

CASE STUDY

PROJECT TONDELIER – REMEDIATING A GASWORKS’ LIQUID TAR HOT SPOTS



RSK is designing the remediation of a 70,000-m² former gasworks site in Ghent, Belgium. The gasworks, the energy source for all Ghent's street lighting for many years, has left behind a range of contaminants. The city authorities selected RSK to develop a remediation plan for the site. The remediation and development work, known as Project Tondelier, began in 2012.

Four areas of coal tar contamination were identified on the site as far as 3–5 m below ground level, and pollutants, including mono-aromatic and polycyclic aromatic hydrocarbons, cyanide, chlorinated aliphatic hydrocarbons and heavy metals, were found in the soil and groundwater. Three of the tar hot spots consist of liquid tar that has migrated below the water table. A fourth tar hot spot has been identified that is more solid and remains on the surface.

RSK's remediation concept is based on excavating the tar hot spots and soil contaminated with tar-related compounds and covering these areas with a layer of clean soil in the park areas and gardens. Groundwater will be remediated by a pump-and-treat method, in situ enhanced natural attenuation and monitoring.

The remediation concept we presented was approved by the authorities, which will undertake a follow-up evaluation once we have finalised the details of the remediation plan. A key focus is to apply risk-based remediation. The remediation should remove contamination to a level that can guarantee that there is no risk of human exposure, of contaminant migration and/or to ecology remaining after the work is complete while the total costs are kept as low as possible.

One challenge is the coordination between the construction operations and the remediation work. The entire project has been designed to create as many mutual advantages as possible, for example, by building underground garages where the tar hot spots have been excavated. Groundwater lowering for building the underground structures will also be used as the pump-and-treat method for groundwater remediation. Another issue is the coordinating of time schedules, as the building work has to start as soon as possible. From a social perspective, the remediation plan will involve engaging with Project Tondelier's neighbouring communities in order to reduce the potential for the work to become a nuisance.

Project Tondelier is expected to last 8–10 years. But, once the remediation is complete, Tondelier will be a contemporary city district within walking distance of the old town of Ghent with plenty of open space and nature. There will be 2.5-ha park and a residential area with a nursery, a leisure centre and a youth centre. The facilities and at least 40% of the homes will be passive buildings. The project aims to be carbon neutral.



For further information, please contact:

RSK: Ontginningsstraat 22, 3530 Houthalen-Helchteren, Belgium
Tel: +32 11 64 48 66 · Contact: Alex Ectors · Email: aectors@rskgroup.be