



## Valio's dairy at Riihimäki recycles thermal energy

**At the beginning of this year Valio's dairy at Riihimäki put into use Scancool Ltd's industrial heat pump, which helps the dairy to save 21% of the heat energy it purchases annually. A heat pump recovers and recycles the heat energy removed by the dairy's cooling plant.**

The energy produced by a heat pump amounts to 6 400 MWh per year, which equals the annual energy requirement of 320 middle-sized detached houses. The application of a heat pump is currently being studied in several of Valio's production plants in Finland.

- As such an industrial heat pump uses conventional technology, but combining it in the energy production of a dairy in a new way is an innovation which was made possible by the unprejudiced and inventive vision of the Riihimäki staff, says Esa Mäkipelto, the technical manager of Valio.

Dairies and creameries use lots of water and energy. Water is needed for washing the process equipment and energy is needed for the maintenance of the cold chain.

Valio's annual environmental targets include both improved energy efficiency and decreased water consumption. Water is saved - among other things - through recycling and re-use. An industrial heat pump improves a dairy's energy efficiency and decreases the consumption of fuels used for energy production.

### No longer waste heat

Since milk requires a cold chain, dairies cool containers, storage facilities and pipe systems etc.. Until now the warm air removed by the cooling plant has evaporated into thin air through condensers. Now the warmth from the condenser is recovered by the heat pump and used to heat up the water needed in the washing units.

- After the first months of operation the experiences are very positive. The investment improves the energy efficiency of the Riihimäki dairy. Now we can recycle the former waste heat back into the process, Esa Mäkipelto says.

There are many promising areas of application for an industrial heat pump in Valio's fifteen production plants in Finland.

- A heat pump can probably be applied to areas which currently waste recoverable thermal energy which could be used to heat up washing water or to preheat products, Mäkipelto thinks.

Valio's value Responsibility for welfare also includes responsibility for the environment. Factories are developed considering the environment. Recyclability is one of Valio's goals in the development of consumer packages. Today over 80% of the packages can be recycled. Valio's products are distributed to shops on rolling undercarriages and recyclable undertrays.

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