

### REFERENCES

#### *Energy recovery from waste water*

**Customer**  
EWZ

**Project**  
Wastewater heat recovery  
Zürich Wipkingen

**Cost**  
Heat exchanger, heat pumps and district heating system CHF 1`200`000

**History**  
Planning 1996  
Operation starting 1997 - 1999

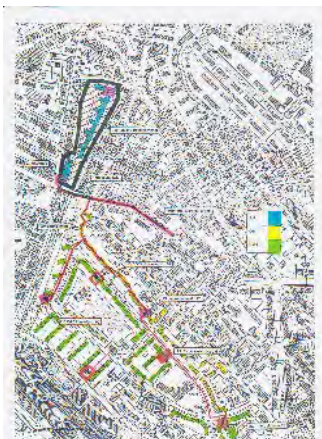


### PROJECT AND ENERGY DATA

- Waterflow 105 l/s
  - Length of heat exchanger 201 m
  - Performance heat exchanger 4000 MWh/a
- World's first wastewater heat recovery system in public sewers. Renewal of a main sewer line and reconstruction of 7 heating plants were the input for this project. The 201 m long heat exchanger produces up to 1000 kWh of energy per hour, saving 100 liters of heating oil per hour, resulting in a CO<sub>2</sub> reduction of 1500 tons per year and noticeably cleaner air for the residents.

### PROJECT SPECIALITIES

- World's first pilot project in waste water heat recovery. The heating power in a public untreated wastewater system is used for space heating and hot water production
- Heating oil consumption for heating is reduced by 50 % with wastewater heat recovery. 1500 t of CO<sub>2</sub> are saved annually and nitrogen oxide emissions (NOx) is reduced marginally.
- Heat contracting by EWZ. 930 apartments, 1 Office building, 1 commercial building, 1 shopping center



### OUR ENGINEERING SERVICES

- Feasibility study of wastewater heat recovery
- Planning of heat exchangers
- Operation
- Coordination and supervision
- Quality control