

Market Report: Sweden

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Ever since 2008 the Swedish market for the heat pumping technology has steadily increased and is estimated to account for an annual sale of approximately 16 000 MSEK or 1500 MEUR in 2018 (1 EUR equals 10,5 SEK). The business can be divided into three segments: Air Conditioning 4 000 MSEK, Industrial/Commercial 4 700 MSEK, Heat Pumps 7 300 MSEK. Going from "busy", some ten years ago passing "hands full", the Swedish market situation since a couple of years can be defined as overheated. Contractors, mainly within refrigeration and air conditioning are overloaded with work, and there are no signs of any slowing down. On the contrary, the forecast for coming years indicates continued increase in sales within all segments. The largest challenge for all companies is the difficulty in finding and recruiting competent personnel. This goes for all types of professions, from management via white collar to service technicians.

Introduction

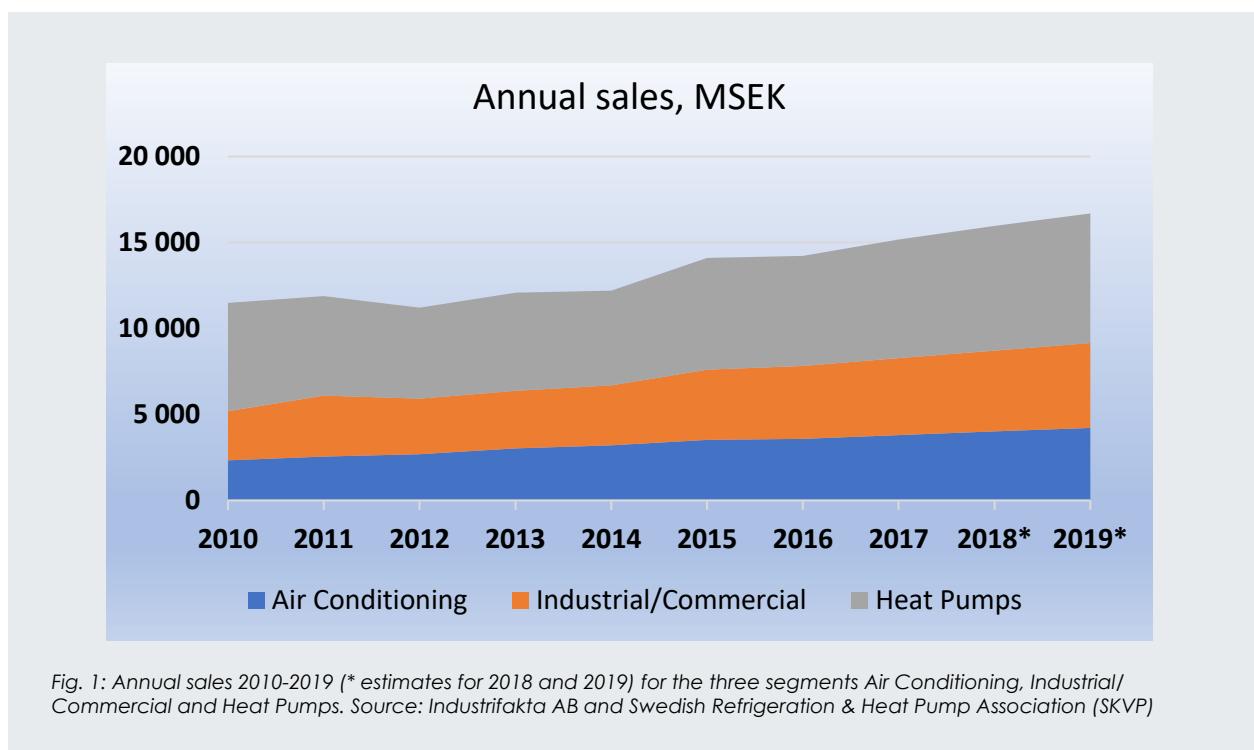
The Swedish RACHP market has been growing steadily for several years (Figures 1-4). Market drivers differ between on the one hand refrigeration and air conditioning (RAC), and on the other hand heat pumps (HP). The growth in the Swedish RAC business is influenced by two main factors: the F-gas Regulation and people's desire and financial capability for improved comfort and "luxury". For the HP industry, the influencers are cost and energy savings, and the construction of new houses and buildings.

The RAC business

In the past considered an unnecessary luxury, air conditioning in Sweden nowadays is more seen as a necessity. Last summer, with the highest temperatures ever reported for 260 years, clearly showed the consequences of bad air handling. Numerous incidents were reported, such as:

- destroyed and wasted food for millions of SEK, only for one single supermarket, due to insufficient and badly maintained cooling and freezing equipment. Something that happened all over Sweden, from south to north;
- hospitals (several) that had to cancel or postpone surgery due to condensation of water on surgery equipment;
- district cooling plants not able to meet capacity demands, ending up in sectional shut down of clients.

There are numerous examples. Therefore, the interest in AC and planning for installations or upgrades are steadily growing. This definitely will have a positive impact on future sales.



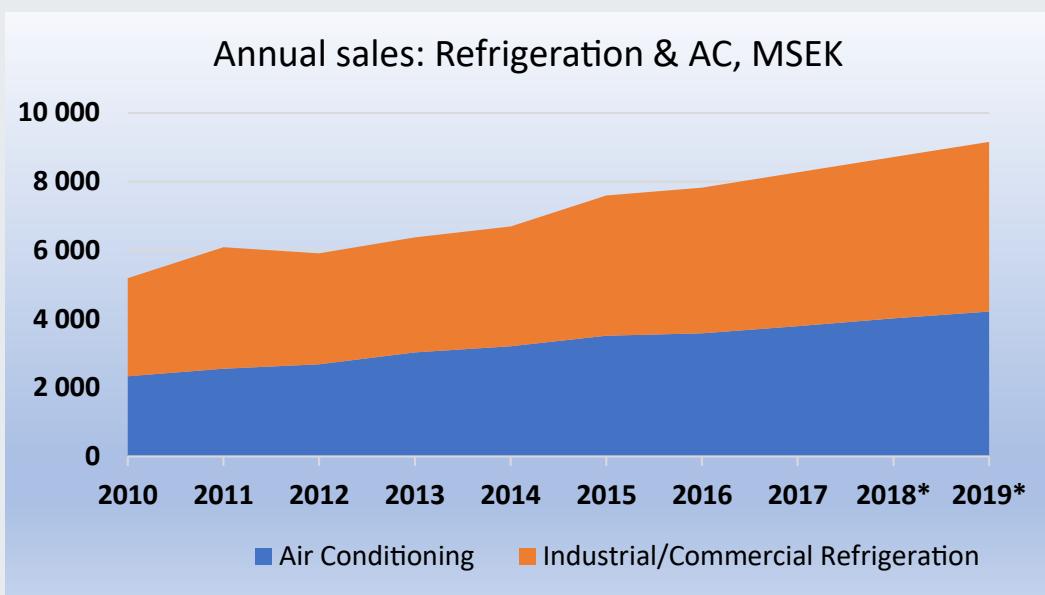


Fig. 2: Annual sales 2010-2019 (estimates for 2018 and 2019) for Air Conditioning and Industrial/Commercial Refrigeration.
Source: Industrifakta AB

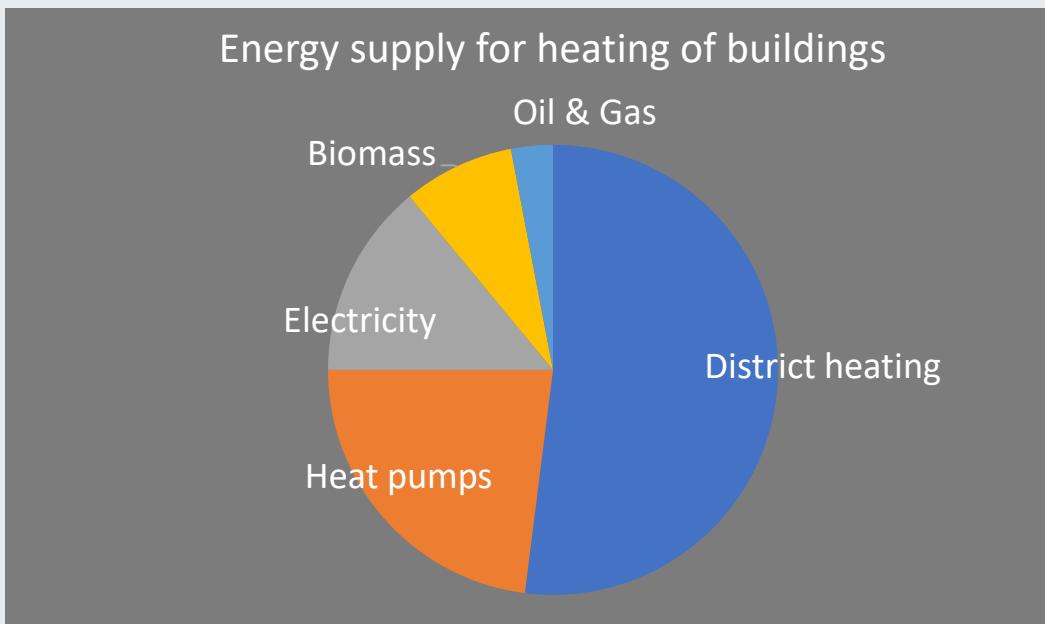


Fig. 3: Energy supply for heating of buildings in Sweden 2012. Source: Profu, Värmemarknad Sverige

The impact of comfort need, or "luxury behavior" is also seen within the commercial segment. A trend, not specific for Sweden, is that people have less time to spend on their household. Instead, individual "quality time" is highly valued. At the same time wealth is increasing, enabling a larger group of people the opportunity to a more "luxurious" lifestyle. As a consequence, air-conditioned or chilled areas and display cabinets for ready meals and pre-prepared foods are growing, resulting in the demand for more cooling and freezing equipment and larger cooling capacities. Also, the business for home deliveries is increasing, as are these companies' cold store facilities and distribution services.

The industrial refrigeration sector shows a more stable market. Growth is mostly seen in areas such as data centers, ice rinks and distribution centers, but in a more moderate pace.

Finally, the F-gas Regulation has, since it went into force in 2015, had a great impact on the whole sector, and will have for many years to come. Numerous are the plants and systems that need to be replaced, rebuilt or converted to new low-GWP systems and refrigerants.

As a result, the RAC business in Sweden has grown steadily by approximately 70% between 2010 and 2018.

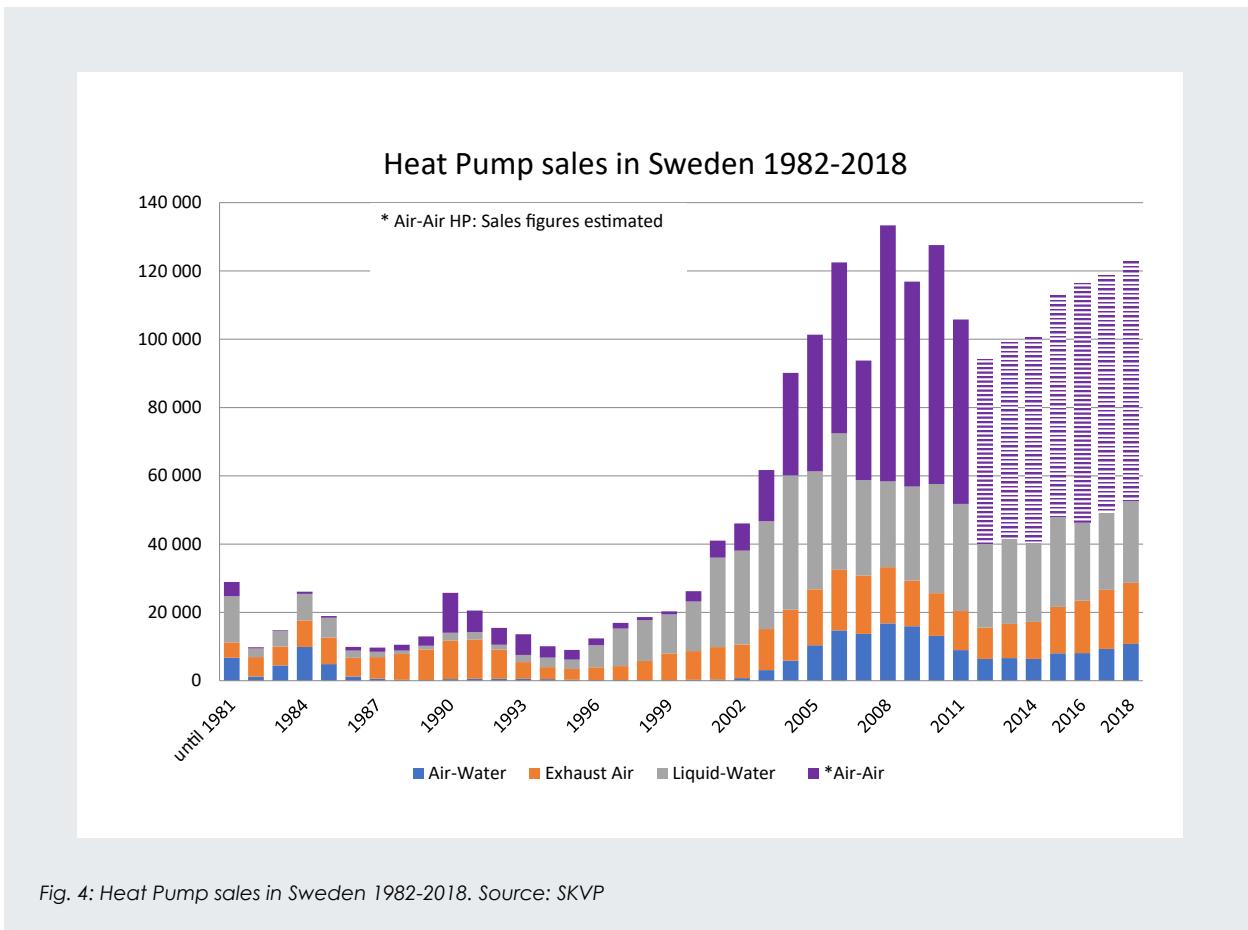


Fig. 4: Heat Pump sales in Sweden 1982-2018. Source: SKVP

The forecast for the next few years is that this trend with an annual growth of 5-7% will continue.

The HP business

The main reason for installing a heat pump (HP) is to save money. As a consequence, factors that influence this market differ completely from those for the RAC market. While the RAC technology is a "necessary evil" in order to operate your business, HPs have to compete on commercial conditions with gas or biomass boilers and district heating. Some examples of key arguments are "cost efficiency", "simplicity" and "reliability". Nowadays, also words like "sustainability" and "environmental friendliness" are of interest for potential customers; all "buzzwords" in favor of HPs.

A difference between the countries Sweden, Denmark and Finland compared to many other countries is the very large market share of district heating (DH) for heating of buildings. This, together with the unique position of HPs, makes the Swedish heating market rather special, with DH as the definite market leader with 53% of the market, followed by heat pumps with 22%.

Sweden is by far the country with highest numbers of HP installed per capita in the world (air-air HP excluded). With approximately 1,5 million heat pumps in operation (all types included), every second single-family house has some kind of heat pump installed, and for new constructions exhaust air heat pumps are considered as default. The contribution from HPs for heating of buildings is estimated to around 30 TWh annually.

After a significant reduction in 2011 and 2012 sales have increased every year and has now reached approximately 120 000 units per year, as shown in Figure 4. While ground source HP have been stable in sales, particularly exhaust air HP have had a very positive development during the last five years. The reason for that is the increased number of new construction of single-family houses. Almost all developers have this type of heating solution as their first choice.

Price level

Every year SKVP conducts a survey among its contracting members, Pulsen (the Pulse). The full report is available in English at <https://skvp.se/aktuellt-o-opinion/statistik/pulsen/2018-eng>

Figure 5 shows the reported total cost, VAT included, for a complete installation of various types of heat pump systems. Notable is the very small price increase shown for the period 2010 to 2018.

From an international point of view, the installation cost for, especially, ground source heat pumps has to be considered as very low. The main reason for these low prices is the industrialized way of performing the contracts. Installers together with borehole drillers form contracting teams executing only this kind of project – day after day.

Another question in the Pulsen survey for what reason the heat pump system was installed. Of special interest are the trends for "oil burners" and "old heat pumps".

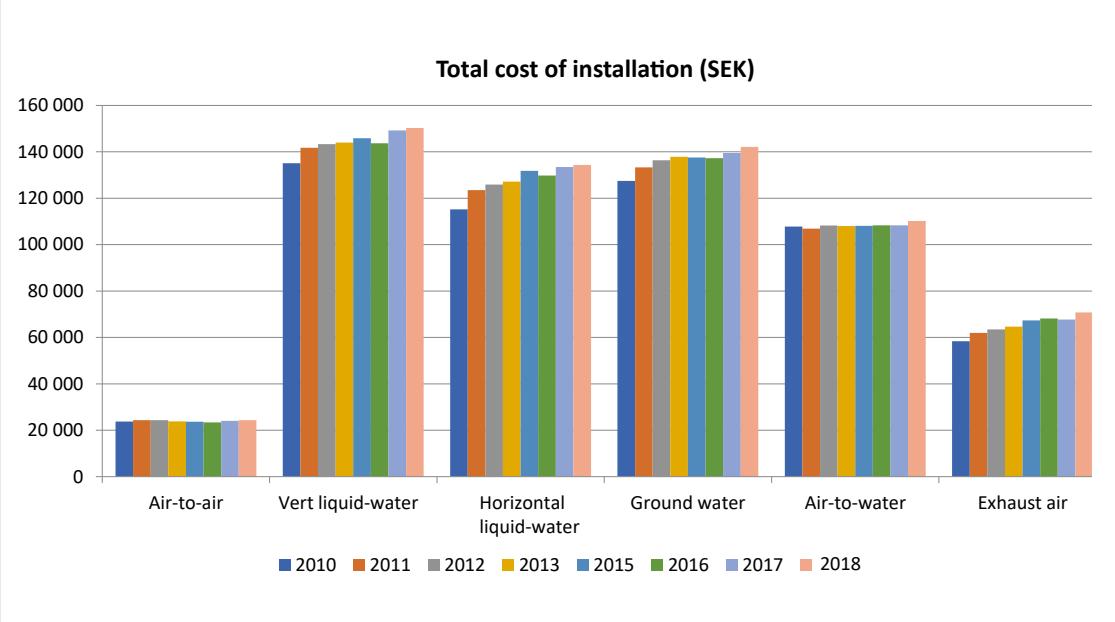


Fig. 5: Total cost for installation of various types of Heat Pump systems. Price based on turnkey contract for a single-family house with a heat demand of 20 000 kWh/year. Source: SKVP

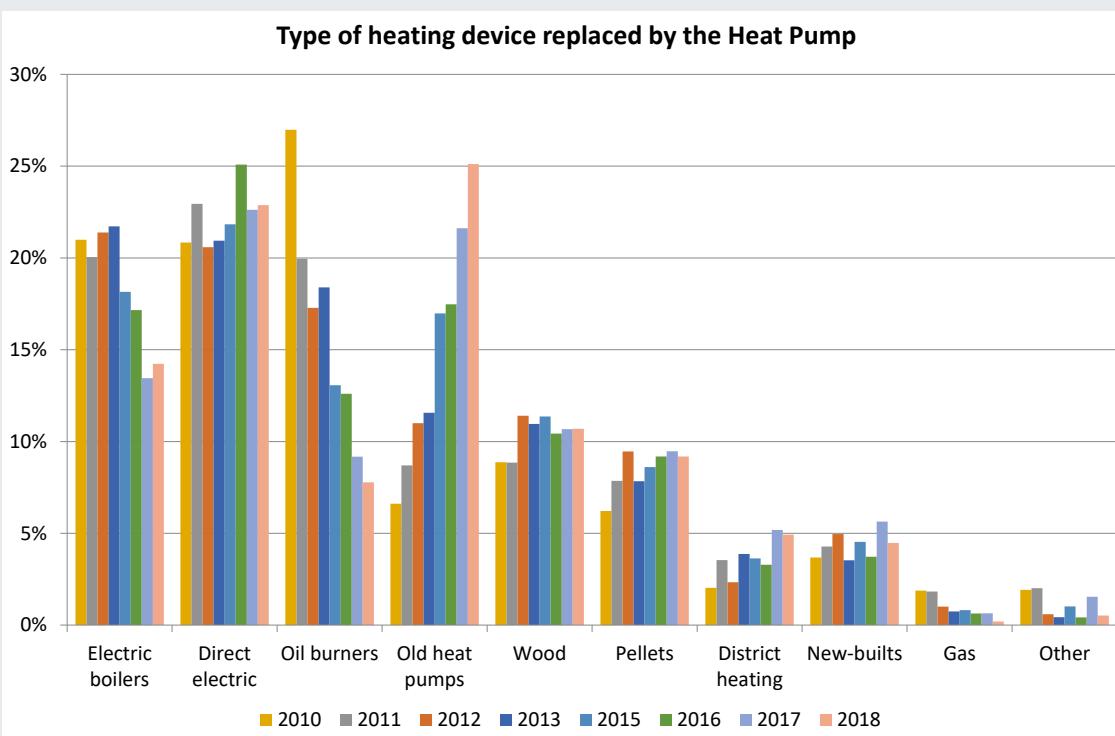


Fig. 6: Type of heating device replaced by the Heat Pump. Source: SKVP

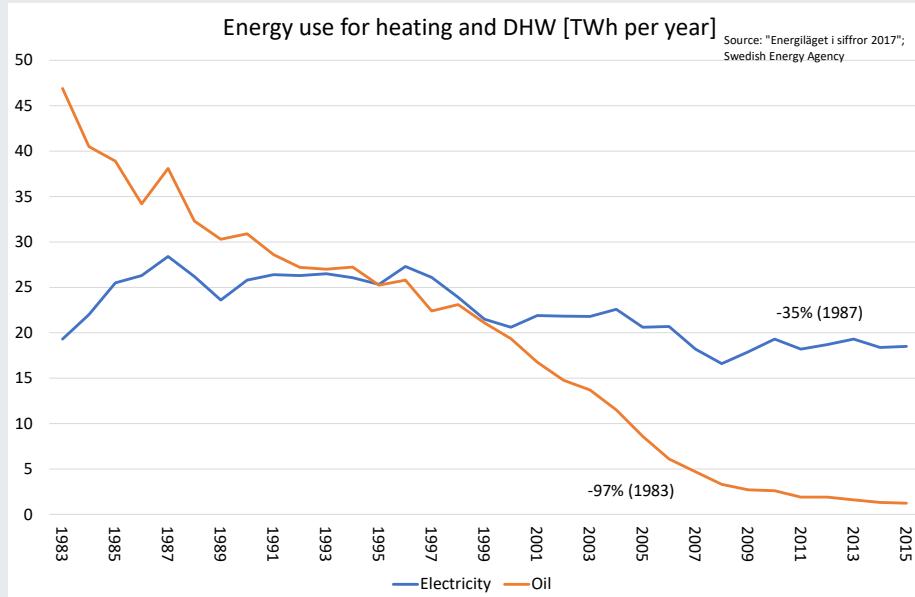


Fig. 7: Energy use for heating and DHW. Source: "Energiläget i siffror 2017", Swedish Energy Agency.

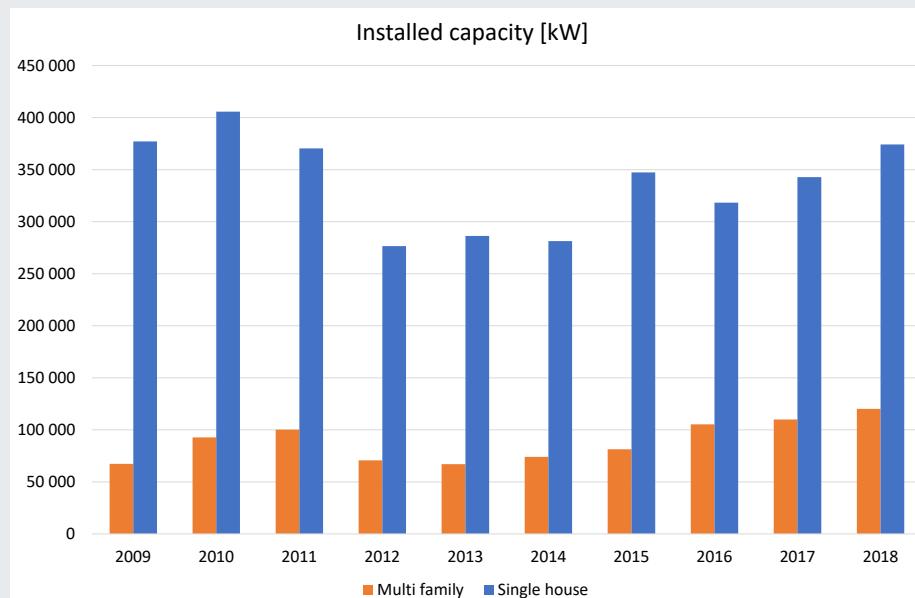


Fig. 8: Annual installed capacity in kW for multi- and single-family houses. Source: SKVP

As Figure 6 shows, the number of oil burners that are replaced decreases rapidly; a consequence following the fact that oil for heating more or less has disappeared in Sweden, clearly shown in Figure 7. Figure 6 also points out the loyalty we see by those who have an HP that needs to be changed (the "old heat pump" data in the figure). A large share of contracts executed by our installers consists of replacing an old HP with a new one. In other words - if you have an HP that is getting old, you do not change technical solution for heating your house - you stick to the HP.

It is also interesting to notice that despite the great number of installed HPs, use of electricity for heating and DHW has decreased by 35% from the peak year 1987.

Expectations for the future

Heat pumps is a mature product in Sweden. Every Swede has a heat pump or knows someone who has one. Despite this, expectations for the future are very positive. New constructed single-family houses are almost always built with heat pump as the heating source, Figure 8. And for multi-family houses, the transition from district heating towards heat pump systems continues. This is still in limited numbers of units, but the positive trend is clear.

Another very interesting market is the replacement business. All HPs sold in the early 2000s will soon have to be replaced. We can already see that the figures for replacements increase, but have not yet seen the boom.

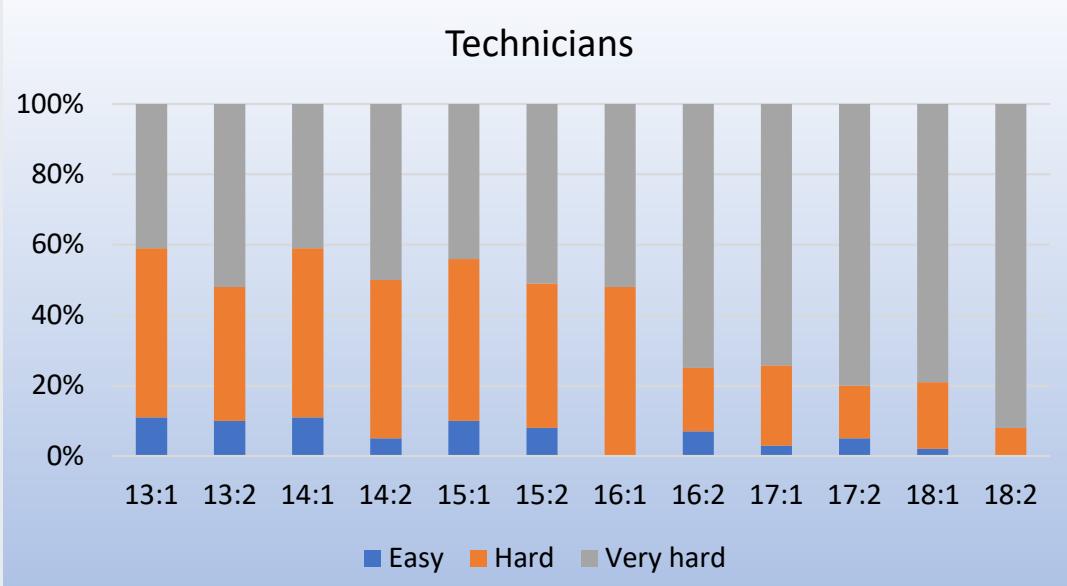


Fig. 9: Difficulties in finding technicians to recruit from year 2013, first half year (13:1), to second half of 2018 (18:2).
Source: Industrifakta AB

Challenges

The main challenge for the whole RACHP business in Sweden is lack of resources.

Twice a year a research company (Industrifakta AB) makes a survey among the members of the Swedish branch organisation SKVP. Among questions on business climate, trends and sales volumes, they also ask how easy or difficult it is to recruit employees within the three categories "management", "white collar" and "technicians".

Since many years the answers have indicated difficulties in finding employees, Figure 9. But bad has turned worse, and in last survey 92% replied "very hard", 8% "hard" and 0% "easy" in finding technicians to recruit. The corresponding figures for management were 87/13/0% (very hard/hard/easy) and white collar 85/15/0%.

The problems in finding and recruiting skilled employees have now reached such a magnitude that it hurts the development of the industry. Several companies avoid to quote for projects as there is no one to put on the job, and the transformation from high-GWP refrigerants to low within the F-gas regulation is ongoing at too low a pace.

Conclusions

The RACHP businesses in Sweden is performing extremely well – to some extent too well. Sales figures are steadily increasing, clearly above inflation. Estimated annual sales in 2018 are expected to be approximately 16 000 MSEK or 1500 MEUR, divided into the three seg-

ments Air Conditioning (4 000 MSEK), Industrial and Commercial (4 700 MSEK), Heat Pumps 7 250 MSEK. The forecast for the coming years is also very positive, with no signs of slowing down.

There are mainly two market drivers for the RAC business: the F-gas Regulation and people's wish and financial capability for improved comfort and "luxury".

The HP industry, on the other hand, is influenced by cost and energy saving, and the construction of new houses and buildings.

Expectations for the years to come are that sales will increase. The only threat is the problem of finding skilled personnel. This goes for all types of professions, all from management via white collar to service technicians.

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