

Soil and biodiversity



Neste Oil systematically monitors the groundwater and soil at its refineries in Finland and strives to prevent either being polluted as a result of its operations. Any damage or pollution is remedied immediately. A serious leak took place in 2013, at the Porvoo refinery, when a pipeline fractured at the site's harbor, resulting in approximately 30 cubic meters of oil leaking into the ground.

Groundwater monitoring and reporting any cases where soil becomes contaminated are required under the environmental permits covering Neste Oil's refineries and most retail stations in Finland. A review of the current state of the soil at the Porvoo refinery was drawn up in 2013 as part of the application for the site's new environmental permit submitted in the fall. The study covered both the site's soil and the quality of the groundwater there, and indicates that some of the soil can be classified as contaminated, although the substances involved do not represent a risk to health or the environment. Neste Oil's other refineries can also provide data on the status of the soil at their sites if needed.

The renewable refinery sites in Rotterdam and Singapore were thoroughly surveyed prior to their constructions, and there was or has not been any indications of contamination.

A soil analysis study is always carried out at the Porvoo and Naantali refineries whenever construction work is undertaken, and any contaminated soil that is found is removed for treatment. Both refineries also have long-term soil rehabilitation programs in place to remove contaminants from the soil in storage tank areas during maintenance work on containment dikes.

Monitoring groundwater quality

Neste Oil always aims to ensure that no contaminants leach out of its sites via groundwater. Groundwater monitoring takes place on both a statutory and voluntary basis. Statutory groundwater monitoring has taken place at the Porvoo and Naantali refineries and the Hamina terminal since the 1990s, and a voluntary groundwater monitoring program is in place at the base oil plant in Bahrain, in which Neste Oil owns a minority share.

Monitoring the soil at retail stations

The condition of the soil in and around Neste Oil's retail stations is also monitored. Soil studies are carried out annually when stations are closed or modification work is carried out.

Together with the Finnish Petroleum Federation and other companies in the industry, Neste Oil proposed in 2013 a new technical solution to be introduced at stations located in groundwater areas. Based on multilayered structures, this would provide a very high standard of protection for the groundwater and soil at these sites and ensure that no pollution could take place. The solution is proposed for a number of stations in groundwater areas.

Some of Neste Oil's stations are covered by a remote monitoring system that automatically sends an alarm in the event of an incident to the company's service provider, who is responsible for investigating the situation immediately. 54% of stations were covered by the system in 2013, and the aim is to further extend its use.

Risk assessment of the impact of the oil leak in Kajaani completed

An extensive risk assessment of the serious leak that took place in spring 2012 at the National Emergency Security Agency's oil storage facility in Kajaani operated by Neste Oil was completed in fall 2013. The experts consulted estimated that the size of the contaminated area has decreased to approximately 5% of the original area. Most of the oil has evaporated or been broken down by natural means, and the assessment came to the conclusion that a clean-up is not called for because of the minor environmental and health risk remaining. Clean-up work would be likely to have more of a negative than a positive impact on the local environment.

Based on these findings, Neste Oil has proposed to the authorities that follow-up soil analyses should be carried out in 2015 and 2017, and has offered to recompense local landowners appropriately. Neste Oil carried out numerous water and soil analyses, together with various remedial measures, at the site in 2012 and 2013.

Claim to pay for marine sediment clean-up

The City of Helsinki announced in 2013 that it believed Neste Oil was liable to pay for the cost of cleaning up marine sediment adjacent to the old oil harbor at Laajasalo. Neste Oil used to have a fuel storage facility and lubricant plant in the area, but no longer has any operations there. Soil clean-up work was carried out at the site using city-approved methods in 2004 and 2010. The new claim is linked to the city's plan to dredge the sea bottom around the old oil harbor as part of redeveloping the area for residential use. Neste Oil is in negotiations with the city to resolve the issue.

Promoting a diverse natural environment at refinery sites

Nature conservation areas or protected sites are located close to both of Neste Oil's refineries in Finland. The Stormossen bog – a 75-hectare domed bog – to the west of the Porvoo refinery has been protected for many years and is part of the European Natura 2000 network of nature conservation sites. The Vanto area of deciduous woodland close to the Naantali refinery, owned by Neste Oil, is also a protected area. Neste Oil always takes areas such as these into account in its operations and strives to protect them and the rest of the environment around its sites. There are

no areas of protected forestland in the vicinity of Neste Oil's refineries in Rotterdam or Singapore.

Uninterrupted, incident-free refinery operations play a key role in helping reducing the impact of Neste Oil's activities on the environment. Emissions into the water, the air, and the soil are minimal during normal operations.

Bioindicators, such as plants highly sensitive to airborne pollutants like lichen, have been monitored on a long-term basis at the Porvoo and Naantali refineries since 1985. This monitoring work

has shown that the state of the environment in the vicinity of the two sites has improved significantly and local forestland, for example, is recovering from the impact of previous pollution. As the pace of these types of changes is slow, bioindicator studies are carried out over an extended timeframe, every four to five years.