

# Daily Oil Bulletin

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## Based On Decaf Coffee Process, Technology Would Refine Bitumen Without Upgrading

BY [PAT ROCHE \(/AUTHOR/PAT-ROCHE/\)](#) – JULY 23, 2007 – [VIEW ISSUE \(/HEADLINES/2007-07-23\)](#)

A process for refining bitumen without first upgrading it may solve some of the economic and environmental problems of bitumen processing, a conference heard last week.

The idea of applying the technology to bitumen came from Canada, but it was developed in China, said **Xing-Yi Wang**, director a refineries and pipelines with Beijing-based **China National Oil and Gas Exploration and Development Corporation** (CNODC), a subsidiary of **China National Petroleum Corporation** (CNPC).

Wang was speaking at the **PennWell Corporation's** first oilsands and heavy oil technologies conference in Calgary, which was attended by more than 850 delegates and speakers.

China produces about 300,000 bbls a day of heavy oil and imports a relatively small amount of heavy crude, Wang said. Heavy oil accounts for about five per cent of China's refinery feedstock.

China, the world's second-biggest oil consumer, has been sourcing the globe for supplies to feed its rapidly growing economy.

The country's state-controlled oil companies failed to establish a major presence in Canada's oilsands, but negotiated major supply agreements with Venezuela, a major heavy crude producer.

Natural gas prices and environmental and social constraints make the current heavy oil processes unsustainable, Wang told the conference.

He described a process called SELEX-Asp as a potential single-step alternative to both upgrading and refining.

Dr. **Keng Chung** of Edmonton, who has worked on SELEX-Asp for 14 years with researchers in China, co-chaired the conference's sessions on upgrading. He told the conference CNPC might use the technology in a massive new refinery planned for Venezuela, but that hasn't been decided yet.

Chung was a longtime researcher at **Syncrude Canada Ltd.** He recently left Syncrude to work with his own company, **Well Resources Inc.**, to help commercialize SELEX-Asp. He is a distinguished professor of chemical engineering at **China University of Petroleum**, Beijing, and an adjunct professor of chemical engineering at **University of Calgary**.

He told the conference he is in discussions with two Canadian companies which he hopes will lead to a SELEX-Asp pilot or demonstration facility.

In an interview, he declined to identify the two Calgary-based companies, but said the goal is to have something built next year to test the technology on Athabasca bitumen.

He stressed that he isn't talking about an upgrading project. SELEX-Asp is supposed to produce consumer-ready refined products without first putting the bitumen feedstock through an upgrader.

Chung said the supercritical extraction process on which SELEX-Asp is based has been widely used in the food and pharmaceutical industries, but this will be its first application to hydrocarbons. He said the underlying technology was developed decades ago to produce decaffeinated coffee.

He said the first part of the SELEX-Asp supercritical extraction process was demonstrated and commercialized in China back in 1989, but the second step -- its application to heavy oil -- has yet to see commercial application. He hopes that will change with a first project in Canada or Venezuela.

CATEGORY: TECHNOLOGY (/CATEGORY/TECHNOLOGY/)