



NICOLE

Network for Industrially Co-ordinated Sustainable Land Management in Europe



ICCL
international
committee on
contaminated
land



Danish Soil
Partnership



**DANISH
REGIONS**



Common Forum

**INNOVATION NETWORK FOR
ENVIRONMENTAL TECHNOLOGY**



Joint ICCL – NICOLE conference Groundwater Management on Contaminated Sites

Site visits

Friday 6 October 2017



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Introduction



**Danish Soil
Partnership**

Field trip to Danish Soil Partnerships network of test sites

The network of test sites consists of currently nine contaminated sites acquired by the regions to undertake development, demonstration and maturation of new techniques for site investigations and remediation. The sites are also available for private companies, university's etc. to test and validate new products and technologies. Since 2012 more than 30 development projects have run on the various sites in the network.

Site visit

The participants can join one of two field excursions: the innovation Garage or Stengaarden. The site visit includes lunch. Due to limited availability registration is required.

Excursion start and bus boarding will be at the National Museum from 11:00-11:30h. Drop-off at the end of the excursion will first be at the National Museum, followed by the airport. Participants who prefer the airport drop-off can bring their luggage on the bus during the excursion.

NICOLE members can opt-in for their preferred site visit through the online registration form on the NICOLE website.

Non-NICOLE members can contact NICOLE secretariat at nan.su@nicole.org to register for their preferred site visit.



Site 1 - Stengaarden Landfill

The site is a former landfill contaminated with pesticides - among other compounds. The site has been remediated since 1995 by P&T and since 2011 the gas has been extracted to prevent intrusion into nearby houses. In 2013 Region Zealand purchased the site where the water treatment plant was built.

The plant went through a complete reconstruction during 2015 to 2016, which included new technologies as advanced oxidation. The reconstruction of the plant also gave the possibility to prepare the plumbing for plug and play testing of external systems by taking a part current of the process water anywhere in the treatment system and afterwards returning it for retreatment in the main system. Region Zealand expects phenoxy acids to be a high cost remediation area in the near future and hence the need for new remediation technologies.

Current projects on the site include bioremediation, membrane filtration and a bio basin..

<http://danishsoil.org/testsites/testsite.php?id=7>

Site 2 - Innovation Garage

The site is a former dry cleaning facility heavily contaminated with chlorinated solvents, which was prioritized for a costly remediation. In 2012 the Region saw the opportunity to purchase the site in order to test more cost-effective and sustainable remediation methods without inconveniencing a site owner. In this way, the region hoped to reduce the overall cost of remediating the site, while also building up knowledge.

Current projects on the site include electrochemical zoning for in situ degradation, membrane filtration of xenobiotic compounds, producing, testing and injecting metal-oxides for subsurface contaminant removal and immobilization.

<http://danishsoil.org/testsites/testsite.php?id=1>