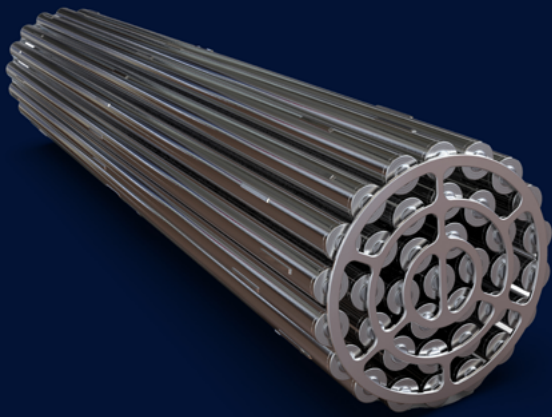




Commitment to Safety: Understanding Nuclear Waste Management

Canada has been a global leader in nuclear energy research, technology and development for 65 years. Nuclear energy is one of Canada's safest and cleanest energy sources and is recognized globally as a critical tool in reducing greenhouse gases and fighting climate change.

In Canada, the Canadian Nuclear Safety Commission rigorously oversees every stage of nuclear waste management, from handling and transport to storage and final disposal.

Power Points: What You Need to Know About Used Nuclear Fuel

Radioactivity decreases over time.

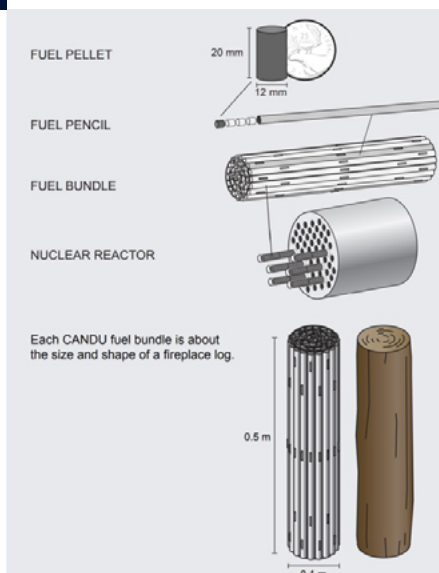
With modern containment strategies, risks are minimized while technology continues to improve long-term storage solutions.

Properly managed waste does not pose immediate threats.

Safety protocols and containment measures are strictly followed to protect people and the environment.

Tailored solutions.

Each type of waste requires specific management techniques, ensuring tailored solutions that align with its unique characteristics.



Source: Nuclear Waste Management Organization.

What is Used Nuclear Fuel?

Used nuclear fuel is a byproduct of nuclear power and it must be safely managed long-term. Although its radioactivity level decreases rapidly with time, the used fuel must be contained and isolated from people and the environment, essentially indefinitely.

Canada follows proven practices used globally and used fuel is first stored on-site in pools, then in dry storage using concrete casks before being sent to long-term disposal.

Once a used nuclear fuel bundle is removed from a reactor, it is placed in a water-filled pool where its heat and radioactivity decrease over time. After seven to 10 years, the bundle is placed in a dry storage container, a method that has been in use worldwide since the 1980s.

A Safe Approach to Managing Waste

Energy Alberta is committed to the safe disposal of nuclear waste using proven technology to mitigate any potential risks associated with the management and storage of nuclear waste. Our facility would adhere to the robust regulations and best practices set by the Canadian Nuclear Safety Commission and international regulators to ensure all forms of conventional and nuclear waste are handled in a safe, secure and responsible manner.

Canada's Long-Term Plan

Safe, long-term management of used nuclear fuel.

The Nuclear Waste Management Organization (NWMO) is the not-for-profit organization tasked with the safe, long-term management of Canada's used nuclear fuel in a manner that protects people and the environment for generations to come.

Canada's deep geological repository for used nuclear fuel will use a multiple-barrier system designed to safely contain and isolate used nuclear fuel over the very long term.

Wabigoon Lake Ojibway Nation and the Township of Ignace will be the host communities for the future site for Canada's deep geological repository for used nuclear fuel. Learn more at nwmo.ca.

Types of Nuclear Waste

65 years of safe operations

Canada's nuclear industry is one of the most regulated in the world and its facilities are the most protected critical infrastructure in Canada. All nuclear waste is safely managed in compliance with stringent regulations and in accordance with international standards.

Low-Level Waste.

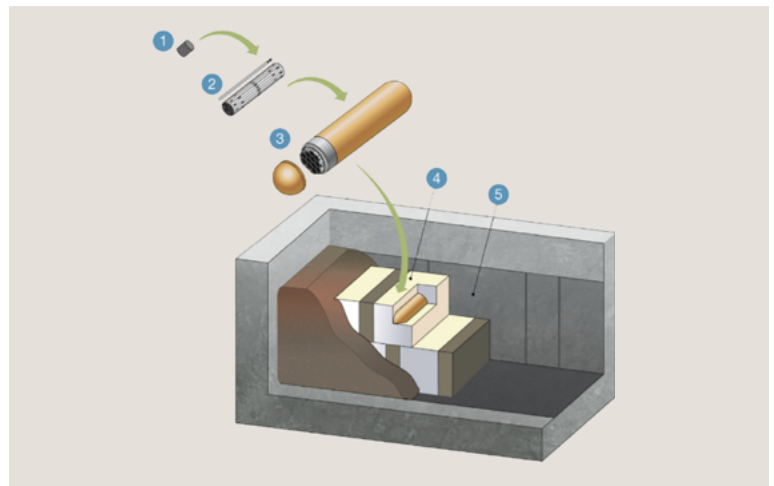
These materials can be handled with minimal protective measures and include items such as used protective clothing, tools and lab waste.

Intermediate-Level Waste.

These materials require shielding during handling and include items such as reactor components, resins from water treatment and certain chemicals.

High-Level Waste.

These materials require robust containment, cooling measures and long-term management and include items such as spent nuclear fuel and reactor components, such as control rods and piping.



Source: Nuclear Waste Management Organization.

The Peace River Nuclear Power Project

Utilizing Canada's proven nuclear technology.

Energy Alberta is an Alberta-based company led by an experienced group of innovators, nuclear industry experts and leaders in environmental sustainability. We are proposing to build a nuclear power generating station in the Peace River area of Northern Alberta that would include two to four large-scale reactors. The facility could produce up to 4,800 MW of electricity for the grid, representing up to 25% of the province's existing electricity generation.