

Press announcement

22 July 2022

Blackwood and TTCL inaugurate torrefaction demonstration plant in Thailand

Amsterdam/Bangkok – Blackwood Technology B.V. (“Blackwood”) and TTCL Public Company Ltd (“TTCL”) announce the inauguration of a torrefaction demonstration plant in the Lampang province of Thailand (the “Demo Plant”).

Mr. Hironobu Iriya, President and CEO of TTCL, commented: “We are delighted to launch this biomass torrefaction plant today in the presence of the Japanese ambassador to Thailand, his excellency Mr. NASHIDA Kazuya, and of representatives of the local government, our industrial partners and customers.”

Demo Plant

The Demo Plant is using Blackwood’s proprietary *FlashTor*® torrefaction technology and turns low grade plant biomass into a high grade solid biofuel, commonly referred to as torrefied pellets, black pellets, or bio-coal. The purpose of the Demo Plant is twofold: (i) to showcase the *FlashTor*® torrefaction technology to prospective customers and project developers; (ii) to produce test volumes for potential offtakers of torrefied pellets.

Mr. Maarten Herrebrugh, Blackwood’s CEO, said: “We built the Demo Plant with maximum flexibility, in order to show that our *FlashTor*® technology can process different types of biomass, including woody biomass as well as agricultural residues. This project is the first result of our partnership with TTCL, which combines Blackwood’s best-in-class torrefaction technology with TTCL’s capabilities as an integrated EPC company.”

Next steps

Aside from this successful launch of the Demo Plant, Blackwood and TTCL have already started the engineering work for a first commercial-scale *FlashTor*® torrefaction plant in Thailand. The partners are planning to roll out many more such plants in Thailand as well as other ASEAN countries.

Mr. Hironobu Iriya explained: “The emergence of black pellets as a viable renewable fuel to replace fossil coal has been long-delayed by a ‘chicken-and-egg’ market situation: end-users were reluctant to sign long-term offtake contracts for torrefied pellets as long as they had not thoroughly tested the product, while project developers could only invest in a torrefaction plant if there were long-term buyers for the product. TTCL has taken the initiative to solve this conundrum by investing into the Demo Plant which was launched today. This new facility is also proof of our commitment to develop a black pellet business in Asia.”

Mr. Maarten Herrebrugh added: “Independently from TTCL’s plan to deploy additional black pellet plants in ASEAN countries, Blackwood is also in active discussions with prospective customers in other countries who intend to use our *FlashTor*® technology for their torrefaction projects.”

Torrefaction of biomass

Torrefaction is a thermal pre-treatment technology to improve the fuel and handling characteristics of biomass and to reduce costs of the biomass-to-energy supply chain. Torrefied biomass is a carbon neutral, high quality solid biofuel, which can replace fossil coal in power stations, steel plants and coal

gasification plants, using the existing coal infrastructure. Torrefaction is instrumental in unlocking the full potential of biomass for the purposes of energy generation as well as the production of bio-based fuels and chemicals.

About Blackwood Technology

Blackwood is a Dutch cleantech company, focusing on the torrefaction of biomass. Blackwood's leading and proven *FlashTor*[®] technology turns forestry and agricultural residues into a high grade solid biofuel. Blackwood's core business is the sale of *FlashTor*[®] systems and licensing of the *FlashTor*[®] technology to the developers of torrefaction projects.

About TTCL Public Company Ltd

TTCL is an integrated Thai Engineering, Procurement and Construction (EPC) and investment company. TTCL was formed in 1985 and the company is now listed on the Bangkok stock exchange. Traditionally, TTCL's EPC business focused on petrochemical, chemical and fertilizer plants as well as power generation projects. In recent years, TTCL shifted part of its activities onto renewable energy and environmental projects. In 2017, TTCL started investing into biomass renewable energy projects and is currently setting-up a torrefied pellet business. In 2020 TTCL became a shareholder in Blackwood.