Motivation

Separation at source is necessary to meet the criteria of sustainable sanitation. Main benefits are the possibility of recovery of energy and nutrients, removal of micro-pollutants and the possibility of reduction of water consumption.

New sanitation concepts are based on separation at source and community on-site transport and treatment. A lot of techniques are already available, but focus on various parts only. To implement new sanitation on community scale there is a need for a total compact sustainable concept.

Black water (faeces and urine) can be obtained with a little amount of water, using for example vacuum toilets (already widely applied), opening an array of sustainable treatment options.

Technological challenge

The objective is to develop a total treatment concept for source separated black water, with reuse of energy and nutrients and reduction of the emission of pollutants.

Optimal treatment configurations will be researched. Criteria like energy and nutrient recovery, emissions, use of chemicals, sustainability, complexity, robustness and costs will be used for comparison.

Points of interest:
• Recovery of energy
• Treatment sequence with respect to nutrient recovery
• Removal of micro-pollutants

The research will be accomplished both on laboratory- and on pilot- / demonstration-scale.