



## Optimisation of drinking water well field operation - energy savings and quality control (Phase 2)

### Context

Against the background of increasing energy prices and climate change, energy efficiency becomes more and more important also in the field of drinking water production.

The feasibility study carried out within the first project phase has revealed that considerable energy savings can be achieved by means of smart well field operation and also through investing into new pumping technologies. The complex interaction of pumps, wells, groundwater and raw water pipes is the key factor to the energy-efficient operation of drinking water well fields.

In the course of the second project phase, the coupling of these system components will be simulated through mathematical models and subsequently validated at technical scale. The theoretical and practical investigations aim to develop a tool for supporting operators in identifying the crucial parameters allowing for an energy-optimised well field operation.

In this second phase, the focus is on the consolidation of scientific findings and the development and testing of a prototype tool for well field optimisation. The project is being carried out together with the Department of Fluid Dynamics of the Technische Universität Berlin and is sponsored by Veolia.

### Aim

- Consolidation of the drawdown modelling and pump operation approach
- Development of a prototype tool
- Testing of the prototype tool for several case study well fields

### Work packages

- 1) Advanced drawdown and pump simulation
- 2) Coupling and optimisation approach - prototype tool development
- 3) Energy audits and scenario modelling



Well head



Well chamber

Duration (Phase 2): 01.06.2012 - 30.09.2014

Project Volume (Phase 2): 400,190 €

### Contact

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