The NeckarPark district over the years

The NeckarPark district over the years
The NeckarPark district over the years
The NeckarPark district over the years

- 2006
- 2009
- 2011
- 2013
- 2015
- 2017
- 2018
- 202X

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The NeckarPark district over the years
The future NeckarPark district


Primary school with day-care centre
Marga-von Etzdorf-Platz
amateur soccer field
Energy plant and heating grid
Green corridor track-parallel
Relocation Benzstraße
New main waste water collector
Old main waste water collector

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Heat recovery from sieved wastewater

1. Sewer
2. Tangential Shaft
3. Sieving stage
4. Heat exchanger
5. Heat pump
Heat recovery with sewer-integrated heat exchanger

1 Sewer
2 Heat exchanger
3 Heat pump
Boundary conditions for the use of wastewater heat

- Suitable sewers for wastewater heat recovery:
  - average dry weather discharge of at least 15 l/s
  - a diameter of DN 800 or larger
  - distance between the property to be supplied and the sewer should not exceed 300 m (preferably, 150 m)
Sewer performance in the NeckarPark

Wastewater temperature [°C]

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The wastewater heat exchanger
Conduit exit construction
Energy plant
Schematic drawing – energy plant

LEGEND:
- Pump
- Supply - High temperature local heating
- Return - High temperature local heating
- Supply - Low temperature local heating
- Return - Low temperature local heating
- Chill water-supply
- Chill water-return
Local heating grid

- High temperature grid
- Low temperature grid
Schematic drawing – substations in the buildings

- ventilation
- heating
- fresh water
- DHW

Substation Heating
Substation DHW

75°C / 45°C
45°C / 28°C
Simulation of heat generation

- Heat pump: 67%
- Cogen. unit: 19%
- Condensing boiler: 14%
Simulation of heat generation

Heat generated [kWh/yr]

- Condensing boiler
- Heat pump 3
- Heat pump 2
- Heat pump 1
- Cogen. unit 2
- Cogen. unit 1

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The research project

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  - Ingenieurbüro Schule für Energie- und Gebäudetechnik
  - Klinger und Partner Ingenieurbüro

- Contact: Micha.Illner@ibp.fraunhofer.de
  +49 711 970-3471