

# High-Level Radioactive Waste in Canada: The Eleventh Hour

## Introduction

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Nuclear generation of electricity has been hailed by some as a source of hope, condemned and attacked by others as a threat. It is being debated, as the end of the twentieth century approaches, with great intensity. Born of scientific discoveries in the earlier years of our century, atomic power exploded into history with the terrifying events at Hiroshima and Nagasaki, and its "domestication" has been a controversial issue ever since: how should nuclear energy be used, and is it safe as a source of energy?

Nuclear-generated electricity was first produced in 1951 by an American reactor. By 1955, the first nuclear generating stations were in operation: Obninsk in the Soviet Union, Shippingport in the United States, Calder Hall in Great Britain, and Marcoule in France. Thirty years later, 13% of the world's electricity was being produced with the help of 370 nuclear power plants, in 26 countries.<sup>(1)</sup>

Hence, nuclear power is certainly one of the energy-source options in today's world. So far, France has the highest proportion of nuclear-generated electricity, with 70%; Belgium's proportion is 67%, Sweden's 50%, the Federal Republic of Germany 30%, Japan's 25%, the United States' 17%, and Canada's 15% (see Figure 1).

While some humanists, scientists and moralists point to Chernobyl as proof that the nuclear venture is too risky, other thinkers go so far as to claim that nuclear energy is the only way to meet our enormous energy demands. But the debate is not the exclusive preserve of specialists: it arouses so much interest generally that the political will of governments is now an important factor in deciding whether this technology will be shelved or developed. Some countries, like France, the United States, the United Kingdom, the USSR and Japan have opted firmly for nuclear energy, because they are convinced that the risks can be reduced and the problems can be dealt with, to the point that an acceptable level of safety can be assured. At the other end of the spectrum are countries like Australia, Austria, Denmark and Norway, which refuse to use nuclear energy. And finally, there is also the option of a reduced nuclear program, which Sweden has adopted:<sup>(2)</sup> while waiting for alternative solutions to be developed, Sweden will decommission its twelve nuclear power plants one by one from the present until the year 2010.<sup>(3)</sup>

<sup>(1)</sup> Jacques Leclercq, *The Nuclear Age*, Paris, Hachette, 1986, p. 13.

<sup>(2)</sup> After a national referendum in 1980, the Swedish Parliament decided that its nuclear power programs would be limited to the 12 power reactors then in operation or under construction.

<sup>(3)</sup> World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, April 1987, p. 187.