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**Bitumen Recovery and Technology : bharatbook.com**

*Bharatbook.com is proud to announce the new report "Bitumen Recovery and Technology"*

*(<http://www.globalknowledgeresearch.com/reportdetails.asp?id=15873>) from its vast collection of informative market research reports.*

**/24-7PressRelease/** - MUMBAI, INDIA, March 31, 2008 - In 2005, crude oil derived from oil sands and associated bitumen accounted for about 50% of Canada's crude oil output. The figure is expected to increase to 77% by 2012. Over the next decade, synthetic crude produced from Alberta's oil sands will likely be between 1.5 and 1.7 million barrels per day, and the amount of bitumen shipped to market will more than double from its current volume of approximately 350,000 bbl/d. Bitumen has been known for centuries, but no concerted activity to develop the resource occurred until the mid-1960s. In recent years, investments in oil sands projects have become more attractive due to the increasing price of crude oil and technology improvements that have brought down the costs of bitumen production. Environmental Challenges: For every unit volume of bitumen recovered, six or more units of wet sands and water-saturated tailings must be handled, processed, and eventually reclaimed as part of a renewed ecosystem. In addition, the overburden scraped away from the oil sands layers also needs to be reclaimed. Air emissions from oil sands operations include carbon dioxide (CO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), hydrogen sulfide (H<sub>2</sub>S), carbon monoxide (CO), methane and other volatile organic compounds, ozone, and particulate matter. Acid rain, snow, dust and ground level smog are other environmental concerns. Greenhouse Gas Emissions: The potential for GHG emission reduction in the in situ recovery sector ranges from 25% to 75%. A newer class of processes using variations of in situ combustion holds promise for efficiency from direct heat energy in the reservoir. The mining-based sector, being a more mature industry, has more limited opportunities for GHG reduction. However, three areas have potential to reduce GHG (largely CO<sub>2</sub>) emissions: energy for extraction, reductions in diesel-fueled truck and shovel operations, and more rapid thickening of tailings to recycle warm water. Synthetic Crude Oil (SCO) Quality: SCO derived from bitumen currently has limited value across an expanded market base because of its quality drawbacks. The high aromaticity of SCO is a common problem for Alberta upgraders, and concerted collaborative research is needed to address this issue. The current push toward ultra-low sulfur fuels in both Canada and the U.S. is another quality issue that calls for investment. The Need for Research and Development: Research and development is needed in virtually all areas of the industry to address the numerous challenges, improve recovery and lower the production costs of bitumen. This report outlines the areas of R&D that offer potential, including chemical enhancements to help improve the flow characteristics of bitumen; biotechnology that may enhance recovery using tailored microbes; low pressure SAGD to improve thermal efficiency; water recycling methods; and various techniques to improve drilling and ore processing. Universities, government, and industry researchers are all working to advance these technologies in both laboratory and in-field experimentation. At-Face Mining: Bitumen can be recovered by mining or in situ production. Moving the extraction step to the mine face is commonly known as at-face mining. The concept of at-face mining includes the integration of various steps in the mining-to-tailings chain through integrated equipment, such as the tar sands combine. This device uses only 20% of the normal extraction water (after recycling) and produces geo-technically stable tailings. Power consumption is also significantly reduced. Summary: Alberta, Canada is home to 85% of the world's bitumen, and Canadian deposits are virtually the only ones that are economically recoverable for conversion to oil. The growth potential for the bitumen industry is enormous. Its development along the lines outlined in this report will bring major growth in employment, infrastructure, and government tax and royalty intake over the long term. However, extensive research and development is needed to bring costs down further and to address numerous other challenges associated with bitumen extraction and production. This report explores the background and future of bitumen recovery, technologies, and market potential.

For more information kindly visit: <http://www.globalknowledgeresearch.com/reportdetails.asp?id=15873>

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