



NEWS RELEASE

BIOFUEL JOINT DEVELOPMENT

Technology offers energy savings during biofuel production process

Singapore, October 9, 2007-- Hyflux, BP International Ltd (“BP”) and the Dalian Institute of Chemical Physics (“DICP”) today announced plans to jointly develop and commercialise the use of zeolite dewatering membranes in the production of biofuels.

By increasing the efficiency of the dewatering step, zeolite membranes have the potential to significantly reduce the energy costs of production of biofuels such as bio-ethanol.

Fong Chun Hoe, Senior Vice President and Chief Technology Officer of Hyflux, Martin Atkins, Programme Manager, BP China and Professor Zhang Tao, Director of DICP signed the agreement today in Singapore.

The scope of the agreement covers the fermentation and synthetic alcohol dehydration of ethanol and propanol, and mixtures of alcohols and diols, specifically monoethylene glycol.

The first project of the three-party collaboration involves the dewatering of bio-ethanol using zeolite membranes. Bio-ethanol is produced by fermentation of sugars derived from starchy plants (corn, potatoes), sugar-rich plants (beets, sugar cane) or ligneous or cellulosic plants (wood, straw). Dewatering of alcohol is typically an energy intensive and costly process. Zeolite membrane technology has been proven to be especially cost-effective in the dewatering process and offers very significant energy savings when compared with conventional processes.

The three-party collaboration will draw upon DICP’s strong technical knowledge in zeolite membrane technology; and Hyflux’s commercial experience in membrane manufacturing, membrane module manufacturing, process design and systems integration; as well as BP’s worldwide fuel technology expertise, market network and know-how.

Hyflux believes that this is a significant milestone for the Group to enter the field of clean energy. “Following our successful commercialisation of our used oil recycling business last year, this new development represents yet another potential business in the energy sector for Hyflux,”

“This exploration into bio-ethanol processing dovetails with Hyflux’s corporate philosophies of being eco-friendly and seeks to bring about commercialisation of a new membrane application,” said Hyflux Group CEO & President, Olivia Lum in her opening address.

“We are also pleased to be a key partner in this project as this three-party collaboration draws on the synergies of DICP, who possesses strong technical knowledge in zeolite membrane technology; BP, one of the world’s largest energy

companies and a leader in the area of low carbon fuels; and Hyflux, whose key strength is in commercialisation of novel technologies,” she continued.

BP has extensive experience and investments in biofuel research and development in Europe, India, Australia, China and the USA, and was a pioneer in the area of zeolite membrane technology. In China, BP and DICP have been working together to research new clean energy technologies. BP also spearheaded the “Clean Energy: Facing the Future” programme in 2001 with the Chinese Academy of Sciences and Tsinghua University.

Pek Hak Bin, Country President of BP Singapore said, “Transportation is an important area to address since it accounts for around 20 per cent of global emissions and increased blending of biocomponents offers a real option for progress in this area on a global scale.”

Global investment in biofuels accounted for some US\$18 billion in 2006. By 2020, the estimated global demand of bio-ethanol is estimated to reach 120,000 million litres.

“Hyflux and DICP are acknowledged leaders in their respective fields and we believe this partnership will strengthen innovation and continue to drive down the cost and energy requirement for biofuels purification,” he continued.

Dr. Tao Zhang, Director of DICP said, “DICP is one of the most creative and innovative research institutes in China and has a track record of turning research into commercial application. Most recently we have commercialised our methanol to olefins technology using novel zeolitic catalyst and process development expertise. DICP are experts in zeolite membranes having worked on them for over 15 years. We have developed and patented novel methods for their preparation which has improved the efficiency of the membrane modules and provided an intermediate level of scale-up to show these can now be fabricated in a cost effective manner.”

Looking ahead, Hyflux is very optimistic about the potential spin-offs of the widespread applications of zeolite technology.

“Zeolite membranes can also be effectively used in the dehydration and recycling of solvents. This will give Hyflux an added area of growth, which is to expand into new industrial sectors such as the fine chemicals and specialty chemicals and bio chemicals,” Ms Lum concluded.

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About Hyflux Ltd

Hyflux is one of Asia's leading environmental companies, with operations and projects in Singapore & Southeast Asia, China, the Middle East & North Africa and India.

Specialising in membrane technologies, Hyflux is today an integrated solutions provider offering services that include process design and optimisation, pilot testing, fabrication and installation, and engineering, procurement and construction. It is also engaged in the commissioning, operation and maintenance of a wide range of liquid treatment systems on a turnkey or Design-Build-Own-Operate (DBOO) arrangement. Hyflux currently focuses on four core businesses namely water, industrial manufacturing processes, specialty materials and energy (oil recycling)

In 2006, Hyflux was awarded Water Company of the Year by the UK's Global Water Intelligence at the Global Water Awards. It also made it to Forbes Asia's Best Under a Billion List 2006.

For more information, please visit www.hyflux.com

About BP

With operations across 100 countries, BP is one of the world's largest energy companies, providing its customers with fuel for transportation, energy for heat and light, retail services and petrochemicals products for everyday items. BP also has a growing presence in gas and power, solar power generation and wind power.

For more information, please visit <http://www.bp.com/>

About DICP

Founded in March 1949, DICP is a multidisciplinary institute engaging in both fundamental and applied researches of chemistry and chemical engineering.

With strong abilities for technological development, DICP has conducted researches in many fields, including catalytic chemistry, engineering chemistry, organic synthetic chemistry, chemical lasers and molecular reaction dynamics, as well as in modern analytical chemistry, especially in chromatography.

For more information, please visit <http://www.dicp.ac.cn>

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