

# Climate-Friendly Heating and Cooling System for Surseepark



**The my M climate protection project is assisting the Migros Lucerne Cooperative with the building and operation of the new heating and cooling system. Thanks to the electric-driven heat pump technology, energy consumption is reduced, and the combustion of natural gas is avoided. This in turn saves CO<sub>2</sub> emissions and reduces the burden on the environment.**

In the scope of the conversion and modernisation plan of Surseepark in Lucerne, the current heating and cooling system for two of the Migros Lucerne Cooperative buildings are to be replaced. The most cost-effective variant would use natural gas both for the heating and the cooling via absorption chillers. The burning of natural gas causes CO<sub>2</sub> emissions and contributes to global warming.

Thanks to a one-off investment from the my M climate fund, the climate-friendly variant with two reversible air to water heat pumps can be realised instead. The electric-driven heat pumps use ambient air as a source of environmental heat for heating the building during the winter. During the summer months, the heat pumps function like a fridge - the process is reversed: in this case, the heat is removed, not from the ambient air, but from the inside of the building instead. The use of electricity for operating the heat pumps in place of the combustion of natural gas reduces CO<sub>2</sub> emissions.

The investment costs for the two heat pumps are around 1.5 times the fossil fuel-driven variants. However, by using freely-available environmental heat, the annual incurred costs are lowered. Yet when the entire operating life is taken into account, the heat pumps do not pay for themselves: the additional costs in relation to the fossil fuel-driven variants are thus covered by the my M fund.

## **Project type:**

Energy Efficiency

## **Project location:**

Sursee, Switzerland

## **Project status:**

In operation, exclusive

## **Annual CO<sub>2</sub> reduction:**

250 t

## **Situation without project**

Operation of heating and cooling systems using fossil fuels

## **Project standard**

VER

## **Partner**

MIGROS