

## Novozymes to help build bio-refinery in China

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**Singapore:** Europe-based Novozymes has partnered with M&G Chemicals to supply enzyme technology for glycols bio-refinery to be constructed in China.

The bio-refinery will be located in Anhui province, close to Fuyang in Eastern China, and will have capacity to process one million metric tons of biomass per year, approximately four times the capacity of the biomass conversion facility by Beta Renewables in Crescentino, Italy. Construction of the bio-refinery is contingent upon successful financing, and the bio-refinery is slated to begin operations in 2015.

The bio-refinery is expected to be realized through a joint venture between M&G Chemicals and the Chinese company Guozhen Group, which will make available one million metric tons of wheat straw and corn stover per year. The bio-refinery will produce mono-ethylene glycol (MEG). MEG's main application areas are in the production of synthetic polyester fibers and as one of two main components in polyethylene terephthalate (PET) production. PET is one of the key building blocks for plastic packaging, including plastic bottles for water. The lignin by-product will feed a 45 MW cogeneration power plant which will be constructed in conjunction with the bio-refinery.

"M&G Chemicals is today taking a big step towards a bio-based society where biomass is used for products like fuel, chemicals and plastics. We are incredibly excited to enable M&G Chemicals' vision of producing bio-plastics on a commercial scale and are looking forward to the long-term collaboration", said Mr Thomas VidebÅik, executive VP and head of business development, Novozymes.

The bio-refinery will use Beta Renewables' Proesa technology and Novozymes will supply the enzyme technology for biomass conversion on an exclusive basis over a 15-year period. Novozymes' revenue from this bio-refinery, which corresponds to four regular Beta Renewables facilities, is included in the expectations provided by Novozymes at the signing of the strategic partnership agreement with Beta Renewables in October 2012.

To support M&G Chemicals' vision, Novozymes will provide M&G Chemicals with financial support of \$35 million, the exact details of which remain to be determined. Novozymes does not currently expect to expand its enzyme production capacity to serve the new bio-refinery.