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Coalbed Methane Resource Potential in Canada

Canada's extensive coal deposits are widely distributed across the country. They range in rank from lignite to anthracite, and occur in diverse geological settings from relatively flat-lying Cretaceous-Tertiary seams underlying much of the Western Canada Sedimentary Basin, to complexly faulted and folded Cretaceous deposits of the Foothills and Front Ranges of the Rocky Mountains. Recent increases in natural gas prices have spurred activity with evaluation programs now underway in British Columbia, Alberta and Nova Scotia. The Canadian Gas Potential Committee defined a resource potential rivaling known conventional gas resources in Canada.

There are two major sets of uncertainties surrounding resource estimates. First, coal seam thickness, depth, gas content and structural configuration for in situ volume estimation. Second, critical reservoir properties, (permeability, gas saturation, water quality, etc) which define how much might be recovered ultimately.

A "Reliability Factor" is assigned to in situ estimates for the various coalfield regions, addressing geological complexity, the amount of geological data available, and the degree to which these data have been analyzed. Apart from the Alberta Plains, with its comparatively large amount of analyzed subsurface data, all estimates have a "low to very low" reliability factor. With as yet no commercial production of coalbed methane in Canada, recoverable resources are listed as "unknown".

Despite these uncertainties Canadian coalbed methane offers a huge potential non-conventional resource. The research and exploration currently underway should provide critical knowledge that has proven to be essential in developing coalbed methane in the US Rockies supply region in recent years.