

1 INFORMATION ON WORK PROGRESS

1.1 Summary and aims for the period

Work Package 4: In this period, we finished the monitoring campaign from the previous periods and used its data to calibrate groundwater models. The current goal of this period is to extend the pilot area in terms of groundwater modeling. The fine-tuned models of the pilot area are a great example for building and calibrating the other areas. Via the calibrated models we can generate the sufficient amount of data for neural engines to predict operational strategies based on energy efficiency and water quality.

1.2 Initially planned Milestones/Deliverables/Budget and the impact on the project

Work Package 4: The final achievement of this package is having several calibrated hydrogeological transport models. We achieved it with the utilization of monitoring campaigns results, also with the data coming from continuously measured parameters of the wells.

With calibrated models it is possible to analyze any pollutant spreading or appearing in conducted water, making it possible to analyze various remediation techniques. With such models it is also possible to generate data for neural networks for optimization operating strategies.

1.3 Current status (completed/ongoing/started) of the work packages, as well as status (achieved/on track/delayed) of tasks, deliverables and milestones

Work package 4: In this section we finished our monitoring campaign that lasted over a year in terms of laboratory analysis. For wells data there are around two and a half years of available information about their operating conditions (water level, depression, power consumption etc.). We all evaluated, filtered and used the data for several groundwater model calibration. The models are fine-tuned based on project goals and for further applications. They are now capable of following pollutant dispersion in the whole area, as well as determining the amount of pollutants appearing in produced clean water. Models are now able to generate data for neural networks (AI) from operating conditions that are rarely or not at all available due to water supply safety.

2 FUTURE EXPECTATIONS OF THE PROJECT

2.1 Information about the intermediate results obtained or any successes

Laboratory measurements are finished, as well as the long-term monitoring campaign of previous reports. We finished and analysed the data collected from continuous monitoring of well operating parameters. With the dataset collected via the monitoring campaign we could calibrate and use the hydrogeologic models for generating data for neural networks (AI) as well as determine success rate of remediation techniques.

As it is our final report, we state that all project goals have been achieved and looking forward for future improvements of our topic.

2.2 Indication whether the expectation of the project is still valid or whether there could be any deviation of the project in the medium term which can affect the financing, the planning and expected results

The monitoring campaign, the modelling tasks carried out according to the timetable and the project goals. As it is our final report, there were no tasks delayed or unfinished. Model building, calibration and validation occurred on time and up to the scientific requirements and industrial standards.