

Solar District Heating

Clean Heat for Cities and Communities

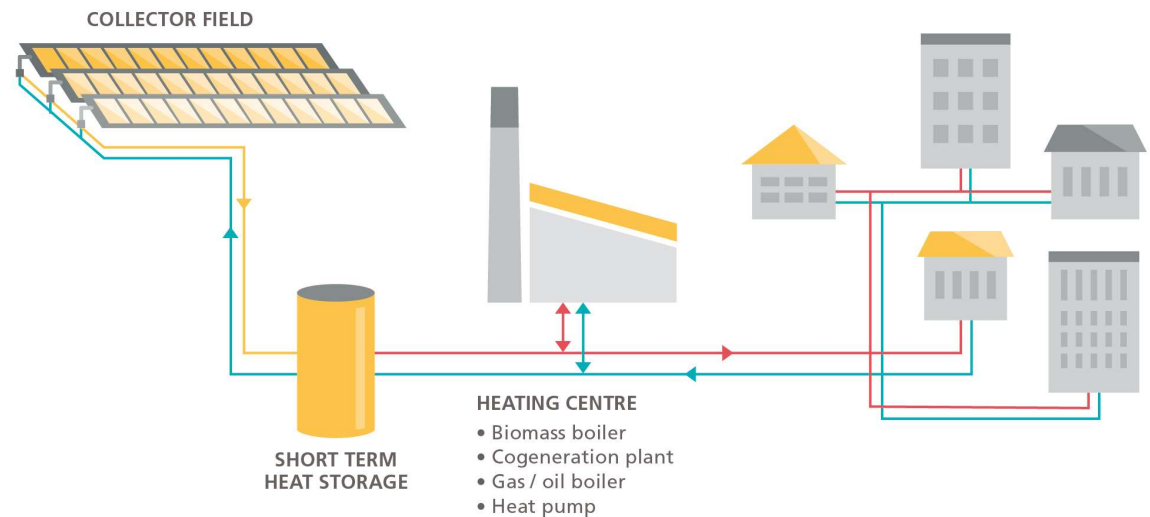
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What is Solar District Heating (SDH)?

- Large scale application of solar thermal technology connected to district heating network
- Provides cities, towns and communities of every size with clean heat harvested from the sun
- Can be combined with every other heat source
- Can cover up to 100 % of summer load (with seasonal heat storage even up to 60 % of yearly heat load!)



IEA SHC TASK 55

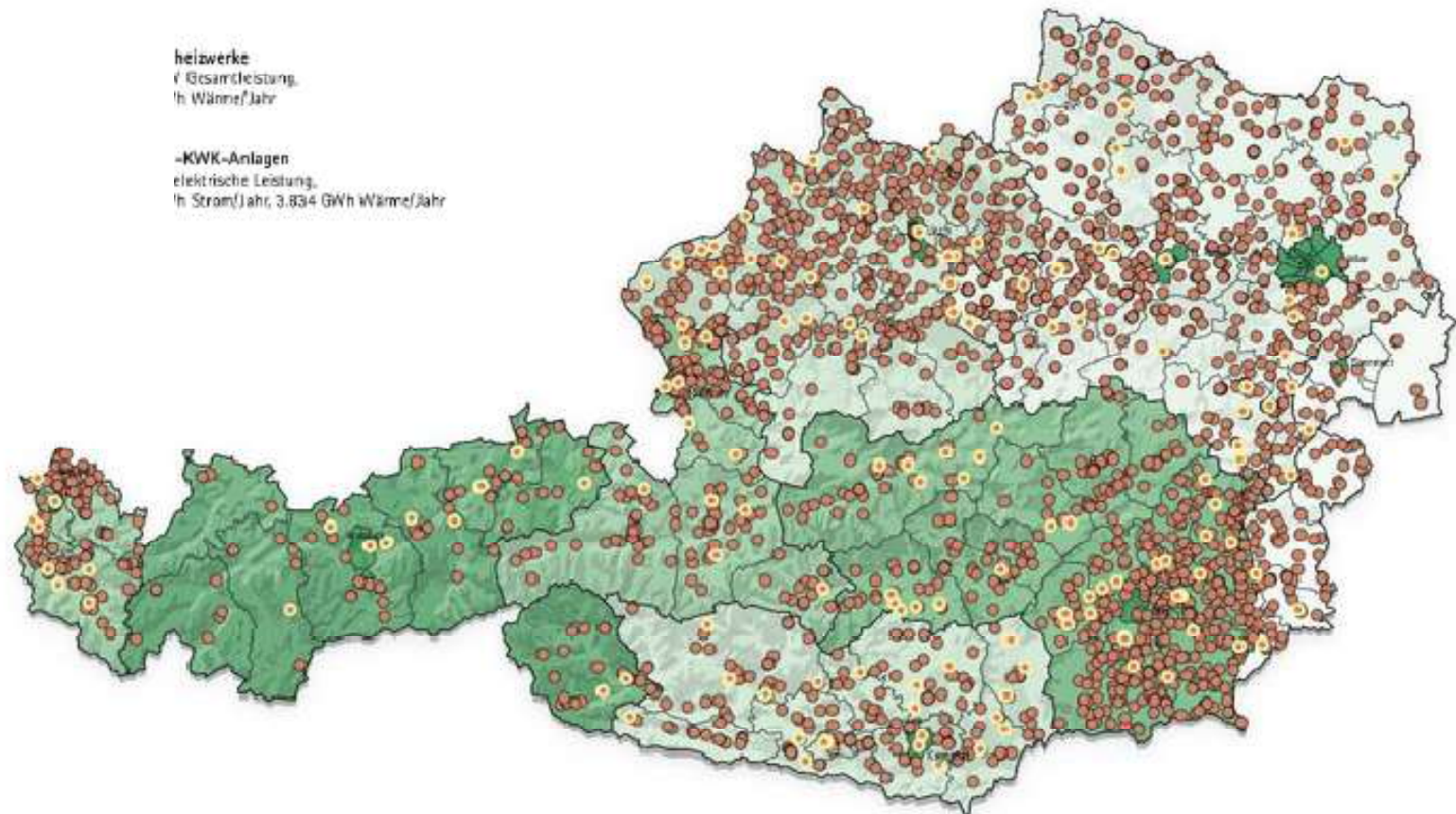
Why Solar District Heating?

- **Clean** heat for a **stable** price (minimal OpEx)
- **Cheap**: SDH plants $>5,000 \text{ m}^2$ deliver heat for under 5ct/kWh
- **Protect the climate**: Emission-free operation
- **Protect the environment**: SDH plants create great living environments for many different plants and animals



Large potential in municipalities to save biomass!

- 2,450 biomass district heating plants in Austria, 2/3 operated also in summer
- Solar heat instead of burning biomass!



Example: Medieval town of Friesach



Solar district heating in Friesach

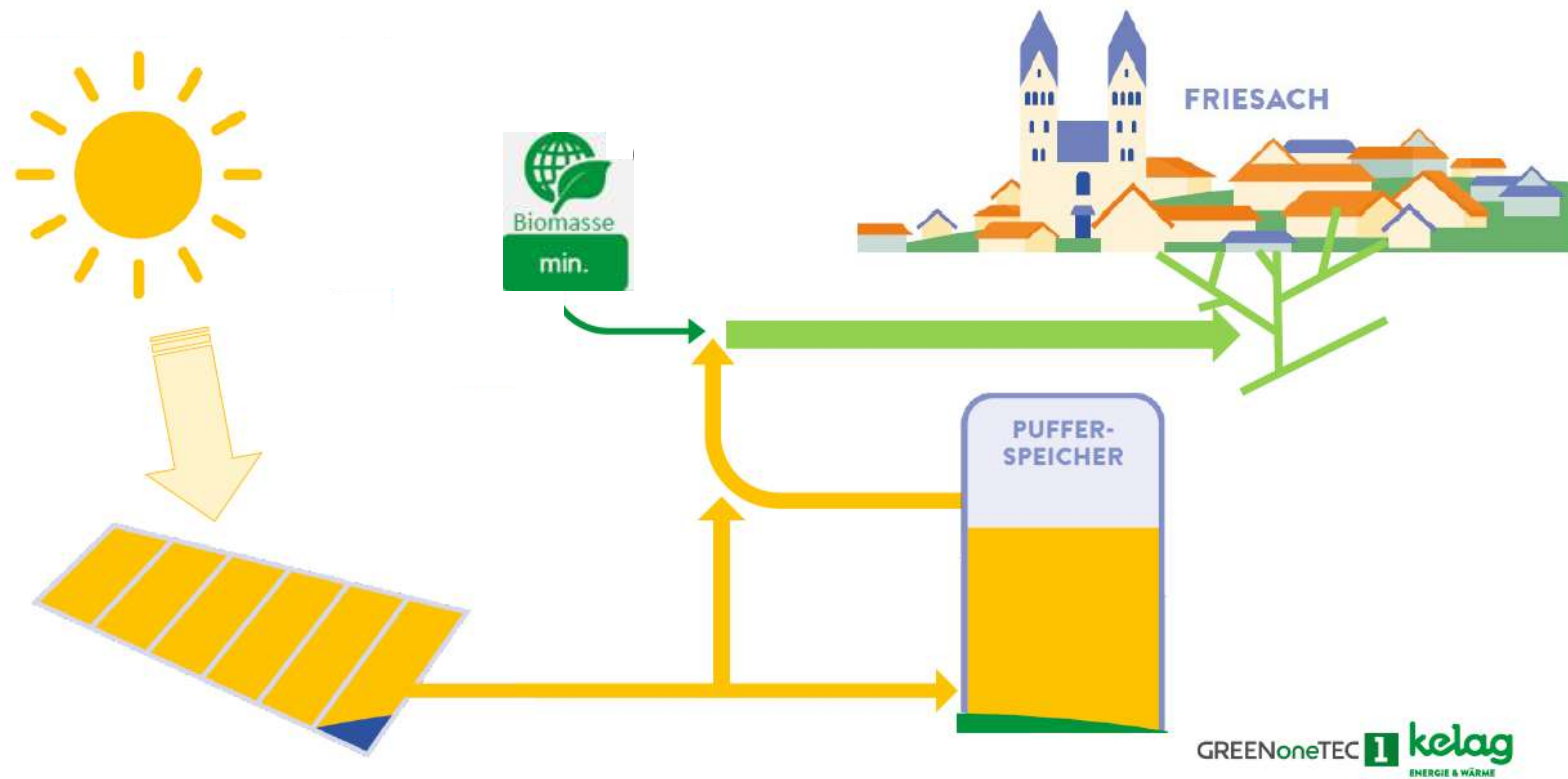


Solar district heating in Friesach

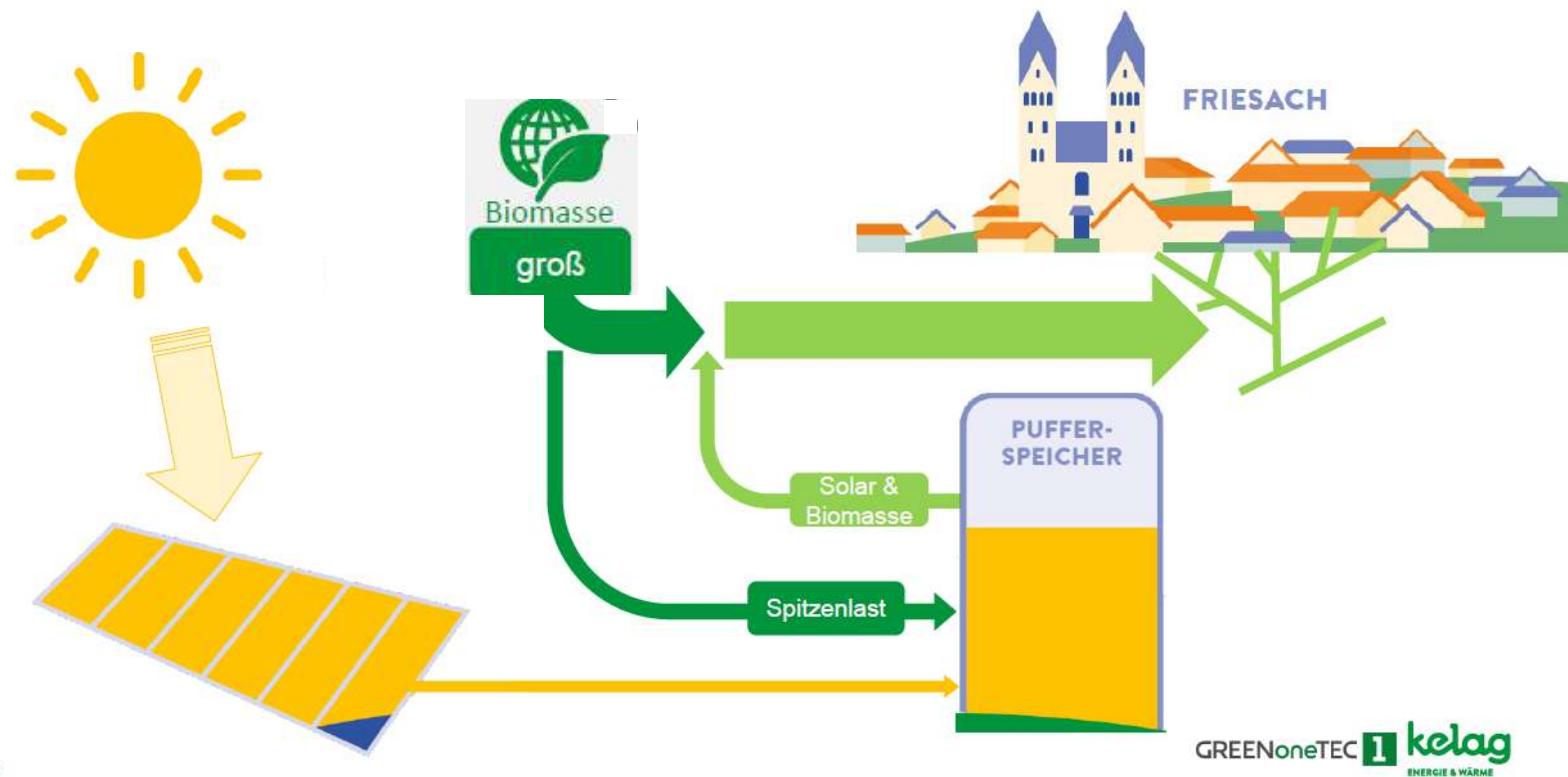
- 4,900 inhabitants
- Approx. 500 households
- Net length 10 km
- 2 biomass boilers (4 MW + 1.5 MW)
- Commissioning 1995
- Solar modernization 2019
- 5,750 m² collector area
- 1,000 m³ buffer storage



Operation in summer



Operation in winter



Motivation by the community

- Increasing energy efficiency through integrated, holistic and innovative energy concept
- Expansion of renewable energy as a contribution to the heat and energy transition
- Regional, domestic added value
- Strategic cooperation and partnerships with local companies
- Doing instead of just talking and learning from it



Thank you for your attention!

