

## What to Do... With CO<sub>2</sub>

D. Brant Bennion, P.Eng  
Hycal Energy Research Labs – A Division of Weatherford International Ltd.

### Abstract

Carbon dioxide (CO<sub>2</sub>), greenhouse gases and global warming – a major topic of interest and controversy in the industry. While this presentation does not address the science (real or perceived) of global warming and greenhouse gas emissions, it does address the very real concern that as industry players, times are changing and viable, responsible ways of accomplishing carbon sequestration initiatives already committed to by the Canadian Government will be soon impacting the industry – what are the options that are available to us now and in the future?

This presentation reviews the potential avenues for the short and long term sequestration of greenhouse gases (notably CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub> and H<sub>2</sub>S (a common constituent from the gas sweetening process)). Topics such as the use of such gases for enhanced oil recovery for depleted or mature oil producing reservoirs or the selective desorption and removal of methane gas in coal seams and gas shales will be discussed. Major recent research initiatives have investigated the long term underground sequestration of CO<sub>2</sub> in large regional saline aquifers or in depleted oil/gas reservoirs, and other novel techniques such as deep sea sequestration

**The Speaker – Dr. Brant Bennion, P.Eng** – Has over 25 years of experience in the area of multiphase flow in porous media, formation damage, phase behavior, carbon sequestration testing, drilling, completion and enhanced oil recovery operations. Brant has been a distinguished lecturer for both the SPE and the Petroleum Society on the topic of formation damage, lectures as an adjunct Professor at the University of Calgary, is the author/co-author of almost 250 technical papers and has lectured extensively in over 40 countries in recent years. He is currently serving as the Chairman of the Editorial Review Board for the *Journal of Canadian Petroleum Technology*. He has been employed at Hycal Energy Research Laboratories in various capacities since 1979 and currently is the direction of the flow in porous media group. He is a registered Professional Engineer with APEGGA and holds BSc. and Ph.D degrees in Chemical and Petroleum engineering from the University of Calgary.