



Announcement

15 March 2021

Blackwood and TTCL open torrefaction test facility in Ratchaburi, Thailand

Amsterdam/Bangkok – Blackwood Technology B.V. ("Blackwood") and TTCL Public Company Ltd ("TTCL") have opened a biomass torrefaction testing facility in Ratchaburi, Thailand. The new facility allows Blackwood and TTCL to conduct test work for clients. Blackwood will also use the testing facility for its research & development programs. The facility will be staffed by TTCL. Blackwood has contributed its *FlashTor*® pilot plant, which was earlier located in Prodock, the innovation hub managed by the Port of Amsterdam, in the Netherlands.

Mr. Maarten Herrebrugh, Blackwood's CEO, commented: "This torrefaction testing facility is a building block in our international roll-out strategy. The combination of our *FlashTor®* pilot plant, a new cold flow test rig and lab facilities enables us to carry out test work as well as R&D programs in a dedicated testing facility."

Mr. Shinichi Naruuchi, TTCL Vice-President and Head of its Energy Business Unit, added: "We welcome the launch of the new testing facility in Ratchaburi, only two hours drive from our head office in Bangkok. It allows us to conduct test programs for our customers and ensures we can obtain the necessary inputs for the engineering of commercial torrefaction plants. This facility is a proof our commitment to develop a black pellet business in Asia."

Torrefaction of biomass

Torrefaction is a thermal pre-treatment technology to improve the fuel and handling characteristics of biomass and to reduce costs in the biomass-to-energy supply chain. Torrefied pellets (aka black pellets) are a carbon neutral, high quality solid bio-fuel, which can replace fossil coal in power stations, steel plants and coal gasification plants, using the existing coal infrastructure. Also, the higher energy density of torrefied biomass results in a substantial reduction of logistics cost in the biomass supply chain.

About Blackwood Technology

Blackwood is a Dutch renewable energy company, focusing on the torrefaction of biomass. Blackwood's leading and award-winning *FlashTor®* torrefaction technology was proven at industrial scale in a demonstration plant in the Netherlands. Torrefied pellets produced by Blackwood's technology have been successfully co-fired in large scale European power stations as well as in smaller scale CHPs.

About TTCL Public Company Ltd

TTCL is an integrated Thai Engineering, Procurement and Construction (EPC) and investment company. Since 2017 TTCL has started to invest into biomass renewable energy projects and plans to set-up a torrefied pellet business. TTCL is listed on the Bangkok stock exchange.