



# District heating/Community heating

## Space heating

Heating, in most cases, is a matter of providing a comfortable indoor environment, whether at home, at work or in a public facility. Heating can also involve tapwater heating, swimming pools, greenhouses etc.

### Space heating

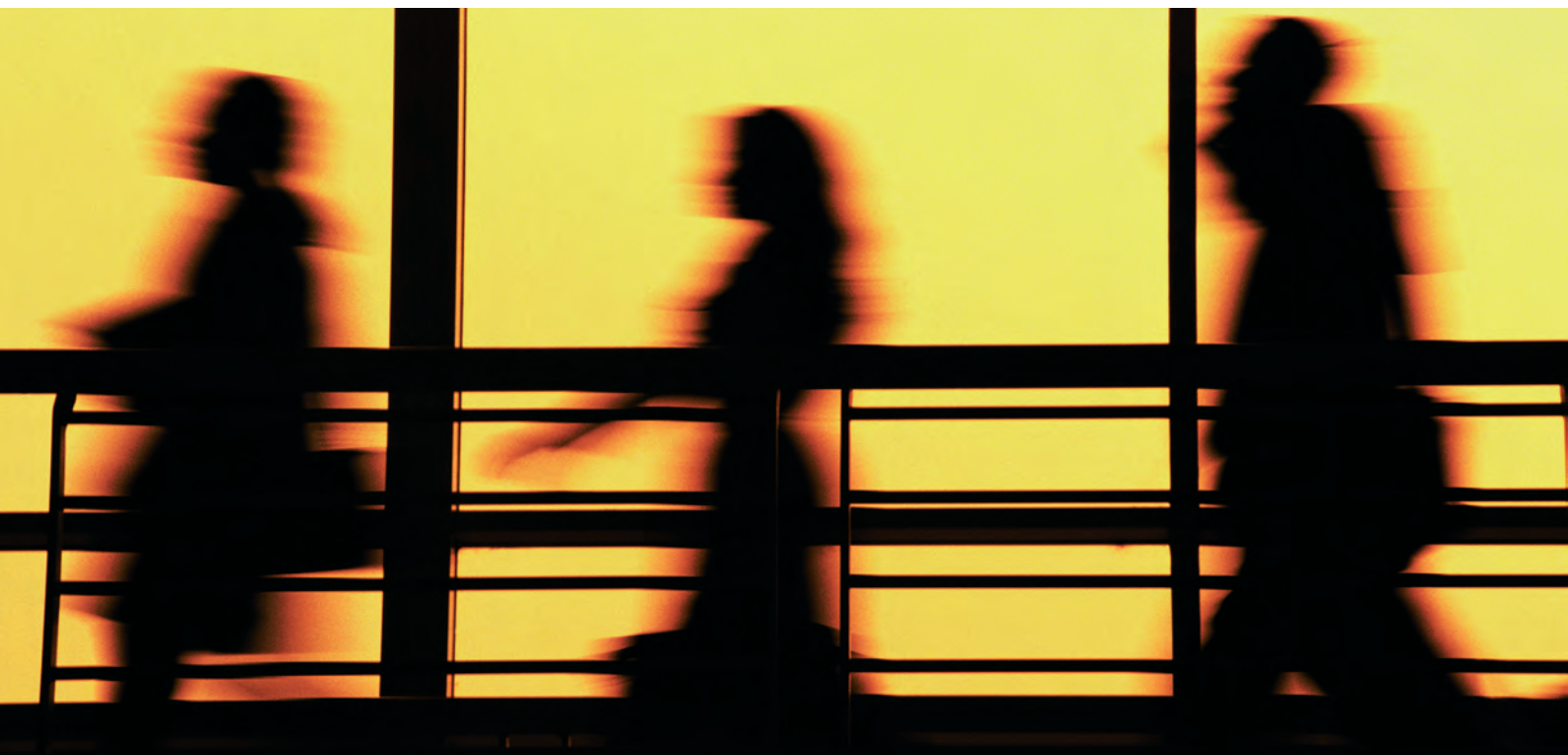
The use of hot water for space heating is very common. The methods used to transfer energy from the water to a comfortable indoor environment vary. Using radiators is one common method.

An alternative to radiators is under-floor heating, where heat circuits are placed under the floor. The floor-heating circuit can be connected to the radiator circuit.

An air heater, blowing hot air into a room, is more commonly used in public buildings. Very often a combination is used, with for example radiators and floor heating, or radiators and air heaters via a separate mixing loop.



The objective of space heating is usually to achieve a comfortable indoor temperature. The heat can be transferred using radiators, floor heating or air heaters.





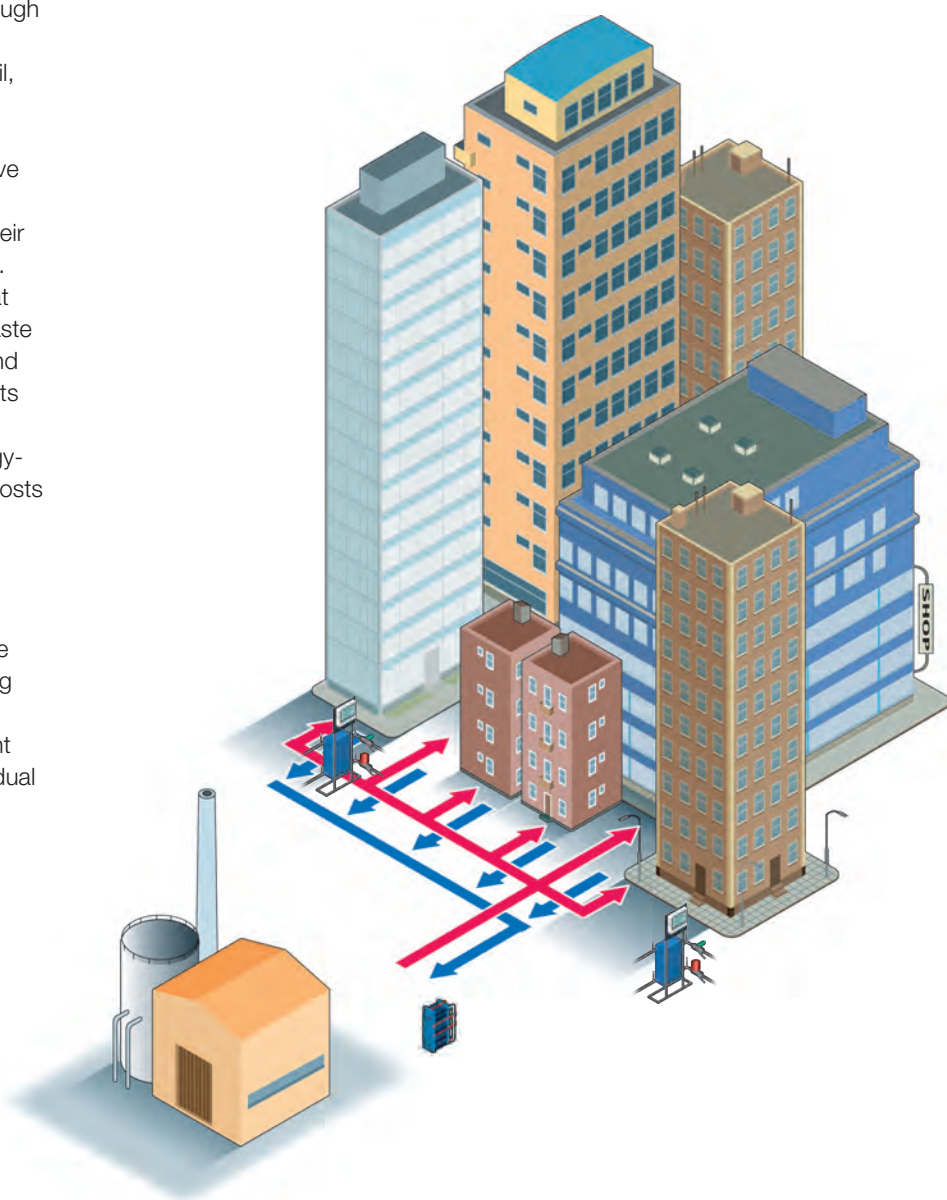
## What is district and community heating?

District heating and community heating are environmentally friendly and energy-efficient methods of delivering hot tapwater and radiator heating. Heat generated in a central boiler plant is transferred to several buildings through pipes. A very wide range of energy sources, including combustion of oil, natural gas, biofuel or renewable energy, can provide the heat. A successful energy company will have 6-8 heating sources that they can combine and utilize according to their priorities – fuel cost, emissions, etc. The possibilities of using waste heat from industry, surplus heat from waste incineration, industrial processes and sewage, purpose-built heating plants or co-generation plants in district heating make it a flexible and energy-efficient choice. You can optimise costs as prices change, and maximize environmental protection.

For the consumer, district or community heating means a trouble-free way of receiving energy. The heating sources of a district or community heating system are more convenient and more efficient than small individual

space-heating systems. Combustion techniques and exhaust cleaning will decrease the negative impact on the environment.

Alfa Laval currently offers different types of plate heat exchangers in district- and community-heating applications.





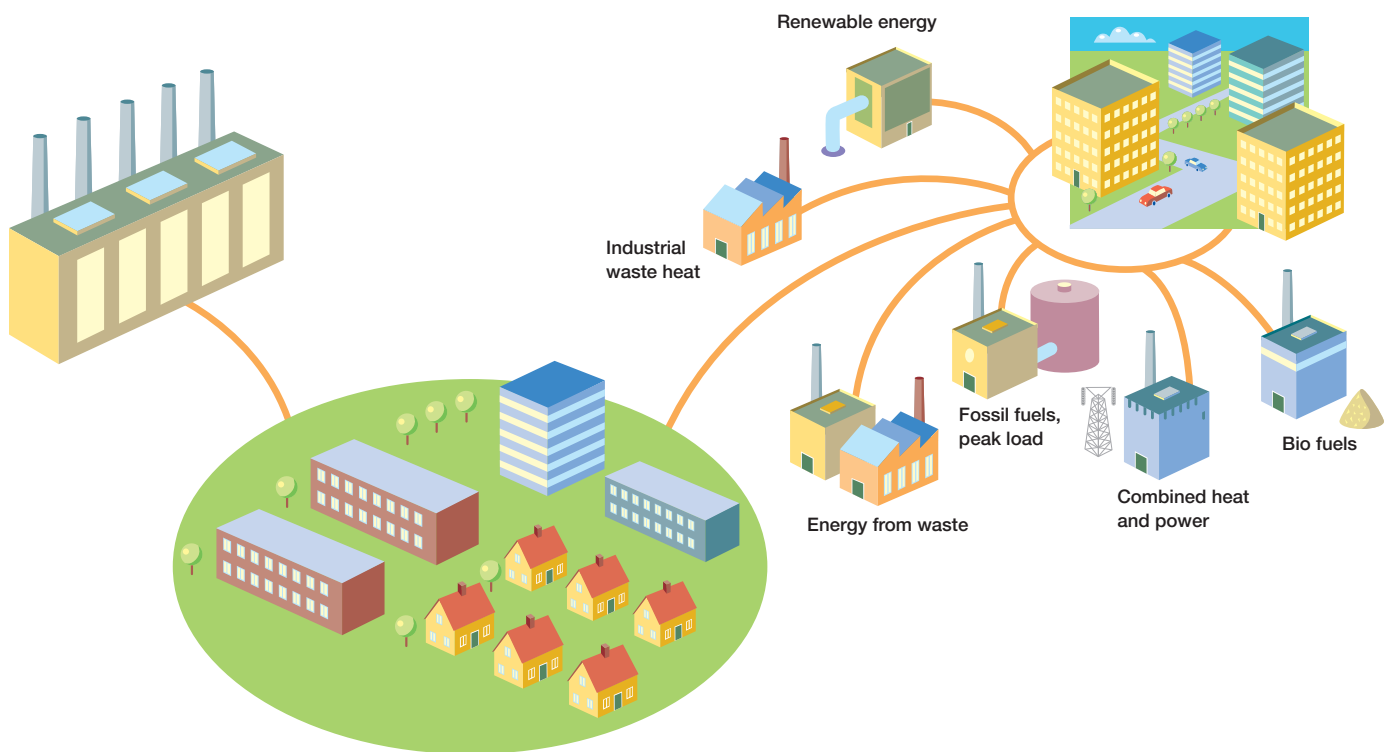
## Community heating

Community heating is based on the same technology as a “standard” district-heating network but on a smaller scale. Even in networks consisting of a relatively small number of houses or apartments, the technology developed for district heating offers some obvious benefits. One central boiler will replace several of small boilers. Fuel from different local sources – e.g. industrial waste energy, garbage or solar – can be used.

In many cases, small-scale community heating networks can be integrated into more comprehensive district-heating networks, thus creating economies of scale while some of the initial investments in equipment are already taken.

Substations with plate heat exchangers are the brain of the community-heating concept. The challenge is to achieve the ideal temperature while simultane-

ously reducing energy consumption and paying attention to environmental issues.





## Environmental aspects

Combined Heat & Power (CHP) is a key technology for district and community heating. It will almost double fuel efficiency and at the same time reduce the need for additional heating sources. This reduces the impact on the climate and environment and increases the energy efficiency.

Wherever district or community heating is established, the surrounding environment benefits. One large plant has better combustion and cleaner emissions than many smaller plants. District and community heating enables the utilization of waste heat from industries and garbage from both households and industries; energy that would otherwise be lost.

Large or small-scale district and community heating open up for using local fuels and switching between different heat sources, thus making renewable energy sources an attractive alternative.

