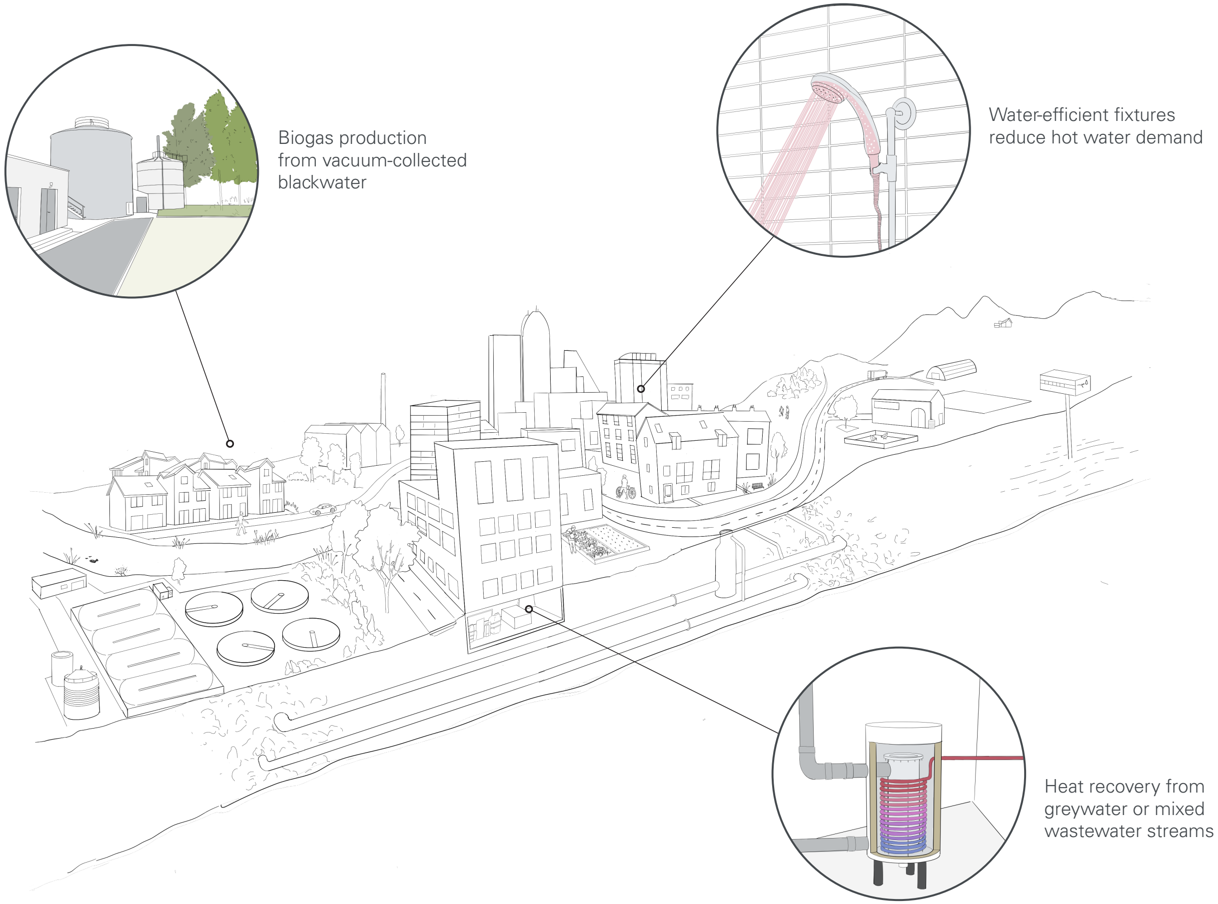
SAVE ENERGY

eawag
aquatic research

GOAL

Heating water, for showers, sinks, and appliances, requires energy. Once used, residual heat quickly dissipates into the receiving sewer system and wastewater treatment plant. Energy savings can be achieved by reducing the consumption of hot water or by recovering residual heat from wastewater streams (e.g., greywater) on site. Valorization of organic matter to produce biogas, or heat, helps diversify energy supply and reduce dependence on external power sources.



REDUCE HEAT DEMAND

Install fixtures that reduce hot water demand, such as shower head fittings and water efficient washing machines, and thus also reduce the energy needed for heating. Showers that recirculate hot water also reduce energy demand.

RECOVER HEAT

Use passive systems to heat up water, or actively recover heat from grey- or mixed wastewater through heat exchangers at different scales. To reduce heat dissipation, recovery should take place close to the source.

PRODUCE ENERGY

Produce gas, pellets, or heat from streams containing feces (and toilet paper). Digesting feces or vacuum-collected blackwater, with or without organic food waste, produces biogas. Combustion or pyrolysis oxidizes dried fecal matter.