



Press Release, October 1, 2014

### **Agreement for the commercialization of new technologies for renewable natural gas**

Cortus Energy signs agreement on rights for the commercialization of new technologies for the production of synthetic natural gas (SNG, so-called renewable natural gas or bio methane) as part of the ongoing InnoEnergy project.

Cortus Energy signs agreement on rights for the commercialization of new technologies for the production of synthetic natural gas (SNG) as part of the ongoing InnoEnergy project. Within the European research program InnoEnergy launched in 2011 is a part for new technologies for the methanation of syngas from biomass for the production of synthetic natural gas (SNG) so called "renewable natural gas".

The project's mission is to demonstrate the technology where syngas from Cortus Energy's WoodRoll® process is treated and methanized into renewable natural gas. Furthermore, the project will also show how the yields of the process can be improved by addition of hydrogen produced by electrolysis using electricity from wind power surplus. The results are included as part of the project "Smart Grid" for natural gas.

Cortus Energy's thermal gasification process WoodRoll® is complemented by new gas cleaning from the Royal Institute of Technology (KTH, Sweden) and new methanation technology from DVGW / KIT (Germany). Spanish "Gas Natural" is also a partner in the project.

The demonstration will be performed at Cortus Energy's reference facility for WoodRoll® in Köping (Sweden) during November and December this year. The final report of the project will follow in 2015.

The project's new process technology has, until today, revealed major improvements for yields and lower investment costs compared to available existing technologies in the market. These two factors are crucial for the ability to achieve commercial success for renewable natural gas, primarily in Europe.

The need for renewable natural gas in the European Union is very large. Germany, on the basis of population and its ongoing energy transition ("die energiewende"), is distinguished as the single largest market.

*"It is with great pleasure that we take responsibility for the commercialization of technology from the project. Cortus Energy's offer is therefore unique in the market, from biomass to renewable natural gas from the same supplier. This opens a new market for us from next year which looks very exciting for us"* says Rolf Ljunggren, CEO of Cortus Energy AB.

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## About Cortus Energy

Cortus Energy provide cost effective renewable energy gas for Industrial, Power and Transport applications based upon the patented WoodRoll® technology.

Cortus Energy has developed the WoodRoll® process, a breakthrough technology for thermal gasification of biomass. WoodRoll® is based upon industrially proven sub systems that are combined into a unique and patented process.

Compared to other thermal gasification technologies WoodRoll® has a number of distinct advantages such as:

- *Feedstock flexibility:* A wide mix of feedstock (biomass based fuel) can be handled and the mix can change over time to optimize (minimize) the cost of fuel. No pretreatment of the feedstock is needed as drying is an integrated part of the WoodRoll®
- *Highest thermal yield:* Heat from high temperature process stages is recovered at process steps with a lower temperature level resulting in the highest thermal yield. Typically 80% of the energy from the feedstock (biomass) is converted into the syngas. If heat is recovered (to e.g. a district heating net) the thermal yield can be raised up to 90%.
- *Clean syngas:* The impurities are separated from the part that is gasified and the gasification is based on indirect heating and using steam as oxidizing agent, all this results in a clean syngas. Consequently there is no need to add costly downstream gas cleaning equipment. Impurities are measured on ppm level and the syngas can be used directly in gas engines / gas turbines.
- *Composition of syngas:* The syngas has a typical composition of: hydrogen 55-60%, carbon monoxide 25-30%, methane 1-2% and rest is carbon dioxide. The unique hydrogen – carbon monoxide relation (2:1) enables a cost effective hydrogen- and bio-methane (SNG) production.

All in all the advantages of WoodRoll® means that both the investment (CAPEX) and operational (OPEX) costs can be reduced which enable competitive renewable energy solutions based upon the WoodRoll® technology.

Cortus Energy is a listed company on the NASDAQ OMX First North, Stockholm, Sweden.