

Commercial Installations: Operation and Efficiency – Trafford Town Hall

GSHPA Conference

RICOH Arena, Coventry

10th September 2015

History



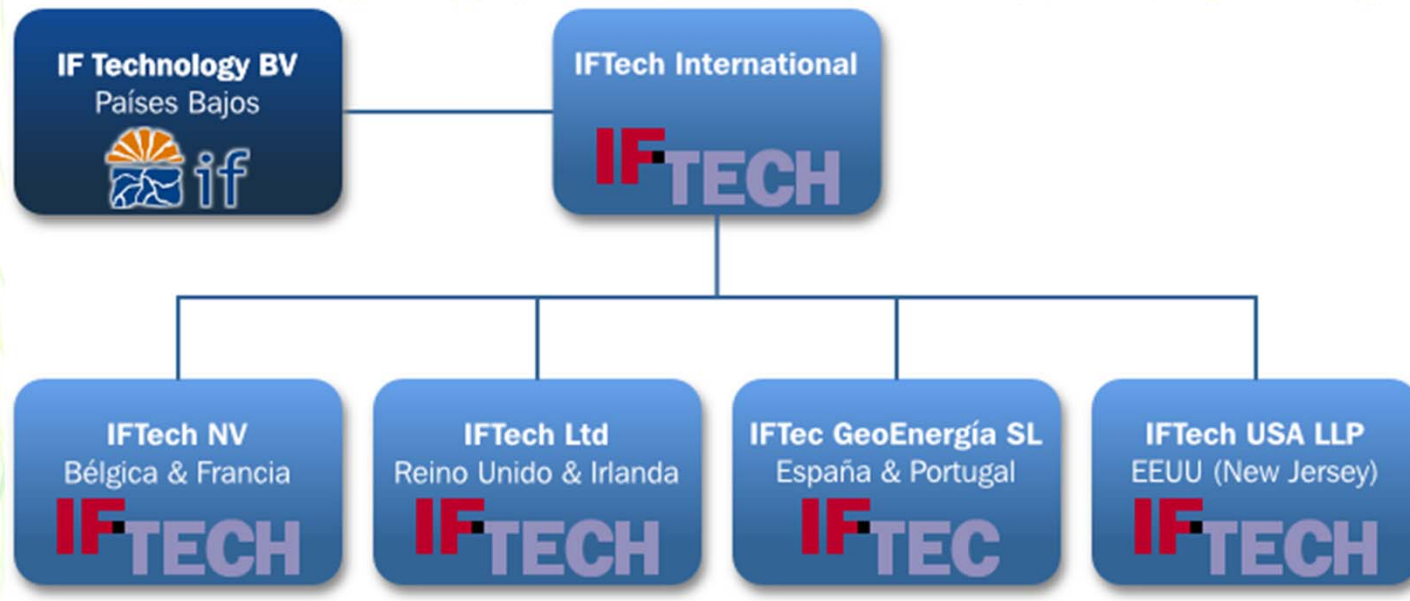
IFTech Ltd was established in 2006 by IFTech International B.V., with the purpose of providing a unique turnkey delivery of Underground Thermal Energy Storage (UTES) systems in the UK and Ireland.



Countries in which IFTech International is represented by joint ventures or partners.

History

IFTech International and her JV's originate from the worlds leading geothermal energy consulting and engineering company **IF Technology**.



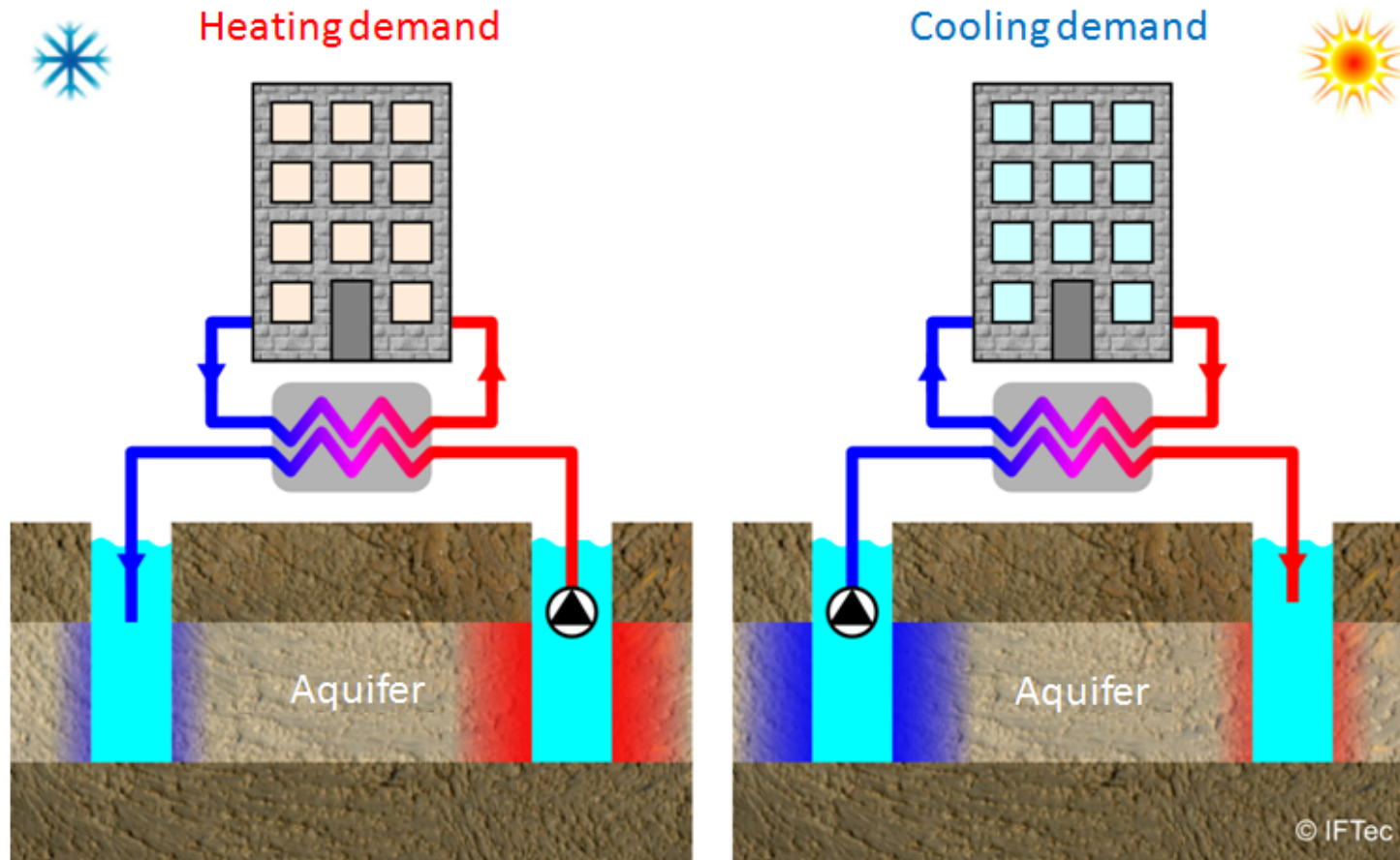
IF Technology are the market leaders in design of Aquifer Thermal Storage Systems in Europe.

The technology and systems are widely implemented across Europe. The IFTech Group have designed and implemented over 1,500 UTES systems in the Netherlands alone. The first being an ATES system back in 1989, the year when IF was created.

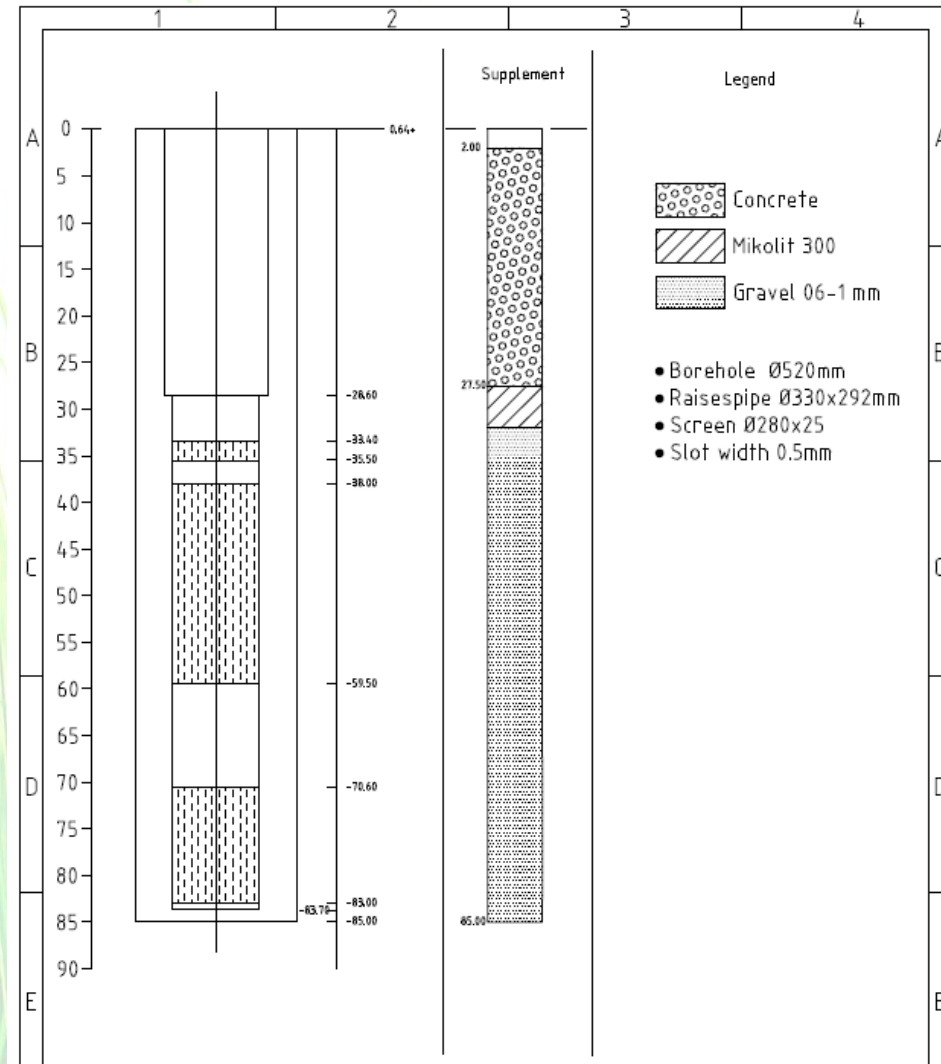
- **Trafford Town Hall, Manchester: Council Headquarters**
- 2 wells, 600kW cooling capacity.
- 16.5 l/s licensed peak flow rate per well



ATES Principal



Well construction

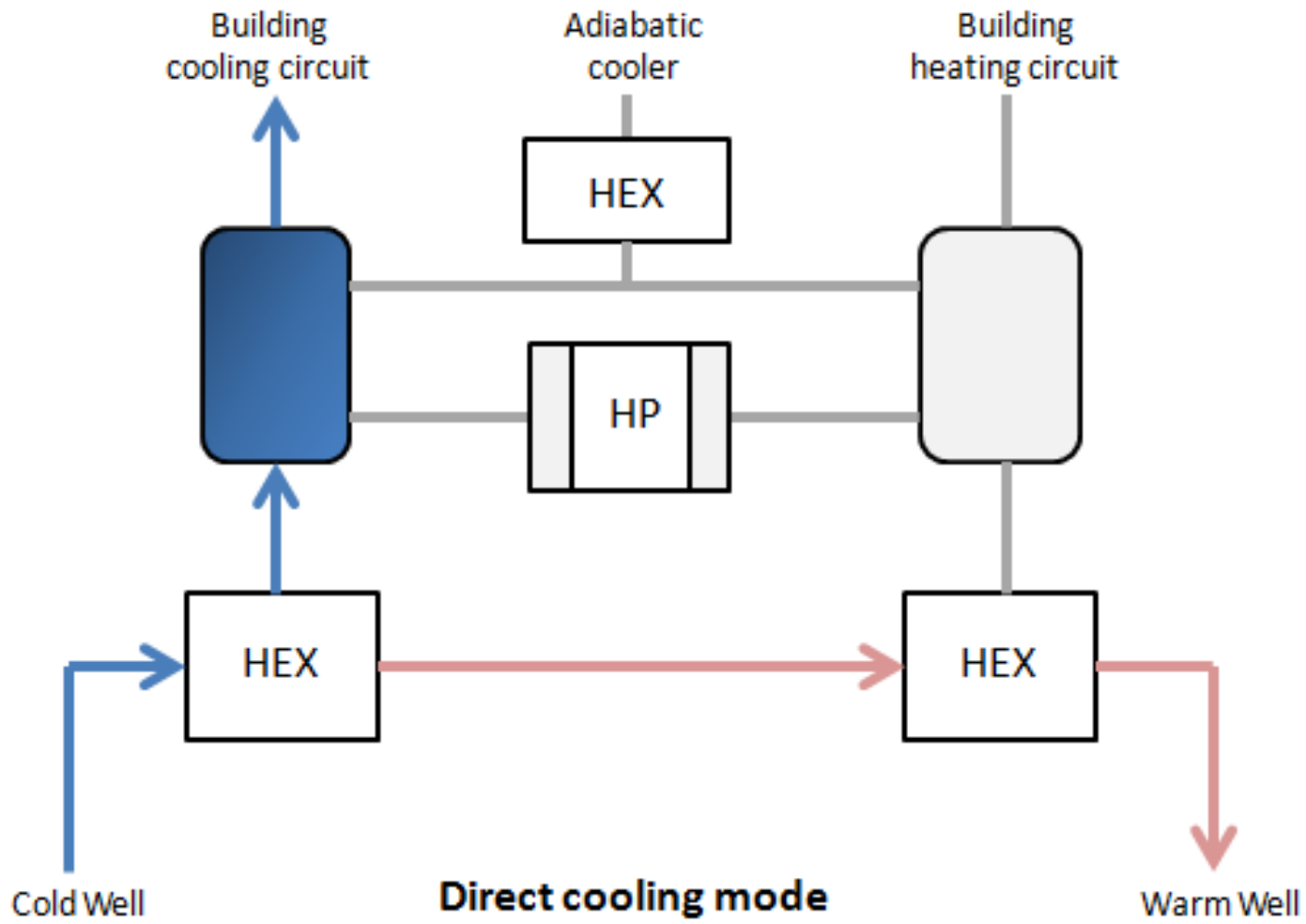


Design & Operational considerations

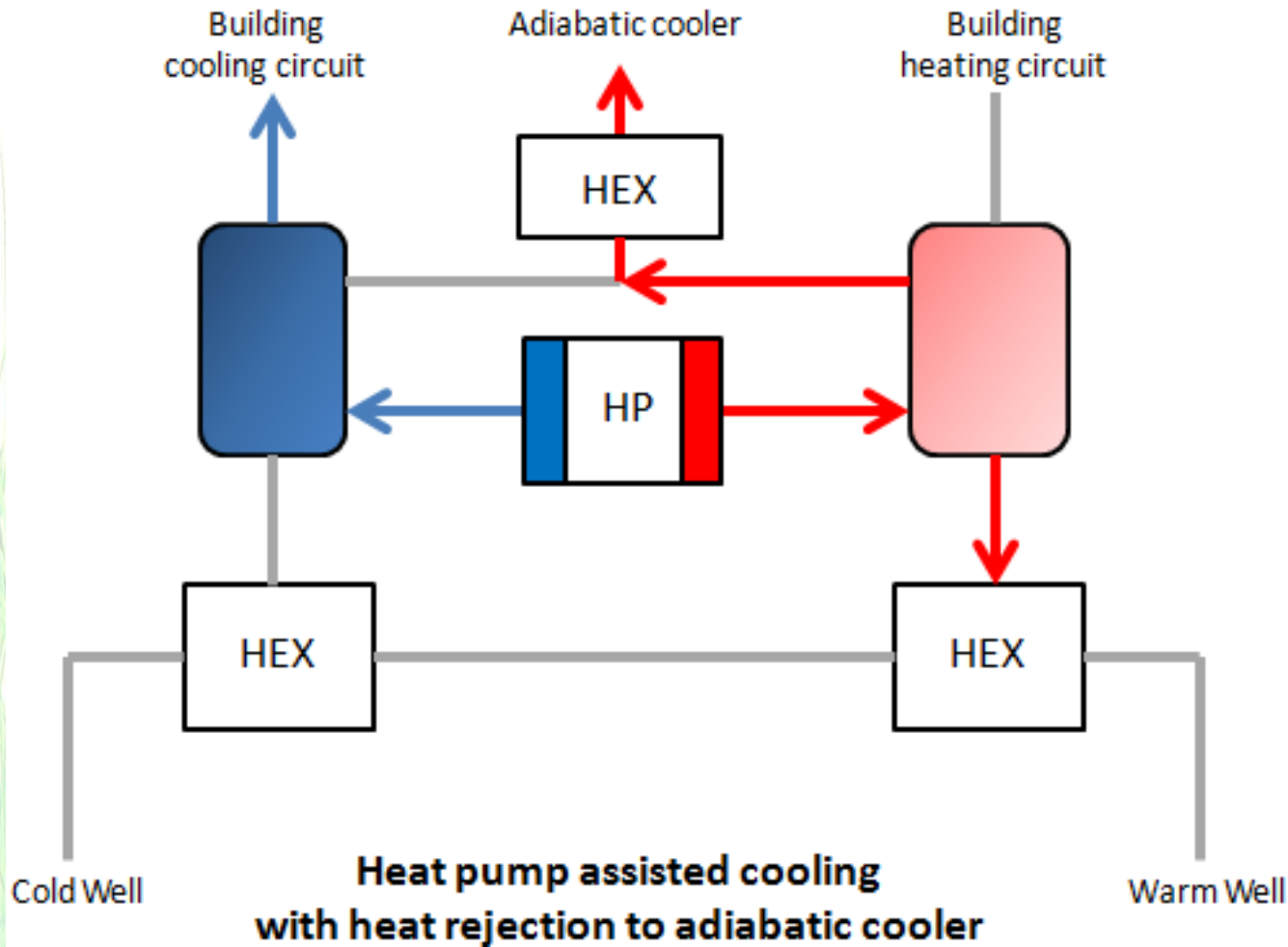
Restrictions

- Salinity of groundwater
- Groundwater flow rate
- Redundancy in the overall ATEs system

Modes of operation



Modes of operation



Well Housings



Below Ground Well Housing



Monitored Data

Lessons learned



- Teething problems with integration with building side circuits led to increased additional time spent in extended commissioning period.
- Could have been avoided with more involvement from IFTech engineers during the building side design stage.
- Consider well head access carefully. Remedial action required on seals.
- Push to get electricity meters incorporated onto the supplies to the ground systems. Preferable individually metered supplies. No accurate COP figures without it.

Lessons learned

- The client is positive about the system and its performance.
- Following general interaction and an additional training day, the client maintenance team are also gradually understanding the system so able to report faults more accurately and assist with simple actions upon our advice.
- Elevated and increased temperatures in the warm and cold wells illustrate the increased efficiency of the system.
- Where possible, DAC's are a very important component of the systems. Multi operational modes are proving effective and the software selects the modes automatically.

Thank you for your attention

Any Questions?

web: www.iftech.co.uk

email: mail@iftech.co.uk

tel: 01133663040