

An aerial photograph of a mountain village, likely Wengen, Switzerland. The village is nestled in a valley, surrounded by steep, forested mountains. The houses have red-tiled roofs, and the surrounding landscape is lush green. In the background, snow-capped mountain peaks are visible under a clear blue sky.

A trailblazing district heating project for Wengen

The convenient, environmentally friendly heating energy solution

 **BKW**

ENERGY

 **BAC**
klimafreundliche Wärme

The message is loud and clear: cutting CO₂ emissions is essential if we want to meet the climate-protection targets of the Federal Council. The switch from fossil fuels to renewable energies will play a key role here. Due to the strong interest in sustainable heat supply, BKW AEK Contracting AG (BAC) is planning a district heating network in Wengen, a village in the municipality of Lauterbrunnen. The first properties are to be supplied with renewable heat by 2030 at the latest. The project will make a significant contribution to protection of the local environment while also benefiting tourism.

Energy Strategy 2050 – for a climate-friendly future

With its national and cantonal decarbonisation efforts, Switzerland is taking an important step towards a more climate-friendly future. Buildings and their heating systems play a key role in this, as heat supply is responsible for around a third of all greenhouse gas emissions. Switching to renewable energies and promoting climate-friendly heating systems is crucial if we are to implement the Energy Strategy 2050, achieve our climate targets and advance the energy transition. Greenhouse gas emissions are to be halved by 2030 compared to 1990 levels. From that point onwards, oil-fired heating systems may only be installed in exceptional cases. In the canton of Bern, electric heating systems must also be replaced with renewable heating systems by 2031 due to their huge environmental impact. For this reason, too, various banking institutions also recommend sustainable solutions when financing new builds or renovations. Climate-friendly properties are more likely to qualify for mortgages and also have a higher resale value in the long term.

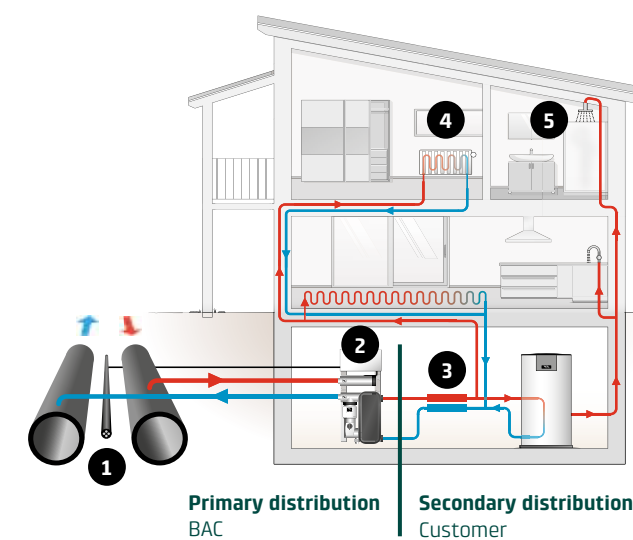


The heating network – one central heating plant for several properties

In district heating networks, multiple properties are supplied with heat from a central energy plant. Heat for heating and hot water is delivered to the individual buildings via a district heating network through insulated underground hot water pipes. BAC is responsible for planning and constructing the heating plant and the district heating system in the public road network, routing pipes through cellar walls, integrating the house connection pipes, and installing and commissioning the heat transfer station. The property owner is then responsible for any adjustments to the internal heat distribution and hot water production. The switch from conventional heating to district heating has no impact on existing underfloor heating or radiator heating. Both systems can be easily connected to the district heating system. The tank room can also be used for other purposes after the property has been connected to the district heating network.

District heating building connection

- 1 District heating pipes (flow and return)
- 2 Heat transfer station
- 3 Distribution
- 4 Heating
- 5 Hot water



Clear arguments in favour of a district heating connection

District heating networks are being expanded in many municipalities in Switzerland. This is linked to national climate protection targets, but district heating also offers customers compelling benefits in environmental and economic terms and in operation and maintenance.

All-round service for heating customers

- No in-house heating system required
- Redundant heating system guarantees a constant heat supply
- No fuel procurement costs
- No emissions monitoring, tank cleaning, burner servicing or chimney sweeping required
- Space freed up for other uses
- Expert advice, support and service from a professional district heating provider (24-hour on-call service)

Economic benefits

- More cost-effective for customers (e.g. compared to individual heat pumps)
- Less reliance on international energy prices
- Supports the regional economy

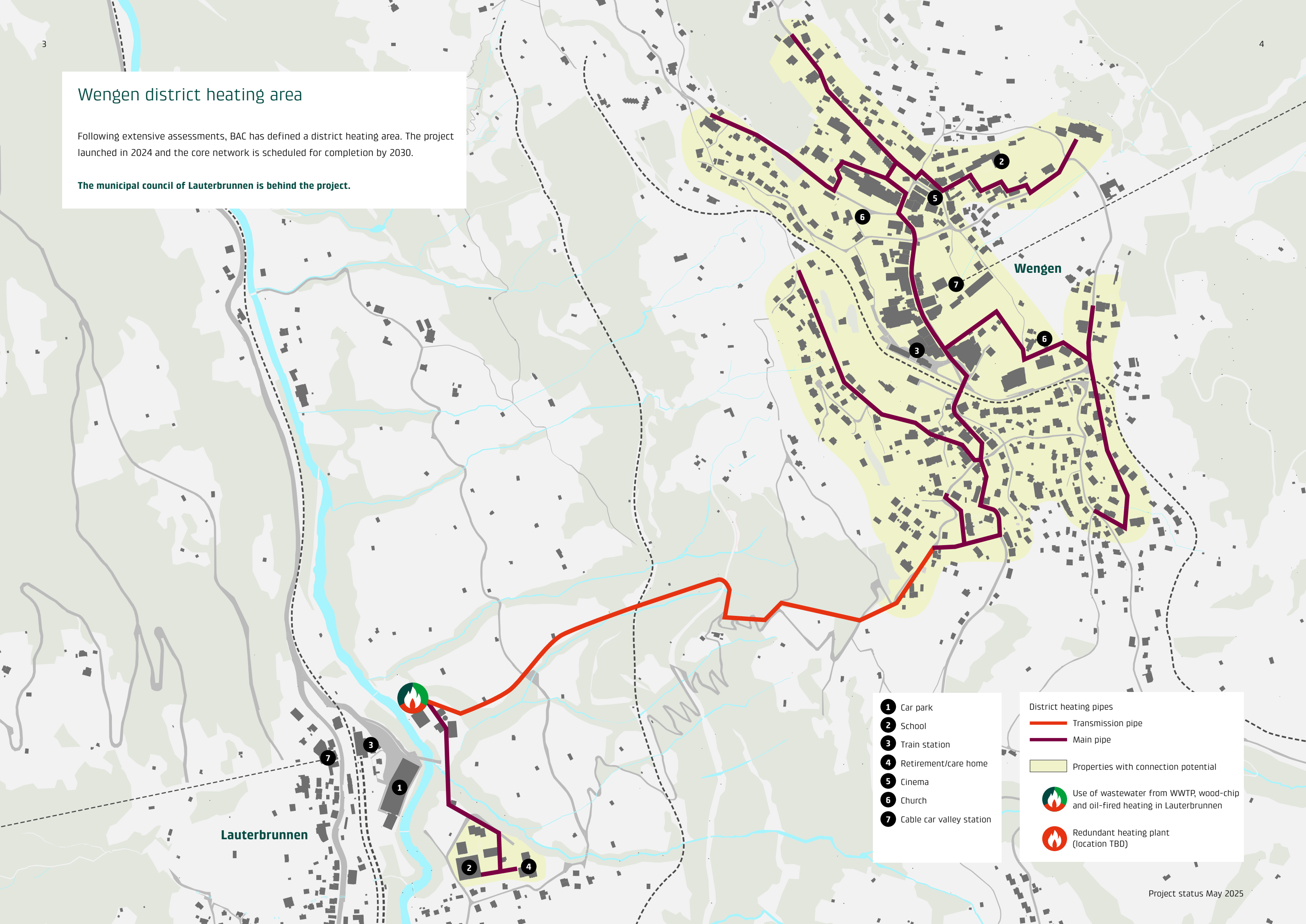
Environmental benefits

- CO₂ emissions cut by 5,200 t/year by replacing 1.7 million litres of heating oil/year
- Expansion of sustainable heat generation throughout municipal area using renewable energy sources
- Reduction in local transport: no oil or pellet deliveries
- Reduction in local emissions: drop in noise and particulate emissions in the area

Wengen district heating area

Following extensive assessments, BAC has defined a district heating area. The project launched in 2024 and the core network is scheduled for completion by 2030.

The municipal council of Lauterbrunnen is behind the project.



- 1 Car park
- 2 School
- 3 Train station
- 4 Retirement/care home
- 5 Cinema
- 6 Church
- 7 Cable car valley station

District heating pipes

- Transmission pipe
- Main pipe

Properties with connection potential

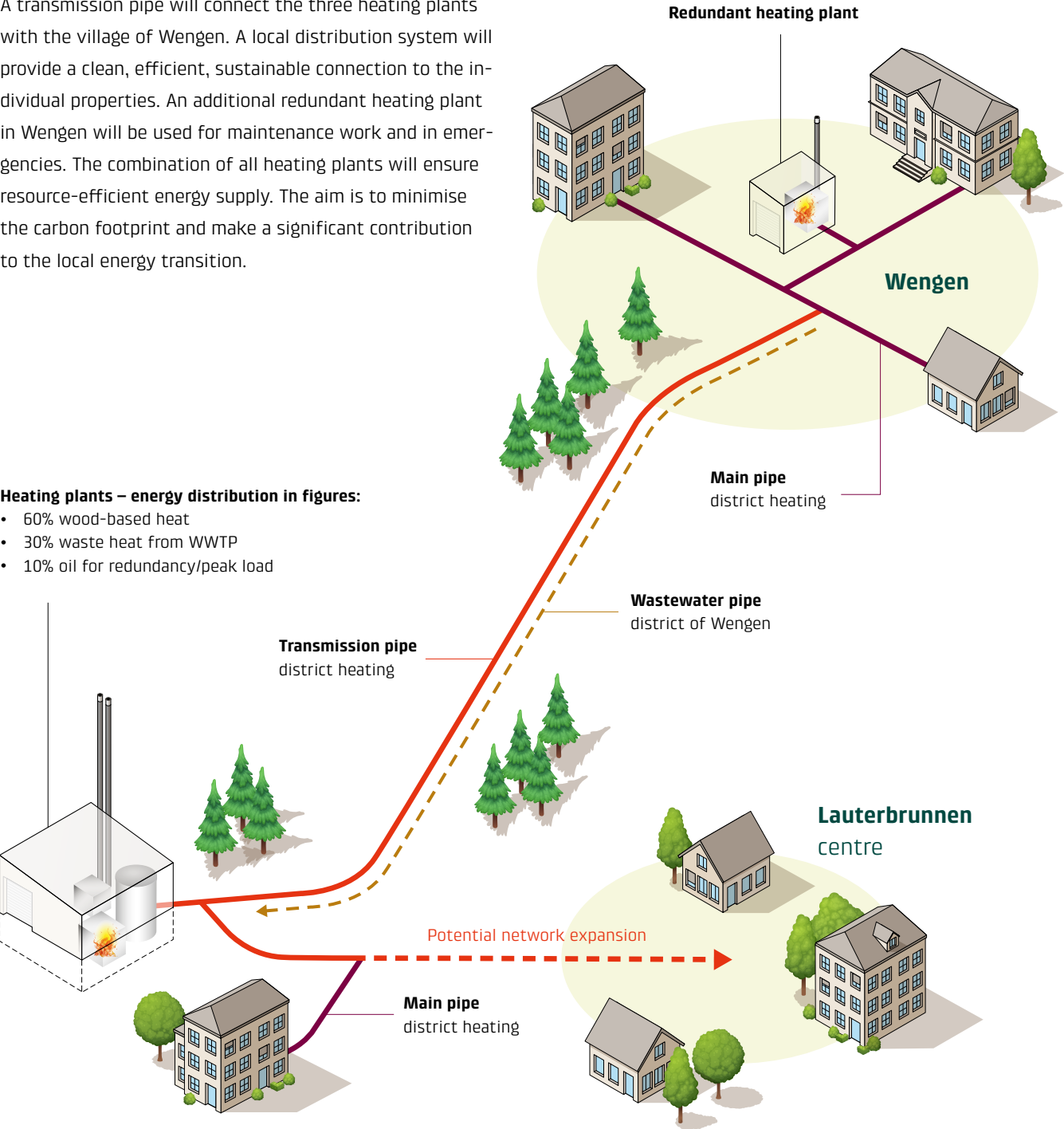
- Use of wastewater from WWTP, wood-chip and oil-fired heating in Lauterbrunnen
- Redundant heating plant (location TBD)

A district heating concept for the entire centre of Wengen

BAC wants to supply the entire centre of Wengen with a modern, sustainable heating system. The energy concept is based on the efficient use of waste heat from the Lauterbrunnen wastewater treatment plant (WWTP), a new wood-chip heating plant and an oil-fired heating system for particularly cold days, located on the same site. A transmission pipe will connect the three heating plants with the village of Wengen. A local distribution system will provide a clean, efficient, sustainable connection to the individual properties. An additional redundant heating plant in Wengen will be used for maintenance work and in emergencies. The combination of all heating plants will ensure resource-efficient energy supply. The aim is to minimise the carbon footprint and make a significant contribution to the local energy transition.

Heating plants – energy distribution in figures:

- 60% wood-based heat
- 30% waste heat from WWTP
- 10% oil for redundancy/peak load



Planned implementation of the district heating project

BAC has already assessed the use of wastewater heat at the Lauterbrunnen WWTP and the construction of a wood-chip heating plant at the same site. Both projects are technically feasible and could be implemented once approved by the relevant authorities. The transmission pipe would run from there to Wengen along the existing wastewater pipe. As the municipal wastewater pipe has reached the end of its service life, the municipality of Lauterbrunnen is currently considering renewing it. There is synergy potential for both parties in this section in terms of costs and construction, since the two pipes could be renewed at the same time. Some logistical challenges are to be expected in construction of the distribution system in the village, but these can be overcome.

First phase: focus on Wengen

The project is currently focusing on supplying heat to Wengen. Around 2.2 million litres of heating oil are transported to Wengen by rail every year and distributed locally by lorries. For pellets, the transport volume for the same energy demand is three times higher than for heating oil. This transport volume is to be reduced to a minimum.

The district heating network in Wengen will initially be built as a core network and then densified.

Numerous benefits for Wengen

- Wengen helps the local environment by reducing CO₂ emissions significantly, which means added value for local tourism
- Fewer oil, pellet and wood deliveries, which reduces noise
- Fewer smoke and particulate emissions
- Expansion potential through network densification
- Five-year transition period for fossil-fuel systems if a heating supply contract is signed

In Lauterbrunnen, the first phase will focus solely on supplying the school building and the retirement/care home, as both buildings are located near the future heating plants. An extension of the district heating network towards the centre is conceivable in the next 10 to 15 years and will be examined in more detail when the time comes.

Prerequisite for project success

For BAC to implement the district heating project, around two-thirds of the properties with medium to high energy demand (x > 30 kW installed load) need to be connected to the network along the planned district heating pipes. The first customers have already signed up to the project.

Rough schedule

Spring 2025	• Start of preliminary planning
Spring 2026	• Start of construction project
Summer 2026	• Start of planning applications
Spring 2027	• Construction start for heating plant in Lauterbrunnen
	• Construction start for redundant heating plant in Wengen
	• Construction start for transmission pipe and district heating network in Wengen
2028	• First heat from redundant heating plant supplied to first customers in Wengen if needed
Summer 2030	• Latest delivery date for renewable heat to district heating customers with a heating supply contract
Thereafter	• Network densification in Wengen

Further project information

BKW AEK Contracting AG (BAC) is committed to proactive communication. BAC will organise information events – including events with the municipality – as required, or provide information in writing.

The current status of the project, along with all relevant information about district heating, can be found on the website:



www.bac.ch/en/wengen

Brief profile BKW AEK Contracting AG (BAC)

BKW AEK Contracting AG (BAC) is a BKW Group company. The specialist in heat supply produces climate-friendly heat for residential buildings and industrial properties from renewable energy sources. Founded in 2018 through the merger of the contracting competence centres of AEK Energie AG, Solothurn, and BKW Energie AG, Bern, the company has a track record spanning 30 years. Its portfolio comprises 40 heat generation plants, including 22 heating networks. Over 40 employees are committed to innovation and sustainability, day in, day out. BAC projects include planning, building and operating the wood-based Grindelwald heating plant and the district heating network in Spiez.

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Do you have any questions about the project or district heating in general? Are you interested in connecting your property? Then get in touch – we will be happy to advise you.



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