

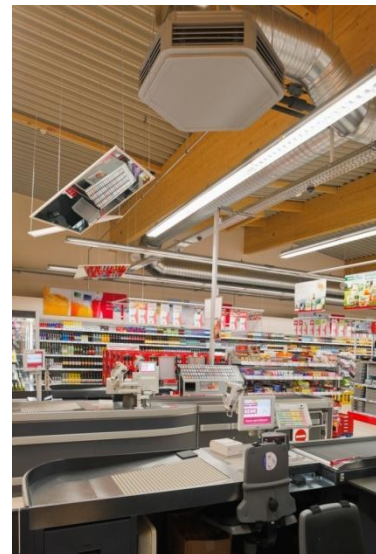
Zero:e Park Hannover: passive supermarket

The REWE store in the zero:e park is Germany's first supermarket recognised by the Passive House Institute (PHI) to have such well-engineered design to the Passive House standard. In contrast to residential buildings, the energy needs of a supermarket are not influenced as much by the quality of the building envelope, but primarily by food refrigeration and lighting.

Refrigeration accounts for around 60% of total energy consumption and lighting for 20%, so it is here that the biggest savings can be achieved. The store does not have a conventional heating system for space heating. Heating requirements are met primarily by waste heat from the refrigeration system. In summer, however, the heat can be efficiently diverted outside without heating up the sales area. Instead of a number of compression chillers, refrigeration takes place centrally in what is known as a compound chiller. Throughout the store, only market-leading, highly efficient refrigeration units are employed. The lighting is particularly energy-saving: it requires a mere 12 watts per square metre of the energy reference area. Other supermarkets of comparable size consume around 25 watts for the same light output.



These low energy requirements mean emissions of the greenhouse gas carbon dioxide are 30% lower than for conventional new supermarket builds on this scale.



Source: <http://www.zero-e-park.de>