

High energy efficiency and low global warming potential



BioMCN is the first company in the world to offer a new, innovative process for producing high-quality bio-methanol from renewable sources

Road transport businesses across Europe are suffering from ever-increasing fuel costs. That is why many are looking into alternative fuels. Among the most promising is methanol, a type of alcohol which is produced by gasification of biomass. Methanol has high energy efficiency well-to-wheel and low global warming potential and cost. A pioneer in this growth sector is BioMCN. The Dutch company is the first in the world to offer a new and innovative process for producing and selling high-quality bio-methanol from renewable sources on a large industrial scale. The process is so efficient that it earned BioMCN the coveted Bio-fuels Technology Innovation Award last year.



Rob Voncken, BioMCN's CEO

BioMCN is a young, highly dynamic company specialising in the production of bio-methanol. Bio-methanol can be produced from many sources and be used for a wide variety of purposes. "We produce bio-methanol from glycerine, a by-product from producing bio-diesel, which makes it a sustainable raw

material for the production of bio-MTBE, bio-diesel, coatings, plastics and many other applications," explains CEO Rob Voncken. "By converting glycerine into bio-methanol, the full energy potential is utilised and CO₂ emissions, compared to regular methanol, are reduced by as much as 70%." The quality of the re-

sulting bio-methanol is so high that it even exceeds the internationally accepted IMPCA methanol specifications. "By offering sustainable solutions to our customers and suppliers as well as by continuously improving our production processes, we aim to make an important contribution to reducing CO₂ emissions," Mr. Voncken describes the mission of BioMCN. In filling this mission, BioMCN is cooperating closely with

forward-thinking enterprises that are looking into all viable alternative fuels. The bio-methanol that BioMCN produces is primarily targeted at the transportation sector and allows the petrochemical industry to meet the ambitious objectives as prescribed in the EU renewable energy directive. "Bio-methanol offers numerous opportunities in bio-fuels, such as bio-methyl tertiary butyl ether, bio-dimethyl ether or bio-hydrogen," says



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Mr. Voncken. Bio-methanol, however, has many other applications, too. “Bio-methanol is chemically identical to conventional methanol and can thus be used to turn any traditional methanol application ‘green’, such as glues or plastics,” states Mr. Voncken.

BioMCN is based in Delfzijl and was founded in November 2006. The company, which is owned by Teijin, Econcern and the NOM, currently employs 80 highly qualified, expert people. “We expect this number to grow considerably as more derivatives are added to our product portfolio in the coming years,” says Mr. Voncken. BioMCN has been producing bio-methanol successfully since March 2008. The 20 kton pilot plant was started up without any problems. BioMCN is highly confident about the process. “We have already ordered all the necessary equipment for the first 200 kton unit earlier this year,” states Mr. Voncken. “Construction has already

started. The start-up of the new unit is targeted for the end of the first quarter of 2009.” The new innovative process that BioMCN uses consists of two sections: a glycerine purification section and a glycerine gasification section. “The gasification section is the heart of the process and based on proprietary know-how of BioMCN. The glycerine based bio synthesis gas will enter the reformer of the methanol plant in combination with steam and possibly natural gas and crack it into H₂, CO and CO₂” Mr. Voncken explains the process. “In the methanol synthesis section, synthesis gas is sent to a methanol converter to produce crude bio-methanol. Finally, the crude bio-methanol is purified by distillation” The whole process is highly efficient: all generated heat is recovered using a complicated heat recovery system. The new proprietary technology also makes BioMCN more independent of the supply of natural gas as feedstock.

“At the same time, we are less affected by the price volatility of existing methanol markets,” says Mr. Voncken.

BioMCN’s process for the production of bio-methanol is so efficient that it earned the company the 2007 Bio-fuels Technology Innovation Award. The coveted distinction was awarded to BioMCN on the occasion of the Bio-fuels Conference hosted by the World Refining Association in Vienna last year. Established in 1997, the World Refining Association has achieved worldwide recognition for the organisation of high-level, strategic and technical conferences within the downstream oil and gas sectors. “Their industry events are market leaders for the global refining, petrochemical, bio-fuels and processing industries,” explains Mr. Voncken. The Technology Innovation Award given to BioMCN acknowledged the Dutch company’s major contribution to new developments in the field of bio-fuels. Espe-

cially the high energy efficiency of the process developed by BioMCN was highly praised. With its unique technology, BioMCN is leading the bio-methanol market worldwide. In Europe, the company has a market share of 5% in existing methanol markets. “Given the growing interest in ‘green’ energy and the exploding costs for conventional fuels, we are confident that bio-methanol has a great future,” concludes Mr. Voncken. ■

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