

## Research and development

Research and development focusing on both crude oil-based and renewable fuels is crucial in implementing Neste Oil's strategy. Neste Oil's R&D expenditure totaled EUR 40 million (42 million) in 2013. Extending the feedstock base is one of the main goals of Neste Oil's R&D work. About 70% of the R&D project portfolio in 2013 was devoted to research on renewable raw materials. Research work concentrated on both completely new types of inputs, such as pilot-scale microbial oil and algae oil, and existing materials, such as waste animal fat, vegetable oil residues, used cooking oil, and technical corn oil. Efficiency improvements at Neste Oil's conventional oil refineries and renewable refineries were another key focus area of technology development.

Neste Oil focused on expanding the use of waste- and residue-based feedstock, particularly waste animal fat, palm fatty acid distillate (PFAD), and technical corn oil (TCO), in 2013. The usage of waste and residue-based inputs increased by 476,000 tons to 1,219,000 tons and accounted for approx. 52% (35%) of total renewable feedstock usage in 2013. Technical corn oil was used in production for the first time during 2013. Non-residue vegetable oils, principally palm oil, accounted for approx. 48% of the inputs used in renewable diesel production in 2013.