A comprehensive scouting of space cooling technologies in Europe: Key  
characteristics and development trends

1. Vapour Compression (VC) Air-Conditioning Systems: VC systems are the most widely used technology in residential buildings, accounting for about 99% of the market for cooling technologies. They are efficient and commonly used for space cooling.

**The most used technology for space cooling in Europe is currently conventional vapour compression (VC) systems.** These systems meet the majority of the space cooling demand in Europe. However, there is a small portion of the demand that is covered by thermally-driven heat pumps. While there are several alternative space cooling technologies that show promise for energy-efficient cooling, they are not yet competitive with VC systems in terms of efficiency and cost in the short-term and medium-term. Further research and development are needed to improve the efficiency, costs, and market competitiveness of these alternative technologies.

Review of alternative cooling technologies

The document mentions the efficiency and COP (Coefficient of Performance) for vapor compression systems. It states that the average seasonal cooling efficiency, referred to as SEER, of unitary equipment shipped in the U.S. was 10.61 (equivalent to a COP of 2.80) at the time of the Fischer et al. report. In 2007, the average SEER value had climbed to 13.66 (equivalent to a COP of 3.60), a 28.7% increase in average efficiency over a fifteen-year period. It is also mentioned that ultra-high efficient units with SEER values on the order of 22 (equivalent to a COP of 5.80) are available today.

Read lit rev

Think about workplan

Continue lit rev