



BTG Biomass Technology Group, P.O. Box 835, 7500 AV Enschede, The Netherlands

www.btgworld.com, office@btgworld.com

Tel: +31 53 4861186

Fax: +31 53 4861180

PRESS RELEASE

FOR IMMEDIATE RELEASE

Contact: John Vos, vos@btgworld.com

Direct tel: +31 53 4861191

Researchers from Europe and Russia collaborate to develop engines and turbines running on various bioliqids, including pyrolysis oil

Enschede, The Netherlands, February 2009 – In the Bioliqids-CHP project researchers from two SMEs, two industrial companies, two universities and a research centre from the Netherlands, United Kingdom, Italy and Russia collaborate to develop and demonstrate a cost effective combined heat and power system fuelled with bioliqids in the 50-1000 kW_e range. The 3-year project formally started in January 2009 and in February 2009 researchers from the seven project partners met during two days in Enschede for the kick-off meeting of the project.

CHP and biomass

Combined heat and power (CHP) systems can be very energy efficient as they produce heat and electricity simultaneously in a single process, and the European Union has set a target of 18% for the share of electricity production from CHP in 2010. CHP systems can be even more eco-friendly when fuelled with biomass instead of fossil fuels. However, operating small-scale CHP systems on solid biomass has proven to be rather expensive and not very reliable so far. This is due to physical hindrances such as the presence of minerals in the biomass and the low energy density of biomass feedstocks. Moreover, end-users tend to prefer fuels that are easy to use such as liquids or gas.

The Bioliqids-CHP project (in full: “*Engine and turbine combustion for combined heat and power production*”) was set up to break down these barriers by following a double approach. On the one hand, the project will develop and modify engines and turbines so that these can run efficiently on bioliqids such as biodiesel, vegetable oil and pyrolysis oil. On the other hand, bioliqids will be upgraded and blended in order to facilitate their use in engines and turbines. Thus, the most economic and reliable engine/turbine-bioliqids combinations will be developed.

Pyrolysis is thermal decomposition occurring in the absence of oxygen. The process produces a liquid that offers advantages in storage and transport and versatility in applications. The liquid can be produced from a wide range of biomass feedstocks, including forestry and agriculture residues.

EU-Russia cooperation

The research activities are co-funded by the European Commission, under its Seventh Framework Programme, and the Federal Agency for Science and Innovations (FASI) of the Russian Federation, under the research theme “Enhancing strategic international cooperation with Russia in the field of power generation from biomass”. The Commission contributes up to €1.6m and FASI up to 72 Million roubles. The project will reinforce the cooperation between European and Russian experts in the renewable energy field and develop technologies that can be exploited and have great impacts on the Eurasian continent.

Further details

The research covers three related areas: fuel upgrading and blending, engine modification and development, and emission reduction and control. **Bioliquids** that will be considered include straight vegetable oil (sometimes also referred to as Pure Plant Oil, PPO), biodiesel, and pyrolysis liquid from wood (pine) and straw. **Prime movers** that will be studied include amongst others diesel engines and (micro) gas turbines. **Emission control** will primarily focus on NO_x reduction.

Project **consortium** partners include: coordinator BTG Biomass Technology Group BV (NL), Encontech BV (NL), the Research Centre for Renewable Energies CREAR of the University of Florence (Italy), Aston University from Birmingham (United Kingdom), and the Russian partners Boreskov Institute of Catalysis, Siberian Branch of Russian Academy of Sciences (Novosibirsk), Federal State Unitary Enterprise 'Central Scientific Research Automobile and Automotive Engines Institute' (Moscow), and AMO ZIL (Moscow).