Sequestration of CO2

The IPCC has issued an extensive report on the potential for using sequestration of CO2 as a means of reducing the carbon dioxide produced by burning fossil fuels. Click on the link below to read the IPCC report (Note: It is a large 24 MB file).

IPCC Report on Sequestration of CO2

Sequestration is not useful for the primary sources of CO2 pollution from fossil fuels – heating, hot water and transportation – because there is no practical way to collect the CO2 produced by such applications. That limits the use of sequestration to large stationary sources, primarily power stations and major polluters like the oil sands. The concept requires that there must be an underground site that is capable of containing CO2 forever, a requirement that even more severely limits the use of this solution.
In Canada, Alberta is the only province that could potentially employ sequestration. Although Saskatchewan presently uses coal for power generation the total power generation is relatively small and future needs are more likely to be met by using AE systems plus importing some electricity from Manitoba. The surrounding provinces (BC and Manitoba) presently meet nearly all of their power needs via hydro power and the other provinces can use hydro, nuclear and AE energy sources so they are not likely to incur the expense of shipping CO2 back to Alberta.

The CO2 production of the oil sands is currently 29.5 megatonnes per year but much of that comes from operations like earth moving for which the CO2 cannot be captured. Alberta's electric power production amounts to 208 petajoules per year, producing an estimated 12 megatonnes of CO2. Canada's total CO2 production in 2007 was 747 megatonnes. That puts the potential for using CO2 sequestration in Canada at up to 41.5 megatonnes, which amounts to roughly 5.6 % of the national total for CO2 production, assuming that sequestration can be made to work at all.