

/// Heat pump applications

For residential customers, heat pumps can be the most efficient, cost effective and healthy way of meeting heating and cooling demands. Heat pumps use hydronic (water in pipes) heating and cooling in the house floor and walls to maintain a comfortable temperature. The water flowing through the pipes at suitable temperature are heated in winter, or cooled in summer using the ground. Even at surface level the temperature of soil can be enough to cool a house in the height of summer and heat that house with the same efficient installation, when engineered well. Through the use of low temperature energy distribution, and fresh air ventilation, the serious health issues associated with ducted air conditioning can be eliminated. Exchanging thermal energy over the seasons, while creating extremely comfortable environments.

/// COMFORTiD's technical and organisational transformation guidance

Many of the modern solutions are going over traditional boundaries, energy, regional, regulatory, building-column, where the basic needs of the population are still the same. New structures are needed to make the transport and the use of energy efficient again. EXCHANGE of information and re-integration of communities. Bridging gaps, creating bonds, translating, educating.



Old Tough Powerhouse Market



Component Market



Re-organized Easy Going Market

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/// EXCHANGE
Reducing CO₂ emissions using thermal energy

COMFORTiD are technology and management specialists in energy efficiency, district heating and waste heat recovery. We help you find you the right technology to improve your heating and cooling at the least cost to the environment and your bottom line.

Our technology solutions go beyond a single site, potentially transforming whole districts and regions by using wasted energy sources to heat and cool other industries and neighbourhoods.

The right heating and cooling technology for your development will involve a combination of proven technologies from around the world, such as heat pumps, waste heat recovery, district heating and cooling, solar farms and smart communications and software. We help select the right combination of these technologies with the fastest payback period.

What makes COMFORTiD unique is that we are not tied to any one technology, company or product. Our expert teams are free to innovate solutions that best match your needs with proven technologies.

/// District heating and cooling, demand management and energy storage

District heating and cooling (or District Energy) is common in Europe, Asia and North America. It involves the thermal demand for more than one building being served by a central energy centre. The greater economy of scale allows for innovative technologies that reduce greenhouse gas emissions, increase energy efficiency and reduce long-term energy costs.

Examples of such innovative technologies are Combined Heat and Power (CHP), absorption chillers, recovery of industrial waste heat, biomass and thermal storage to reduce peak demands.

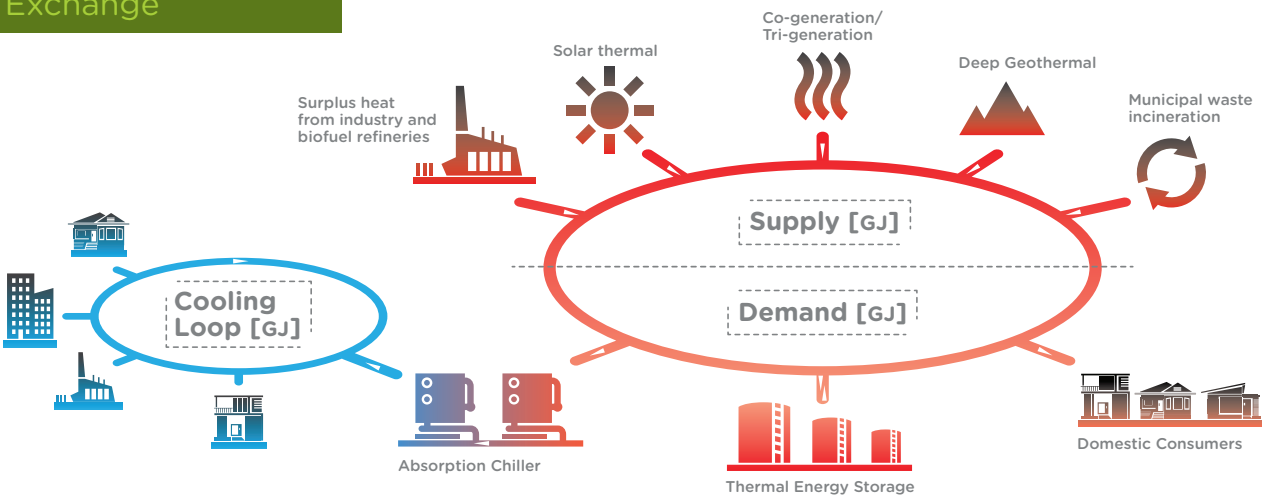
Some of the many benefits of a District Energy approach include:

- Reduced use of gas and electricity
- Much lower greenhouse gas emissions
- Decreased dependence on fossil fuels
- Resilient consumers protected from fossil fuel price shocks
- Reduced pressure on the Electricity Distribution Grid to meet peak demand
- The end to 'sick building' syndrome with healthy hydronic heating
- Reduced dumping of heat into the environment by industry and heat island effect
- A more resilient industrial sector through economic and technological investment
- Greater connections between local industry and community.

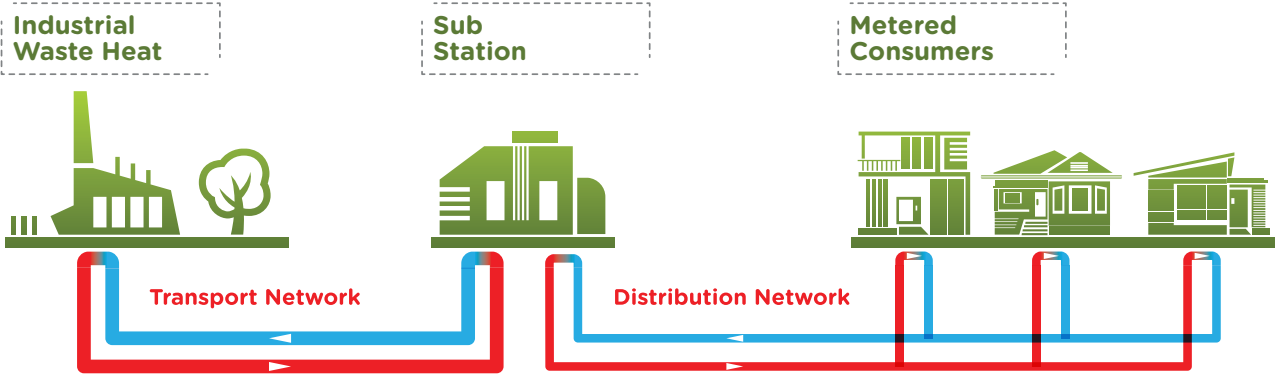
District Heating and Cooling has the most potential in Australia for new developments or high-density areas. As energy costs rise and fossil fuels become less favourable, this approach will become more and more viable and necessary.

COMFORTiD have experience working on some of the world leading energy projects in the Netherlands, Dubai, Pakistan and Australia and has assisted in educating many organisations.

Heat Exchange



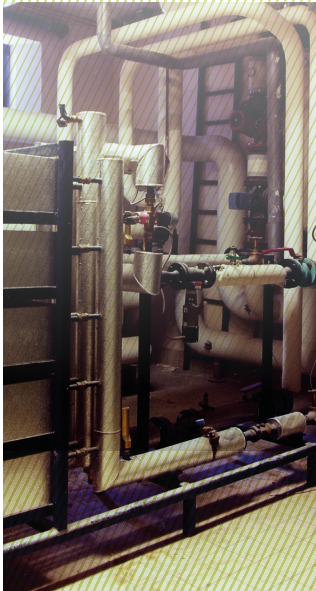
Thermal Energy Distribution



/// Thermal energy transport options

There are many forms of energy, and various ways to transport it. In most cases thermal energy transport is best done with water, as steam is dangerous and very aggressive on connections and air takes up a lot of valuable space. The use of 'low temperature' solutions need a range of other steps for the local generation of domestic hot water and fresh air ventilation. EXCHANGE thermal energy instead of dumping that and comprehensively mapping supply and demand.

The story behind COMFORTiD



COMFORTiD's founder Erwin Boermans experienced in his youth the 1973 oil crisis in the Netherlands. The freeways were so empty he could rollerblade down them. This made him very aware of the world's dependence on fossil fuel, and the need for smarter ways to live. Through his education and commitment to change for the better, change began in 1998 the restoration of Rotterdam's former tax office Puntegale into a national example status building with the first COMFORTiD product range.

After that early success, Erwin imported from Sweden to the Netherlands ground source heat pumps to heat and cool homes in a very comfortable and energy efficient way, bringing energy buffering and active peak shaving to energy companies in peak periods. Standardized low temperature (hydronic) solutions are hardly visible, draught free and improve the inner climate because they replace ducted systems to heat and cool homes and offices.

While integrating a wide range of energy efficiency solutions, ventilation is also very important. Deep geothermal heat often needs to be clarified. The EXCHANGE district energy initiative does this and more by using massive amounts of industrial waste heat through a water-based district heating and cooling pipe network, using closed loops and possible thermal energy storage.

Smart electronic coupling of the highest requesting DEMAND temperature to the SUPPLIERS of thermal energy into the exchange pipe network will provide enormous potential for more reductions of energy consumption.

This holistic approach of energy can provide huge benefits for Australian manufacturers with waste heat and consumers living in well-designed, modern green homes. COMFORTiD integrates various Cleantech solutions from Australia, the Netherlands, Denmark, Sweden and Germany.