



IS NUCLEAR SUITABLE FOR A RESPONSIBLE INVESTING PORTFOLIO?

DOMINIQUE BARKER, CFA,
Portfolio Manager, Senior Analyst
ESG and Real Estate

Debating nuclear energy through an environmental, social and governance (ESG) investment lens

As the field of ESG matures, a number of topics and issues will need to be debated. For example, the United Nations cites 17 Sustainable Development Goals—one of these goals is 'Zero Hunger'. In our research on a company such as Nutrien, which produces fertilizers, we could certainly categorize it as a company that solves for this goal. However, Nutrien fails or receives a negative score for other sustainable goals such as 'Clean Water and Sanitation' and 'Life on Land'. In those areas, fertilizers and fertilizer companies contribute to the pollution problem.

Nuclear energy occupies a similar grey area for the ESG community—this is why we believe it's important to debate its merits under an ESG lens.

THE NUCLEAR DOWNSIDE

Nuclear energy, which uses uranium as fuel, produces waste that remains radioactive (practically) forever. In the wrong hands, this radioactive waste can be reused to create and proliferate nuclear arms.

There are various nuclear energy technologies—in Canada, we have our own proprietary technology called CANDU (Canada Deuterium Uranium). Fuel rods are replaced every 18 months or so—which leads to the question of disposal. This is the main downside for nuclear energy—the conundrum around the long-term storage of spent fuel rods. These rods are stored in large swimming pools and must be continually monitored for safety and to safeguard against their reuse for nuclear arms production by bad actors.

In addition, there have been several high-profile accidents involving nuclear energy, most recently in Fukushima, Japan. Unfortunately, it is impossible to handicap the odds of a reoccurrence of a similar high impact but low-probability event.

THE UPSIDE FOR NUCLEAR

Nuclear energy produces electricity from uranium, a natural resource that is mined. The benefits of nuclear energy are low pollution, low operating cost (the cost of fuel is practically zero per kWh) and high reliability. Nuclear energy creates a number of high-paying jobs in the community where a nuclear plant is located and produces emission-free electricity under a highly regulated regime.

THERE IS NO PERFECT POWER SOURCE

As we look to a future of transportation that will be predominantly electricity driven (no pun intended), a clean source of electricity will become paramount. Natural gas is less carbon intensive than coal or oil, but it does produce greenhouse gases, as well as other nasty emissions such as nitrogen oxides.

Few people discuss the negatives surrounding the long-term impact of solar panel disposal. Solar panels contain toxic elements such as cadmium, which is used in thin film solar, a popular technology. Cadmium is one of the top six deadliest and toxic materials known. The cadmium in solar panels (CdTe or cadmium telluride) appears to be less toxic than elemental cadmium, but its precise level of toxicity is unclear. Although a regulated disposal program could emerge, the long-term safety of cadmium telluride solar panels is an issue for the solar industry.

WEIGHING THE PROS AND CONS ON NUCLEAR ENERGY

In our view, the main issue with nuclear energy is the disposal of used nuclear fuel—of course, the waste management challenge is not unique to the nuclear sector. However, in the solar panel industry there are different techniques to physically immobilize heavy metals such as cadmium in a way that can be securely disposed in a hazardous waste landfill site. Unfortunately, there are no effective similar methods for used nuclear fuel.

Having said that, we take comfort in the fact that used nuclear fuel is heavily guarded and regulated. While the long-term storage of nuclear waste takes space, the amount of energy produced is high. For example, the spent fuel for all of Ontario's 20 nuclear reactors is stored at Bruce Power's site, in a pool the size of a typical swimming pool (though they are about 14 feet deep); it is stored there for 10 to 20 years, after which it is reprocessed or put into dry cask storage. Since the 1960s, the entire Canadian spent fuel would fit in seven hockey rinks, stacked to the top of the boards.¹

Tying this back to the United Nations Sustainable Development Goals of 'Affordable and Clean Energy', 'Industry, Innovation and Infrastructure', and 'Climate Action', it seems that an argument could be made to consider nuclear as an investment in ESG portfolios. Even better, engineering companies that provide nuclear decommissioning services³ would fit very well in an ESG portfolio.

In the fall of 2017, CIBC Asset Management became a signatory to the UNPRI² which means we are applying ESG (environmental, social and governance) investment principles across all of our investment classes. ESG integration is becoming critical to stay competitive in the asset management industry and, while it is a nascent industry, it is evolving at lightning speed.

For more information, visit: www.cibcam-institutional.com

¹ source: nuclearsafety.gc.ca

² United Nations-supported Principles for Responsible Investment

³ Nuclear decommissioning is the administrative and technical process whereby a nuclear facility such as a nuclear power plant, a research reactor, an isotope production plant, a particle accelerator, or uranium mine is dismantled to the point that it no longer requires measures for radiation protection.

The views expressed in this article are the personal views of Dominique Barker and should not be taken as the views of CIBC Asset Management Inc. This document is provided for general informational purposes only and does not constitute financial, investment, tax, legal or accounting advice nor does it constitute an offer or solicitation to buy or sell any securities referred to. Individual circumstances and current events are critical to sound investment planning; anyone wishing to act on this article should consult with his or her advisor. All opinions and estimates expressed in this article are as of the date of publication unless otherwise indicated, and are subject to change. Certain information that we have provided to you may constitute "forward-looking" statements. These statements involve known and unknown risks, uncertainties and other factors that may cause the actual results or achievements to be materially different than the results, performance or achievements expressed or implied in the forward-looking statements.

©CIBC Asset Management and the CIBC logo are registered trademarks of Canadian Imperial Bank of Commerce (CIBC), used under license.

The material and/or its contents may not be reproduced without the express written consent of CIBC Asset Management Inc.