

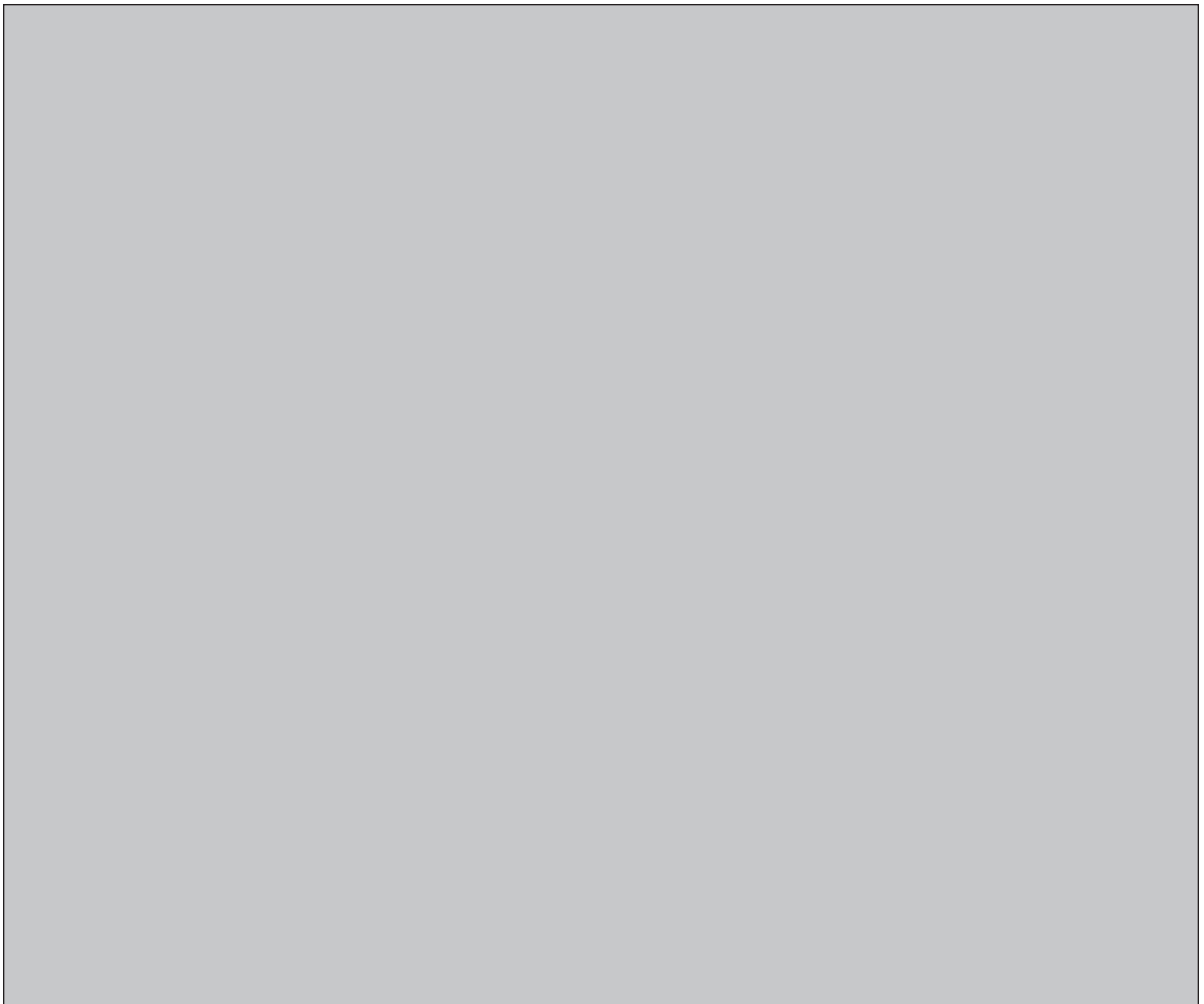
NWMO BACKGROUND PAPERS

5. ECONOMIC FACTORS

**5-3 CONSIDERATIONS FOR THE ECONOMIC ASSESSMENT OF APPROACHES TO
THE LONG-TERM MANAGEMENT OF HIGH-LEVEL NUCLEAR WASTE**

EXECUTIVE SUMMARY

Charles River Associates Canada Limited



1. Executive Summary

1.1. OBJECTIVES OF THIS REPORT

The Nuclear Waste Management Organization's (NWMO) mandate is to study and recommend a preferred approach for the long-term management of high-level nuclear waste.¹ The process of developing recommendations for the federal government that meet technical, ethical, and economic objectives while also enjoying public acceptance must be one that starts with a thorough exploration of the decision-making processes and evaluation criteria that will be used. These analytic structures will be drawn from a number of disciplines, including economics. This report addresses only the economic perspective.

Charles River Associates Canada Limited (CRA) has been retained to develop an understanding of the economic perspective on the NWMO's mandate. The objectives of this report are:

- To identify some of the key financial and economic issues that will need to be considered in evaluating and comparing alternative approaches to long-term management of high-level nuclear waste
- To frame a discrete number of economic/financial questions for use in that evaluation
- To explore the key assumptions underlying how the economic/financial questions have been framed and will be analysed
- To develop preliminary suggestions on the methods that might be adopted in addressing the need for a deeper understanding of the economic and financial issues

The NWMO's task is a complex one, both because of the issues inherent to the management of nuclear waste, as well as to the great uncertainties and heightened concerns that will frame any discussion around a topic as emotive as nuclear waste, including as it does concerns for safety, the environment and inter-generational transfers. Nonetheless, it is important that the NWMO seeks to identify and recommend the optimal solution.

¹ Section 12. (2) of the *Nuclear Fuel Waste Act* directs the NWMO to examine, at a minimum, three waste management approaches: deep geological disposal in the Canadian Shield; storage at nuclear reactor sites; and centralized storage, either above or below ground. Throughout this paper we refer to the long-term "management" of waste as being an umbrella concept encompassing both "storage" – which implies there is a provision for retrieval, and "disposal" – where placement is permanent with no intention of retrieval.

The approach taken here is not that of the economic purist. From our experience in this field an approach to long-term nuclear waste management that is not the economically preferred alternative may still be the wisest policy choice if it can garner sufficient timely consensus to be doable. This may be contrasted with an economically preferred alternative that fails to gain adequate support across society and thus cannot be implemented in a reasonable amount of time.

The underlying objective of this report is to assist the NWMO in establishing a sound framework in which to undertake various economic analyses over the next two years; understanding how different economic tools could be used to contribute to its decision-making processes; and appreciating some of the key questions, assumptions, and practical challenges that must be addressed.

1.2. STRUCTURE OF THE REPORT

Section 2 of the report discusses different ways in which the NWMO may wish to use economic analysis, how the basis for economic analysis might be established, and how the outputs of economic analysis may be used to assist the NWMO in its process of developing recommendations on approaches to nuclear waste management.

Section 3 describes some of the particular challenges faced in examining an issue like long-term nuclear waste management and sets out a number of questions that can both guide the framing of the economic analysis and more precisely highlight the specific analytical challenges inherent in the issues facing the NWMO.

The appendix provides more detail on various forms of economic analysis.