

## OIL SHALE NEWS

### **5<sup>th</sup> International Conference “Oils and Fuels for Sustainable Development AUZO 2008” held in September, 8–11, 2008 in Gdansk, Poland**

The Conference has been held at this venue every three years since 1966. Conference brought together representatives from academia, industry and authorities to exchange latest advances in knowledge and technological progress and to share experience pertaining technological, economical and environmental aspects of oils and liquid fuels.

Environmentally friendly processing of fossil fuels and wise use of renewable resources were addressed within the following thematic sessions: oil sands and oil shale, synfuels, biofuels, petroleum and methane. Discussed were also bioenergy and bioenergy technology, surface chemistry, lubricating oils, their advanced recycle technologies and new production substrates and different aspects of clean technologies.

To the readers of *Oil Shale* were the challenges in bitumen production from Canadian oil sand deposits. Oil sands are unconsolidated sands impregnated with heavy, viscous petroleum, normally referred to as bitumen or tar. The total bitumen only in Alberta is estimated at 1.7 to 2.5 trillion barrels what is clearly massive by world standards. Two distinct processes are currently used to produce bitumen from Alberta oil sands: *in situ* and open pit mining technology. *In situ* operations, suitable for deposits with overburdens thicker than 50 meters, currently account for around 10% of total bitumen production with remaining being produced by open pit mining operations. In recovering bitumen from its vast reserves, the steam assisted gravity drainage is receiving more attention because it permits drilling of deep oil reserves with a minimal disturbance of natural environment. However, there is an urgent need to address the high energy requirement for steam production. The oil sand industry plans to extend production from 1.2 million barrels per day to about 5 million in 2020. Because of its energy intensity the expanding oil sand production will be linked with serious green house gas emissions. Various technologies to reduce GHG emissions in the oil sand sector are available but freezing the emissions is most promising. Nevertheless, current GHG politics do not provide sufficient incentives to apply innovative technologies and thus avoid a dramatic increase of GHG emissions of the oil sand sector.

In many papers biomass energy was discussed. There are several reasons which constitute barriers for the introduction of the biomass into energy market, such as lack of knowledge, too low prices of the conventional fossil fuels, slow progress with the technological development of the most efficient

production of heat and power from biomass, difficulties with selling the produced heat energy and electricity into the state electrical grid or to the district heating distribution pipes. There are also many difficulties in collection, handling and transporting of biomass, high moisture content and lower energy density than in fossil fuels.

Several critical notes were against the hydrogen energy because it is not a primary energy source, but should be treated as an energy carrier only. It is due to the fact that hydrogen must be produced, as it cannot be found on Earth in free (elementary) form and the production of hydrogen always requires more energy than subsequently may be recovered for example in automotive propulsion. Also production of hydrogen results in emissions of pollutants which should be consequently taken under consideration.

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