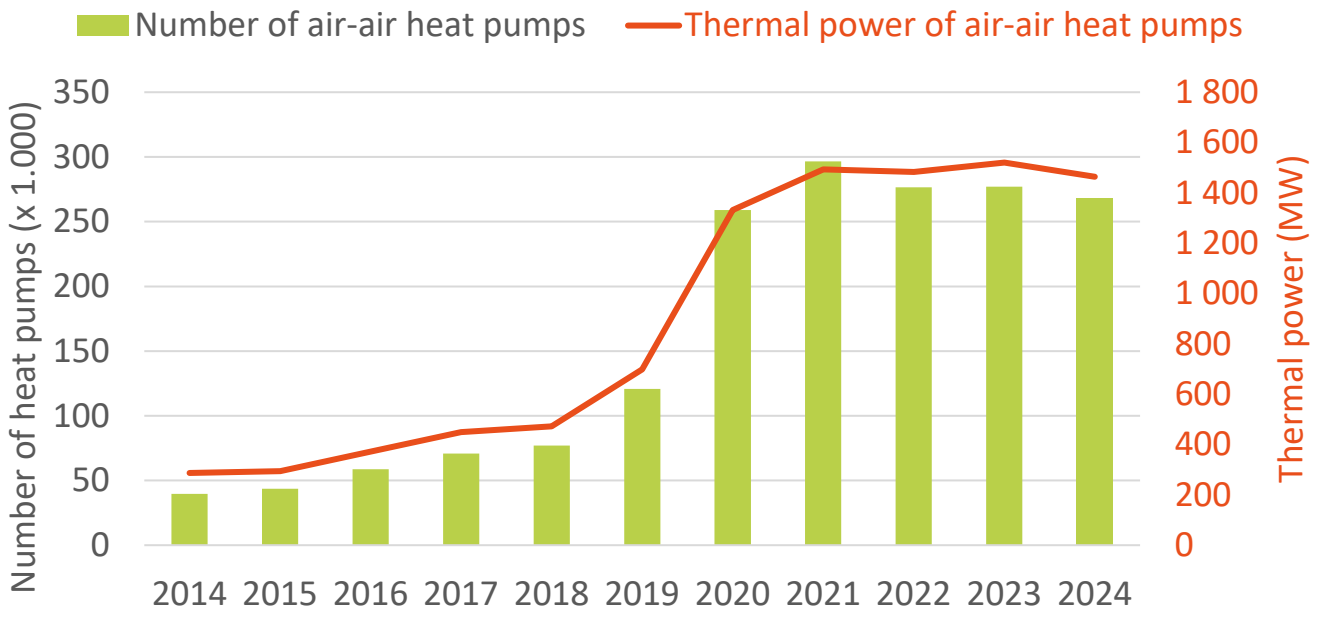

Figure 4: Annual sales of air conditioners in the Netherlands (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)

Economic Figures

As expected, since the sales of heat pumps in the Netherlands decreased by 30% in 2024, the imports, shown in Figure 5 have also decreased by a similar ballpark figure of 34%, reaching the value of 231 million EUR. Leading importing countries were South Korea, China, and Sweden, together covering 53% of the imports. It is also interesting to note that the imports of heat pumps from other EU countries covered 60% of Dutch imports (139 million EUR).

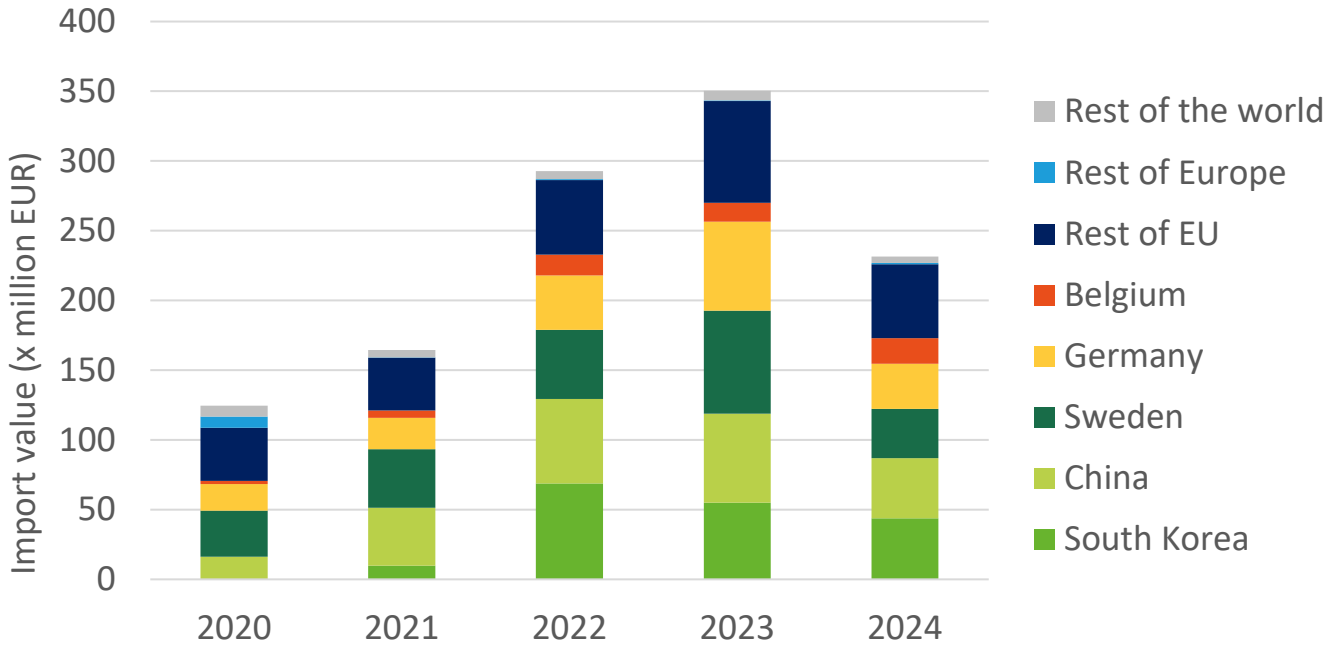

Figure 5: Imports of heat pumps to the Netherlands (Source: Primary Access DNE Dashboard)

Figure 6 presents the exports of heat pumps from the Netherlands, covering 37% of imports (86,2 million EUR in 2024). The decrease in exports by 40% clearly indicates that the Dutch heat pumps sector didn't manage to cover the losses in the domestic market by exporting to other markets, neither in nor outside Europe. The largest exporting markets were Germany, Belgium, and the UK, covering 55,1 million EUR or 64% of exports. And the exports to the common EU market were at the level of 73,8 million EUR, covering 86% of all exports of heat pumps from the Netherlands.

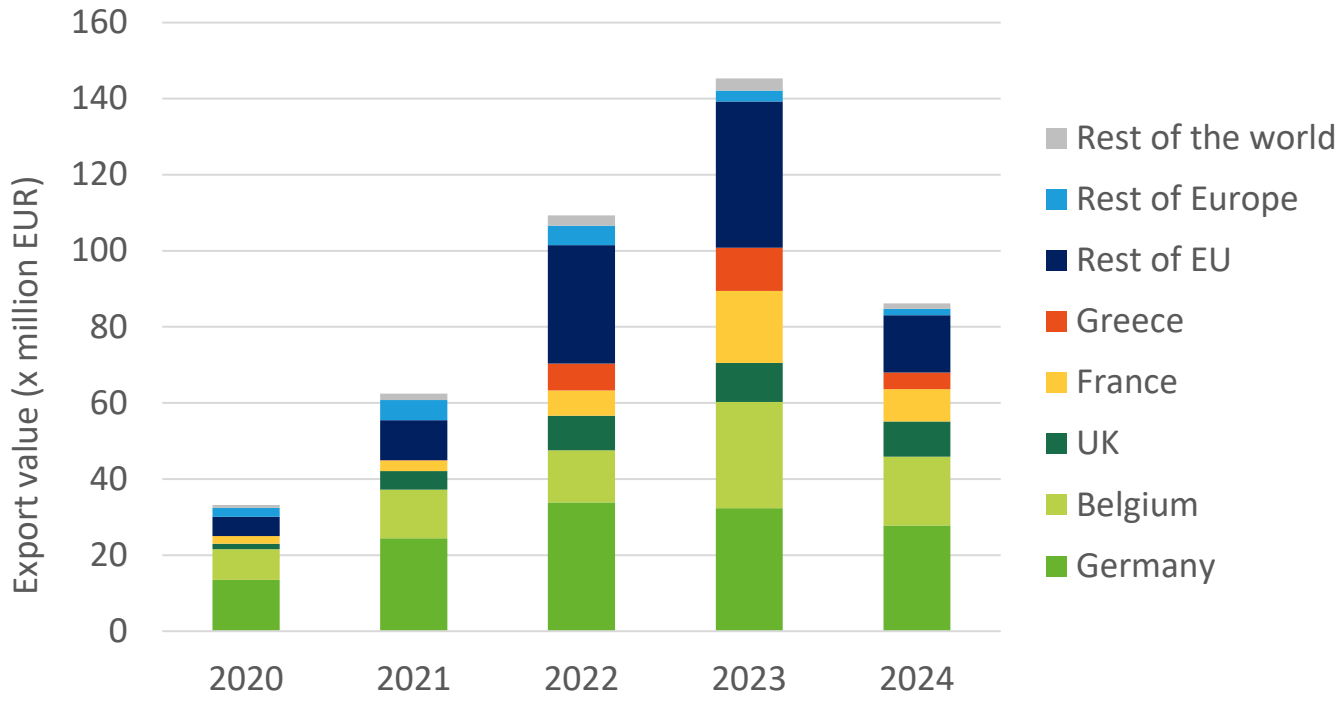

Figure 6: Exports of heat pumps from the Netherlands (Source: Primary Access DNE Dashboard)

Bumpy Ride For Heat Pumps

When examining the reasons for the decrease in sales of heat pumps in 2024, one needs to take into account that the market partly behaved in line with many other markets Europe-wide, as shown in the analysis of imports and exports. But the heat pump sector in the Netherlands also faced changes in energy policy, which had an additional direct impact, as presented in Figure 7. Compared to 2021, in 2022 and 2023, there was an annual increase of sales of heat pumps at the level of 50.000 per year. The announcement in 2022 of a ban on sales of gas boilers from 2026 resulted in a decrease in sales of gas boilers by around 100.000 in 2023. But the new government cancelled the decision to ban the sale of gas boilers and also announced the plan to stop the net metering in 2027. This resulted in a decrease of sales of heat pumps by 50.000 and an increase of sales of gas boilers by almost 100.000, bringing to increase of sales of all heating devices by 50.000 in 2024. The additional increase in sales of gas boilers could be explained by the fear of inconsistencies in energy policy. The sales of air conditioners remained at a similar level during the observed period.

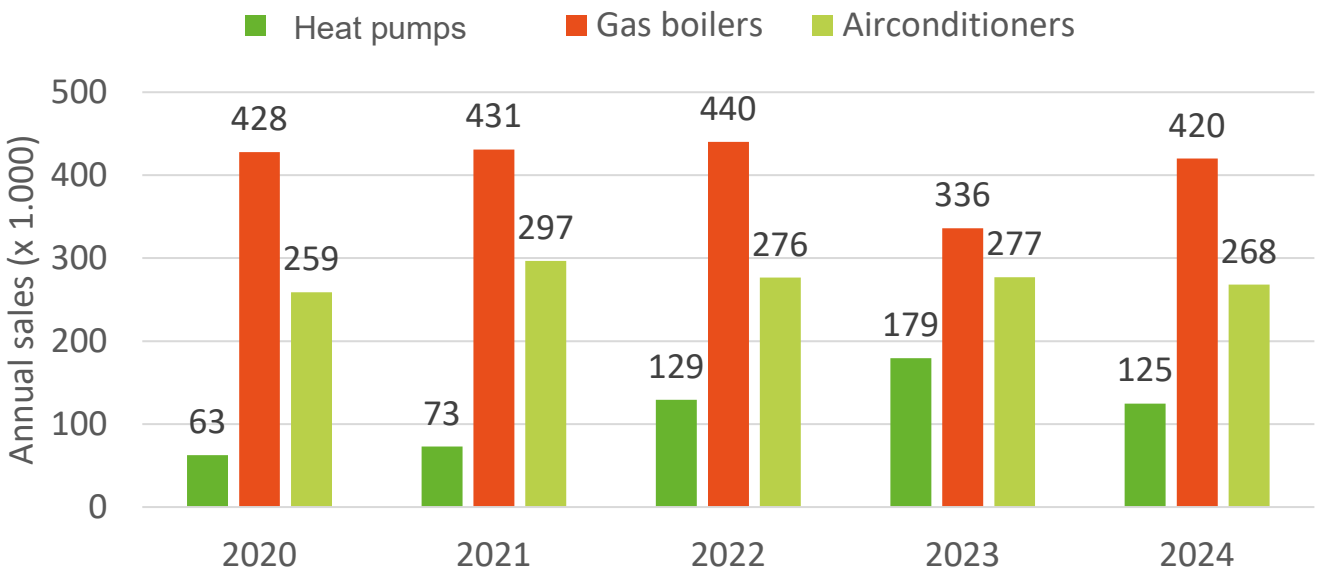

Figure 7: Inter-relation of sales of different heating devices in the Netherlands (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)

Dutch Electricity Grid Capacity a Prerequisite

Virtually all global regions are increasing renewable electricity production and are expanding electrification at the expense of fossil fuels' use. In the Netherlands, the electricity grid capacity in existing dwellings' districts is limited to 1,5-2 kW average simultaneously because of the country's own historical natural gas stocks. Currently, the national electricity grid's capacity has started to be a limiting factor for increasing the deployment of heat pumps. Whilst the TSO's and DSO's plan to expand gradually the electricity grid's capacity over the next decade, the sector is challenged to enable heat pumps' flexible electricity demand to help shift demand peaks in order to reduce grid congestion as part of a public-private National Action Plan. One reason why hybrid heat pumps – a combined gas-boiler and an air-water heat pump - have a relatively large share of over 60% of all heat pumps in residential renovations in the past two years, as shown in Figure 8, overall, hybrid heat pumps comprise some 38% of annual sales of heat pumps.

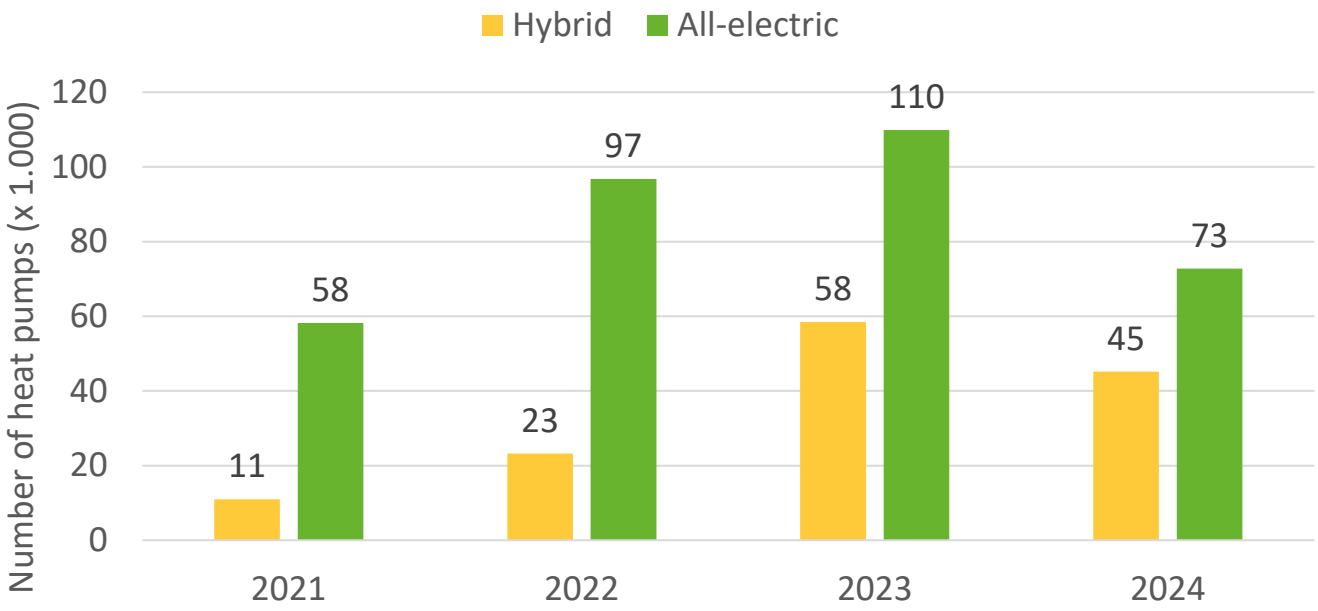

Figure 8: Annual sales of residential heat pumps in the Netherlands by energy source (Source: Nationaal Warmtepomp Trendrapport 24/25, DNE Research)

Outlook

At the end of the year 2024, some 1 in 12 dwellings in the Netherlands were equipped with a heat pump. The Dutch infrastructure and sector are excellently positioned to expand the installed heat pumps' base to meet the 1 in 5 target in 2030. Air-sourced heat pumps are a global default option. Dutch sub-soil is particularly suitable for shallow geothermal-sourced heat pumps. And the (natural) gas grid provides for hybrid heat pumps as a no-regret intermediate step for many building owners. Current market development trends are, however, insufficient to meet that target, so a step up is required, demanding consequent public policies and policy instruments in addition to the sector's commitment and ambition. If current trends in the sales of heat pumps in the Netherlands continue, it is expected that the sales of heat pumps will remain at the level of 120 thousand heat pumps per year until 2030. Still, in order to satisfy the target of the Dutch government of 1 million installed (hybrid) heat pumps in existing dwellings by 2030, the sales should increase more than 3 times by 2030. The national public-private action plan for residential heat pumps 2025-2030 facilitates further market growth and heat pumps' flexibility in the current capacity-limited electricity grid.

References:
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[2]. StatLine - Voorraad woningen en niet-woningen; mutaties, gebruiksfunctie, regio
[3]. Excluding air conditioners.
[4]. Source: Dutch Heat Pump Association.
[5]. Source: Nationaal Solar Trendrapport 2025, DNE Research

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