

Petroleum geoscience research in support of Canada's east coast hydrocarbon energy option

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The GSC Atlantic, in part through its Hydrocarbon Charge Modelling initiative (HCMP), performs research of direct value to the petroleum industry and government agencies at all levels, in their efforts to assess geological risk and uncertainty associated with eastern Canada's hydrocarbon energy option. Multidisciplinary in scope, the science focus of the HCMP makes quantitative statements regarding the petroleum systems operating in offshore basins (chiefly Sable, Jeanne d'Arc and Gulf of St. Lawrence). This involves reconstruction of the dynamics of the basins' source, reservoir, seal and trap conditions. The business focus translates these research products into tools, concepts, methods and knowledge of direct practical value to industry/government technical specialists and decision makers. Examples from the Sable Basin include the role of gas generation and migration in relation to overpressure generation, and the evaluation

of fault seal risk for hydropressure gas pools. From the Jeanne d'Arc Basin, an example is the assessment of the risk of encountering heavy, biodegraded oil in shallow targets. Another element of the project ensures easy access to the GSC Atlantic's vast data holdings (well geology, engineering and seismic), and the information/knowledge base for east coast areas built up over three decades. The GSC Atlantic's WWW home page at URL <http://agcwww.bio.ns.ca/> provides an example of this.

A significant feature of research projects performed under the HCMP and others at the GSC Atlantic is the close link with industry. The project described in this contribution is funded through a combination of petroleum companies and government resources, which has also allowed linkage to university research through funding of Dalhousie University's Department of Earth Science graduate students.