

Energy from Wastewater with UHRIG THERM-LINER Project example: Bamberg, Lagarde, Germany

1. Framework data

Client	City of Bamberg
Place	Germany, Bamberg, Bavaria, 78,000 inhabitants
Building project	Neighbourhood development with residential and commercial use
Residential units	1,200
Year	Installed in 2021
More information	Lagarde – Stadtwerke Bamberg (stadtwerke-bamberg.de)

2. Wastewater heat recovery

UHRIG Therm-Liner	Type B
Plant length	738 ft
Sewer dimension	Box profile 2,550
Wastewater temperature (min)	53.5 °F
Dry weather flow	110 l/s
Thermal output	1,000 kW heating
Multivalent system	Wastewater heat as base load cover
Electricity for heat pump	Via PV in the quarter
Operated by	Stadtwerke Bamberg

3. System design

	Gravity sewer	Box
Sewer profile		
Profile width / height	2,550	mm
Minimum wastewater flow	110	l/s
Minimum wastewater temperature	53.5	°F
Thermal output Therm-Liner	1,001	kW
Total heating power (including heat pump)	1,334	kW
Inlet temperature Therm-Liner	38.3	°F
Outlet temperature Therm-Liner	43.7	°F
Coefficient of performance heat pump	4.0	COP
Medium primary circuit: Water-Glycol. Glycol share:	25	%
Total length Therm-Liner	738	ft
Maximum wastewater temperature drop	1.08	K

4. Pictures

Installation phase

