Implementation plan 2025-29

March 2025

nwmo
NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

Land acknowledgment

The Nuclear Waste Management Organization acknowledges that we have worked in many different Indigenous territories since the inception of the organization. We are grateful to the Indigenous and municipal communities that have worked with us for more than 20 years.

We also acknowledge that today we are working in northwestern Ontario with the communities of Wabigoon Lake Ojibway Nation and the Township of Ignace, as well as neighbouring communities.

We further acknowledge that we have the privilege of working with other First Nations and organizations, with Métis communities and the Métis Nation of Ontario, and many municipal communities that have all expressed an interest in learning about our work.

As part of our commitment to Reconciliation, we recognize both the historic and current injustices far too many Indigenous communities endure. We commit to doing our part to support well-being in the communities with which we work.

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Welcome

Welcome to the Nuclear Waste Management Organization (NWMO) *Implementation plan 2025-29*.

This is our five-year strategic plan as we implement Canada's plan for the safe, long-term management of used nuclear fuel in a deep geological repository. We are also advancing our planning work for a second deep geological repository for the safe, long-term management of intermediate-level and non-fuel high-level waste, and potentially used nuclear fuel from new nuclear projects.

This year's implementation plan reflects our changing organization. In 2024, we reached a milestone as we selected Wabigoon Lake Ojibway Nation and the Township of Ignace in northwestern Ontario as the hosts for the site for the deep geological repository for used nuclear fuel. Our organization is now continuing to transform, and as we do, so will this plan.

Beginning in 2026, we will transition to a triennial reporting model for the implementation plan, in line with our triennial report. While that marks a change for our organization, our commitment to transparency and dialogue with Canadians and Indigenous Peoples will remain strong. This approach also remains in alignment with the requirements of the *Nuclear Fuel Waste Act*.

There will continue to be many opportunities for the public to share their voice and the NWMO to share our knowledge as we move forward with the regulatory decision-making process for Canada's plan for used nuclear fuel, implementation of our transportation planning framework and the development of the site selection process for the second repository project.

We look forward to continuing to engage with Canadians and Indigenous Peoples as we continue to drive progress on our shared purpose to protect people and the environment for generations to come.

Vision, mission and values

The NWMO's vision, mission and values are fundamental elements that guide strategy, decision-making and culture.

In 2024, our organization began transforming. It marked an important moment to reimagine these pillars of our organization.

The refreshed statements build on the strengths that have allowed us to make progress so far, while also demonstrating our ambitions for the future.

Even as our organization changes, our purpose will always be to protect people and the environment. We look forward to using this new vision, mission and values to guide our work in the years to come.

VISION

Leading the way in nuclear waste solutions that create a safe and clean future.

MISSION

Taking action today to safely manage Canada's nuclear waste in deep geological repositories for generations to come, working in collaboration with Canadians and Indigenous Peoples.

VALUES

GROUNDED IN SHARED PURPOSE

Safety guides everything we do. We have a responsibility to keep future generations and the environment safe, including water.

ACTING WITH OPENNESS

We are lifelong learners, unafraid to ask hard questions, seek answers and listen to feedback, and hold ourselves accountable as we move forward with our work. We work alongside Canadians, Indigenous Peoples and international partners to share what we learn and create a better future together.

WALKING A RECONCILIATION JOURNEY

We strive to respect the rights, equity and well-being of Indigenous Peoples, and their spiritual connection to the land, in every action we take. We are grateful for the opportunity to learn from the expertise and lived experiences of Indigenous Peoples.

Commitment to transparency and engagement

At the NWMO, our commitment to transparency and engaging with the public is part of our culture. It is built into everything we do, including this implementation plan.

This is a living document that evolves over time. As our work proceeds, we will update it periodically to reflect progress on our work, input from communities and the public, advances in science and technology, insight from Indigenous Knowledge, evolving societal values and changes in public policy.

The NWMO also regularly solicits public feedback on our work through our on-the-ground engagement efforts, social media, public surveys and focus groups. Through this process, we seek to understand and address the questions, comments and concerns people raise.

Since transparency is a core commitment for our organization, we will also publish the results of engagement efforts through “what we heard” reports that summarize the questions and themes we are hearing during the regulatory decision-making phase of the Adaptive Phased Management project, which is detailed later in this implementation plan.

We continue to work with communities, including Indigenous Knowledge Holders, to ensure our work is guided by the responsibility to protect people and the environment, including water, for generations to come.

Take the implementation plan survey

Your feedback is essential to implementing our projects. We invite you to share your thoughts until June 6, 2025.

Other ways to provide feedback (you may indicate that you wish for your response to remain anonymous):

- Email us at learnmore@nwmo.ca
- Send us a letter (with your name and mailing address) to:

  Lisa Frizzell
  Vice-President of Communications, NWMO
  RE: Implementation plan 2025-29
  22 St. Clair Avenue East, Fourth Floor
  Toronto, ON M4T 2S3
  Canada

Introduction to the NWMO

Canada has been using nuclear energy as a reliable, low-carbon power source for our homes and businesses for nearly 60 years. As worldwide energy demand grows and the need to address climate change intensifies, nuclear power has become an increasingly important part of the conversation. The Nuclear Waste Management Organization (NWMO) plays a vital role by closing Canada's nuclear fuel cycle.

We are responsible for implementing Canada's plan for the safe, long-term management of used nuclear fuel inside a deep geological repository, in a manner that protects people and the environment for generations to come. We are also responsible for implementing the plan to safely manage Canada's intermediate-level and non-fuel high-level waste in a deep geological repository, a new responsibility we took on in late 2023.

Our ability to manage and report on these projects will require the right people and processes to be in place so that we can transition effectively into the next phase of work.

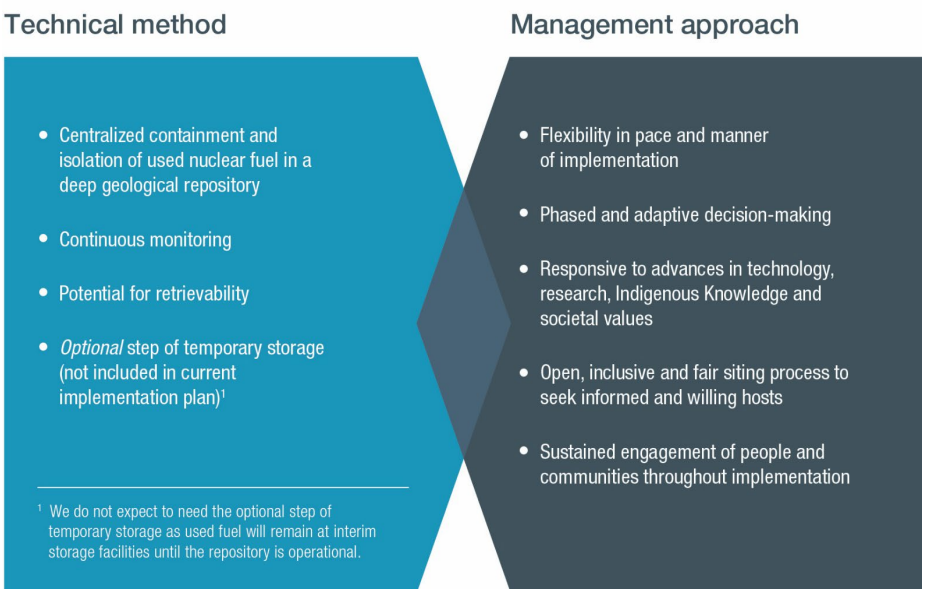
With that in mind, we have developed an operational readiness plan, which we will continue to implement in the next five years. As we enhance the capabilities and competencies inside our organization, we will also focus on our corporate culture through appropriate organizational behaviours, standards and tools, including the use of technology platforms. This includes advancing our nuclear safety culture, striving for excellence in project management, achieving meaningful partnerships, embracing diversity and inclusion, committing to Reconciliation, and aligning with Indigenous Knowledge and practices in all our work.

Adaptive Phased Management

Since our inception in 2002, the Government of Canada has entrusted us with the significant responsibility to safely manage used nuclear fuel for the long term. At present, Canada's used nuclear fuel is safely stored at licensed, above-ground facilities. However, this approach is temporary and inappropriate for the very long time frames the material must be contained and isolated.

Canada's plan for used nuclear fuel, which follows an approach known as Adaptive Phased Management, emerged through a three-year dialogue with Canadians and Indigenous Peoples, including specialists and the public. It is based on the values and objectives they identified as important.

In 2007, the Government of Canada chose Adaptive Phased Management as the nation's plan for the safe, long-term management of Canada's used nuclear fuel. Since then, we have been diligently working towards this objective.



Adaptive Phased Management is both a technical method (what we plan to build) and a management approach (how we will work with people to get it done). The technical method involves building a deep geological repository in a suitable rock formation to safely contain and isolate used nuclear fuel. The management approach involves phased and adaptive decision-making, supported by public engagement and continuous learning.

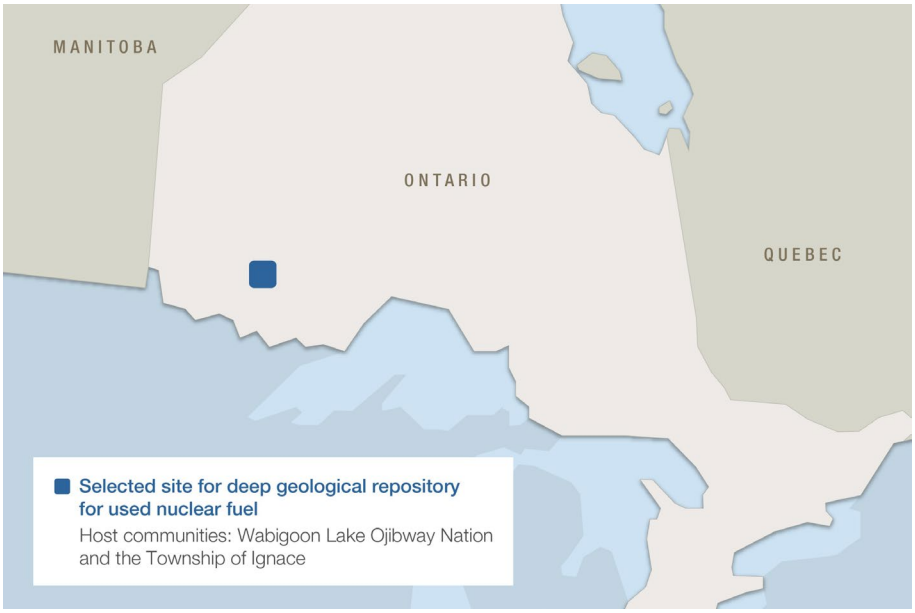
A core principle of Adaptive Phased Management is a commitment to adapt plans in response to advances in technical learning, international best practices, ongoing input from the public, insight from Indigenous Knowledge, changes in public policy, and evolving societal expectations and values.

For example, our transportation planning framework and *Preliminary transportation plan* are both based on what we heard from communities and people interested in Canada's plan for used nuclear fuel. Both transportation planning documents were designed to advance these conversations and provide more information on how we plan to safely and securely transport used nuclear fuel to the repository site.

Adaptive Phased Management is also designed to adapt to changes in technology, and we can build flexibility into repository designs so we can be ready for future decisions.

Throughout 2024, two siting areas remained in the site selection process for Canada's deep geological repository for used nuclear fuel.

In 2024, we selected Wabigoon Lake Ojibway Nation and the Township of Ignace as the hosts for this repository.



In addition, the area will be home to a Centre of Expertise, the anchor and a foundational pillar for the entire project and an important landmark for local residents and visitors.

Over the next five years, we will gradually transition staff to the siting area. This will occur alongside further site characterization activities designed to enhance site understanding to build even more confidence in safety and to support future implementation.

We will also initiate and participate in the regulatory decision-making process, which will independently confirm the safety of the project. And we will begin implementing hosting agreements, which lay out roles, expectations and investments the host communities agreed to when the site in their area was selected.

Intermediate-level and non-fuel high-level radioactive waste

As Canada's plan for used nuclear fuel advances, we are applying our expertise to a new challenge: safely managing intermediate-level and non-fuel high-level waste in a deep geological repository for the long term. We took on this responsibility in 2023 after the Government of Canada endorsed the NWMO's recommendations within the Integrated Strategy for Radioactive Waste.

Over the next five years, we will develop a siting process for this repository, collaborating with Canadians and Indigenous Peoples. Consistent with Adaptive Phased Management, this project will only move forward at a location that is safe and has informed and willing host communities. Communities that have participated in the siting process for the used nuclear fuel repository may wish to participate in the siting process for this repository if they would like, but it is not required as it is a separate process.

Throughout all our work, we remain dedicated to safeguarding people and the environment, including water, for generations to come. We are committed to meeting or exceeding all applicable regulatory standards and requirements, as our project is regulated by the Canadian Nuclear Safety Commission in co-operation with other federal, provincial and municipal government departments and agencies.

Preparing for used nuclear fuel from future projects

Thinking about the future is in the NWMO's DNA. We are responsible for all Canada's used nuclear fuel, including that created by new nuclear projects in the future. This is why we are closely monitoring changes in energy planning, including potential new nuclear projects in Canada.

We are in dialogue with multiple new reactor proponents to help us prepare for decisions that could change the volume and type of used fuel and other radioactive wastes we are responsible for managing.

This information will help us optimize how to safely handle these waste types, including the potential impacts to repository design and how our funding formulas can be adapted to include new entrants in the future. As potential projects advance, we will make appropriate changes to our plans. Decision-making will be phased and adaptive, allowing new learning to inform each step. Project plans will be adapted to incorporate Indigenous Knowledge that is willingly shared, advancements in science and technology, research, international best practices and societal values.

For example, our selected site for Canada's used nuclear fuel repository has expansion capacity for additional used fuel, subject to community willingness and additional technical evaluation. However, in the event the current communities are not willing, or we need additional capacity in the future, the NWMO is also exploring the potential to include future used fuel from new nuclear projects in the same repository that we will use to manage intermediate-level and non-fuel high-level waste.

We update an annual watching brief on advanced fuel cycles and alternative fuel waste management technology. We also monitor and report on potential inventories of used nuclear fuel quantities for implications to repository design.

Reconciliation and Indigenous Knowledge

Reconciliation matters. For Canadians, and the NWMO, it ensures that we learn from and address historic and ongoing wrongs, and that we work together with Indigenous Peoples to co-create a better future.

The NWMO is also committed to understanding, honouring and aligning with Indigenous Knowledge in our work. This commitment is reflected in many ways — through an active Indigenous relations program, advice from the NWMO's Council of Elders and Youth, Indigenous representation in our organization (including in our executive team and Board of Directors), meaningful policies to guide our work, and regular engagement with First Nations and Métis communities. In all areas that we operate, this commitment is an essential part of doing good work and maintaining positive relations.

Reconciliation

The NWMO is committed to walking a Reconciliation journey. As we move forward, we ensure Reconciliation is considered in all our work.

Our *Reconciliation Policy* was released in 2019 as part of strengthening our work with Indigenous Peoples. Over the next five years and into the future, the NWMO will continue to implement this policy and measure progress annually. Reported publicly, this work affirms our commitment to acting on the Truth and Reconciliation Commission's call to action #92, which calls upon the corporate sector to build respectful relationships with Indigenous Peoples and provide valuable learning opportunities for staff on the history of Indigenous Peoples.

In step with our policy, the NWMO continues to engage meaningfully with First Nations and Métis communities, as well as Indigenous organizations, as we work together to implement solutions for Canada's radioactive waste.

As the NWMO's Reconciliation journey evolves, we will continue to plan strategically and thoughtfully to meet and exceed our commitments.
In 2023, the NWMO created a three-year Reconciliation strategy (2024-26), focused on four key areas: learning, action, relationship and healing.

The NWMO works with Reciprocal Consulting — an Indigenous-owned firm specializing in Indigenous evaluation and monitoring — to publish our annual Reconciliation Report. It evaluates the NWMO against the Reconciliation baseline to ensure we are meeting the commitments outlined in the *Reconciliation Policy*. The Reconciliation baseline is used to evaluate our contributions to Reconciliation, identify gaps and determine how we should move forward as an organization. Having an external organization measuring our progress helps to keep us accountable to our commitments and identify gaps in how we implement them, instilling Reconciliation as a core value in the organization.

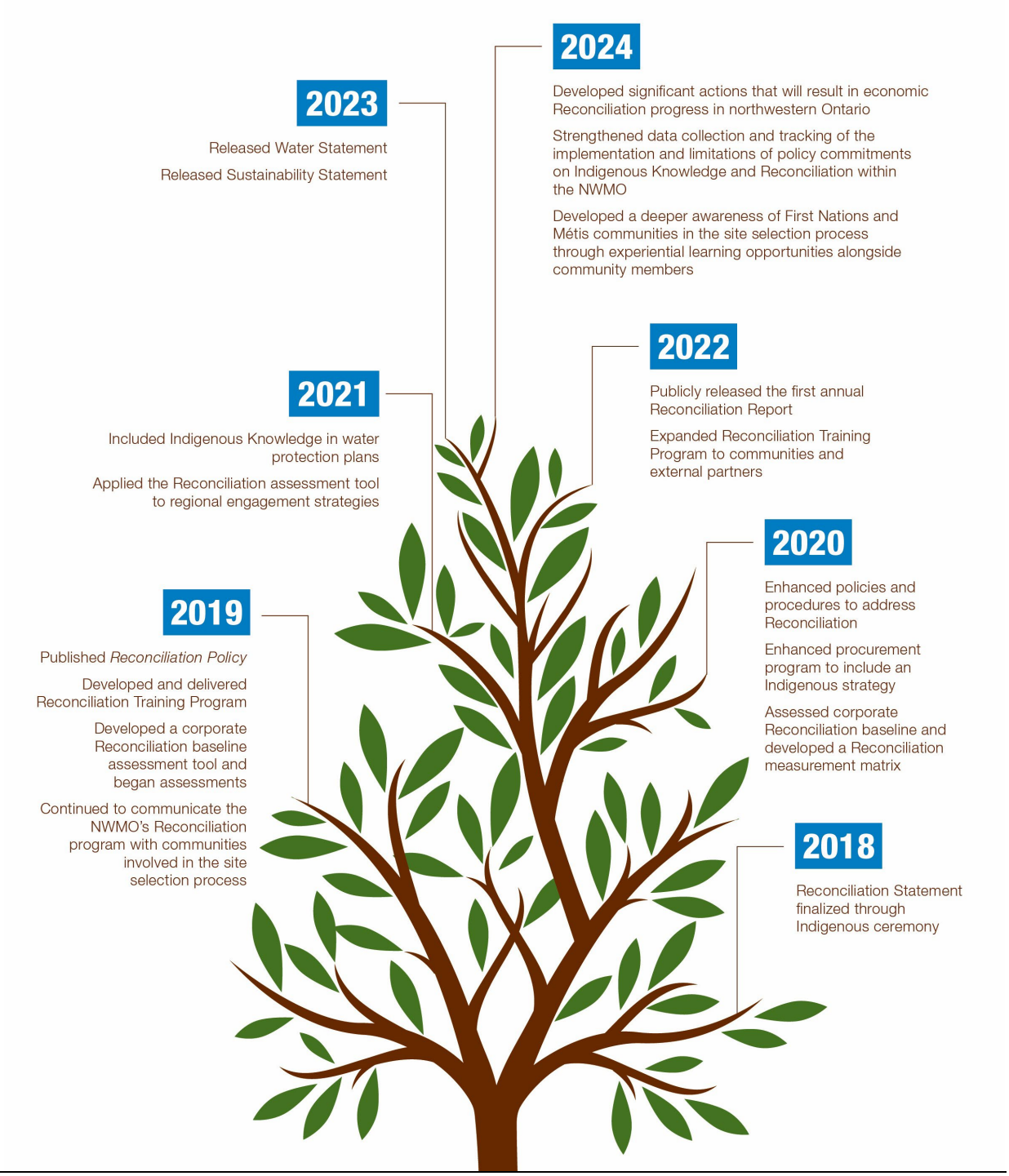
We use our Reconciliation assessment tool to review key NWMO documents, including policies and engagement strategies. This tool is also used outside the organization. For example, some of our partner universities apply this lens as they expand research programs related to our work.

Interactive learning sessions, group dialogue and experiential learning opportunities are just a few of the ways that the NWMO continues to support our collective Reconciliation journey.

We developed an interactive online learning resource to support employees' ongoing Reconciliation journeys. The resource helped staff to develop a better understanding of their unique roles in carrying out the organization's commitments to Reconciliation while also continuing to build upon their knowledge and respect of Indigenous Peoples more broadly.

The NWMO's Reconciliation Journey

Since finalizing our Reconciliation Statement through Indigenous ceremony in 2018, the NWMO has continued to walk a journey of Reconciliation. Over the years, we have continued to enhance our Reconciliation Training Program, inside the NWMO and with communities, and have expanded the use of our Reconciliation assessment tool to review our policies and procedures. We have also enhanced sponsorships and donations to focus on Reconciliation. The following graphic summarizes some of the major milestones in our journey so far.



Indigenous Knowledge

The NWMO's commitment to aligning with Indigenous Knowledge and the important teachings we have received from Indigenous Knowledge Holders guides our work. These teachings include the role and significance of spirit and ceremony, understanding natural laws, respecting Mother Earth and creating space for Indigenous voices.

Internal workshop discussions explore the sacred relationship and stewardship role Indigenous Knowledge Holders have with water and the natural environment, and the commonalities that exist within western science perspectives. Participants at these workshops include Indigenous Knowledge Holders, Elders, scientists, industry professionals and the NWMO's employees. Together, we explore how water is a life force that sustains us, flows between and within us, and shapes the land.

> "*The NWMO respects the truth that Indigenous women have a sacred and spiritual relationship with water — birth waters, fresh waters, sky waters and ocean waters — and because of that special role, their voice is integral to any work related to water protection.*"
>
> **— NWMO Water Statement (2023)**

Through collaboration with Indigenous Knowledge Holders, Elders, scientists, industry professionals, conservation authorities, youth and others, we continue to learn about water and share our knowledge with one another and others around the world.

Over the next five years, our commitment will endure, as we seek to align with Indigenous Knowledge in everything we do, creating space to learn from other knowledge systems and applying important learnings to how decisions are made at the NWMO.

Sustainability and safety from a social perspective

The NWMO is committed to continuing our work to better understand and address safety from a social perspective through the eyes of the communities with which we work. This will in turn strengthen our leadership in creating nuclear waste solutions for a safe and clean future.

Sustainability has been a thread through the NWMO's identity since our inception. We have an important role to play in supporting ecological and social well-being, as we implement safe, long-term radioactive waste management solutions that will protect people and the environment for generations to come. We know that our actions, big and small, influence the future.

That is why we are committed to implementing sustainability principles and practices in all we do. This is reflected in our Sustainability Statement released in 2023. This foundational statement outlines our organization's commitment to sustainability and acknowledges that the actions we take to implement our mandate will have an impact on the future.

As part of a variety of strategies to address climate change — while still meeting Canada's growing energy needs — the Canadian government is increasingly pursuing new nuclear technologies. As emerging technology develops, we are confident that we will have solutions in place to manage the waste sustainably.

Over the next five years, we will develop and implement a comprehensive sustainability program, encouraging innovation and ensuring that the recommended actions represent all our values, including Reconciliation. We will establish precise targets, thresholds and sustainability metrics, along with public reporting structures, and we will update the program to reflect commitments made during the integrated impact assessment process.

Safety from a social perspective

Deep geological repositories are important environmental infrastructure projects, and protecting people is core to our work. Key to that commitment is our focus on implementing our work in a way that listens to the questions, concerns and wisdom that people bring forward.

Safety is not just about technology and science — it also includes different perspectives and knowledge systems, like Indigenous Knowledge, western science and other wisdom shared through conversations with communities. A big part of this is our commitment to Reconciliation and co-creating a shared future built on rights, equity and well-being for Indigenous Peoples.

There are many elements of safety from a social perspective. Canada's plan for used nuclear fuel emerged through dialogue with the public and was based on the values and priorities that Canadians and Indigenous Peoples identified.

We also engaged the public to develop and design our site selection process for the deep geological repository for used nuclear fuel. Voluntary participation, shared decision-making, openness and fairness formed the basis of that process, leading to selecting the site in 2024, and it will continue as we move into the regulatory decision-making process. We have maintained our commitment that Canada's plan will only proceed in an area that is both technically safe and has informed and willing hosts working together with us to implement it.

The same will be true as we move forward with planning for the repository for intermediate-level and non-fuel high-level waste. Over the next five years, we will develop the site selection process for that project and work closely with Canadians and Indigenous Peoples to finalize it.

Our ongoing efforts to ensure our work considers safety from a social perspective include:

- Implementing a framework for safety from a social perspective that is rooted in the principles of trust, relying on multiple ways of knowing, supporting community well-being and achieving meaningful outcomes;
- Involving communities in environmental and socio-economic studies throughout the regulatory decision-making process;
- Considering realistic lifestyles in our safety assessments such as how and where people in the area live;
- Creating opportunities for our staff to directly engage community members in Wabigoon Lake Ojibway Nation and the Township of Ignace to discuss the safety of the program and learn about concerns they may have; and
- Engaging with Canadians and Indigenous Peoples on planning for the second deep geological repository project for intermediate-level and non-fuel high-level radioactive waste, and potentially used nuclear fuel from new nuclear projects.

Planning priorities: Adaptive Phased Management

Project timelines: Adaptive Phased Management

The NWMO is continuing to make progress on implementing Canada's plan for used nuclear fuel by working collaboratively with communities, Indigenous Peoples, universities and research institutions, regulatory bodies, international waste management organizations and the broader nuclear industry.

The timelines that follow capture the progress to date since the NWMO's inception in 2002, as well as anticipated timeline for future phases.

Developing Canada's plan	2002	The NWMO is created.
	2005	As required by the *Nuclear Fuel Waste Act*, the NWMO completes ***Choosing a way forward***, a three-year study of the alternatives for the safe, long-term management of Canada's used nuclear fuel. The study involved interested individuals, leading scientists and other experts, Indigenous Peoples and the Canadian public.
	2007	Government of Canada selects Adaptive Phased Management and mandates the NWMO to begin implementation.
Developing the siting process	2008-09	Work takes place with citizens to design a process for selecting a central, preferred site for the deep geological repository and Centre of Expertise.
Identifying a site using the siting process	2010	The siting process is initiated.
	2010-15	Twenty-two communities initially express interest.
		In collaboration with interested communities, the NWMO conducts initial screenings, followed by preliminary assessment desktop studies and community engagement.
		Areas with less potential to meet project requirements are eliminated from further consideration.
	2015-24	The NWMO expands assessment to include field investigations. Areas with less potential are eliminated from further consideration as the narrowing down process continues.
	2022	The Government of Canada reaffirms that a deep geological repository is the best solution for Canada's used nuclear fuel (via the *Report of the Standing Committee on Environment and Sustainable Development on Canada and Radioactive Waste Management*).
	2024	The potential host communities determine willingness. A single, preferred site is identified.
Towards construction	2025	Additional site characterization activities are initiated at selected site.
		The NWMO begins the regulatory decision-making process.
		An updated transportation planning framework is issued (updated every three years).
	2028	Studies are submitted as part of the regulatory decision-making process.
		The grand opening of the Centre of Expertise is held.
	2030	Regulatory approval is granted (estimate).
		Initial licence is granted (estimate).
	2031	The Licence to Construct application is submitted to the Canadian Nuclear Safety Commission.
	2033	The Licence to Construct is granted (estimate).
		Construction begins.
Beginning operations	2040-45	Operations of the deep geological repository begin. Transportation of used nuclear fuel to the repository begins.
Extended monitoring	Post-operations	Decades of monitoring are initiated.

REGULATORY DECISION-MAKING

In 2024, the NWMO selected Wabigoon Lake Ojibway Nation (WLON) and the Township of Ignace as the hosts for the future site for Canada's deep geological repository for used nuclear fuel. Now that we have completed the site selection process, we will begin the rigorous regulatory decision-making process, through which the NWMO's understanding of the safety of the repository will be independently confirmed.

The NWMO will also be subject to WLON's RAAP (Regulatory Assessment and Approval Process), a sovereign regulatory process that will be developed and implemented by WLON.

It will design the process to ensure that potential impacts of the project are assessed against its Anishinaabe Values. Conditions to mitigate any impacts will be designed by WLON and complied with by the NWMO. This approach aligns with the NWMO's Reconciliation commitments, and the NWMO looks forward to working with WLON as it implements its sovereign process.

The regulatory decision-making process will help the federal government assess various aspects of the project, including safety, sustainability, adverse effects, national security and whether it is in the public interest.

We expect to start the regulatory decision-making process in 2025. While we could not formally begin the regulatory decision-making process until completion of the siting process, our preparation for this period has been underway and work will be ongoing to ensure the NWMO is responsive to the needs of the regulators.

To date, we have ensured that the legislated requirements of engagement, participation and Indigenous Knowledge required for our assessment work were thoughtfully considered as part of the hosting agreements signed with communities in the siting area, while leaving space for community voice in the process.

We will now start collaboration with the host communities of WLON and the Township of Ignace in producing the information needed for the regulatory process. As part of the regulatory decision-making process, the NWMO and host communities will undertake a work program to further study the potential impacts of the project.

The regulatory decision-making process provides an opportunity for Canadians and Indigenous Peoples to ask questions and share their voice on the project, including via participation in public hearings.

The NWMO is also subject to robust regulatory frameworks outside the federal impact assessment process, including from the Canadian Nuclear Safety Commission (CNSC). We will also continue to engage with the CNSC, consistent with the terms of a special project arrangement already in place.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Enter into WLON's RAAP, developed and implemented by WLON;
- Prepare the required materials for the regulatory decision-making process with a goal to having all materials available by the end of 2028;
- Engage with communities and seek community input for completing environmental, social, health and economic studies;
- Continue to collect information and work with communities and others to enhance our understanding of the current site, and local and regional conditions;
- Work to incorporate Indigenous perspectives and Knowledge into regulatory study planning, execution and decision-making;
- Collect additional baseline data tailored to the proposed project layout;
- Assess impacts, both positive and adverse, associated with project activities at the selected site, and with meaningful engagement with community, propose mitigation measures and followup monitoring programs;
- Building on work completed prior to site selection on safety from a social perspective, continue to work with community members to understand and respond to their questions and concerns related to the safety of the repository, including how we will mitigate risk of harm to the environment in our designs and programs; and
- Participate in the regulatory review process, including any information requests and hearings.

SITE SAFETY AND REPOSITORY DESIGN

The NWMO is committed to keeping people and the environment safe for generations to come. The safety of the public and our employees comes first in everything we do, including environmental, conventional, nuclear and radiological safety.

Given that we now have a site identified for Canada's deep geological repository for used nuclear fuel, our next steps include advancing site characterization, repository design and technical safety assessments as we move through the regulatory decision-making process.

Working with Wabigoon Lake Ojibway Nation and the Township of Ignace, we will continue to consider the environmental, social, cultural and economic effects of hosting the repository. Continuing to involve people in the broader siting area ensures a wide range of potential benefits and impacts are considered.

Ongoing site characterization activities will support the regulatory decision-making process and inform the geoscientific, engineering, environmental and safety assessments that will be needed to apply for a construction licence.

Along with site characterization activities, we will begin preliminary engineering to support the preparation of regulatory submissions and assessments, and to achieve a future construction licence application. This work builds on site-specific repository designs that have used data collected through borehole drilling and environmental baseline investigations.

We will also continue to advance the engineered-barrier system that will contain and isolate the used nuclear fuel. This includes integrating latest information from our ongoing research and development activities, as well as international experience, into our design through interdisciplinary reviews.

Finally, we will continue to conduct robust technical and geological studies, as well as safety assessments, to assess risks to human health and the environment, and reinforce our confidence that the project is safe for generations to come.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Advance engineering design in collaboration with communities, technical experts and international peers;
- Continue safety assessments and geological studies to advance site understanding, reduce uncertainties and maintain overall confidence in the project's safety case;
- Continue to seek guidance from Knowledge Holders to incorporate applicable learnings into the planning and execution of our studies;
- Co-ordinate with regulatory authorities and engage with communities on the required permissions/approvals to support field activities;
- Plan, contract and initiate post-site selection fieldwork, including installation of additional shallow groundwater wells and more borehole drilling;
- Maintain a demonstration facility for engineered-barrier evaluations;
- Prepare geoscientific site models and conduct safety assessments to inform the facility design;
- Develop a complete suite of technical reports to support the regulatory process; and
- Arrange independent peer reviews of specific aspects and features of the repository, Used Fuel Packaging Plant and engineered-barrier design as required.

TRANSITION TO SITE

Selecting a site for the deep geological repository for used nuclear fuel marked the beginning of a multiphase organizational transformation for the NWMO, including increased activity in the siting area. As such, it will also mark a transformational period for the area.

As the project advances, we will continue to build awareness and support, while addressing questions and concerns in hosting communities and the surrounding region.

We will continue to build an equitable, diverse and inclusive workforce. We will maximize job opportunities in the siting area and develop capacity in communities through investments in training and education.

Along with preparing to gradually move our operations to the siting area, we are also making plans to increase resources within the region, ensuring we have the infrastructure in place to support Canada's plan.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Take care and control of the selected site, including establishing the project site and initiating site preparation activities;
- Ramp down operations in the communities not selected, including managing all facilities and acquired properties;
- Establish implementation committees with the host municipality and Indigenous community to oversee and implement the commitments in the hosting agreements;
- Build a stronger local presence in the selected siting area, while providing local contracting opportunities for the project;
- Work with communities on housing and other infrastructure needs and timing to support the transition of our workforce to the selected site;
- Invest in building up the skills and capacity of youth and community members in the municipalities, First Nations and Métis communities in the siting area to help them secure jobs related to the project;
- Develop the detailed concept design for the Centre of Expertise in collaboration with the host communities and complete the construction of the facility by 2028;
- Ensure all requisite access to the land is available, in support of the regulatory decision-making process;
- Implement a human resources strategy to ensure we retain institutional knowledge and attract any new skills required for the organizational transition and regulatory decision-making process; and
- Begin to mobilize the NWMO staff to the area.

Centre of Expertise

A Centre of Expertise will be established at or near the repository site. The specific location will be determined in collaboration with the host communities. It will highlight the NWMO's commitment to sustainability by demonstrating environmental responsibility and resource efficiency throughout its design and operation.

The centre will also become a hub for knowledge sharing across Canada and internationally, and a focal point for those living in the area to learn about the project through public viewing galleries and interactive displays.

In 2022, before the site was selected for the repository, the NWMO began working with local communities in potential siting areas to develop a vision for the centre in a manner that aligns with their requirements and aspirations. This visioning process and continued dialogue around community interests for the facility will continue in the selected siting area with Wabigoon Lake Ojibway Nation and the Township of Ignace, supporting ongoing dialogue and discovery of the unique opportunities the centre could provide.

For the NWMO's needs, the centre will provide office space for staff and be used to support the continued site characterization work related to technical safety, ongoing education and dialogue.

It will be home to active technical and social research, as well as technological demonstration programs, with contributions from scientists and other experts in a wide variety of disciplines from both the NWMO and around the world. An engineering test facility will be located within the Centre of Expertise to continue the development of materials and equipment to be used in the repository, and to support the construction and operation of the facility in the future.

COLLABORATIVE CONTRACTING

We expect that construction of the deep geological repository for used nuclear fuel will begin in approximately 2033, following the completion of the regulatory decision-making process and Licence to Prepare Site, should we be successful in receiving one.

In anticipation of this work, we are taking steps to ensure the necessary people and processes are in place, including establishing governance and implementing our project execution team.

The NWMO will be using a Collaborative Contracting Model (CCM) for the delivery of the project. This contracting approach provides a unique opportunity to collectively assign and manage known and emerging risks with the selected suppliers who will support the delivery of the project throughout the contract lifecycle. It optimizes cost and schedule risks from traditional megaproject delivery models and provides flexibility to adapt to the inherent uncertainties of the regulatory process for a first-of-a-kind infrastructure project in Canada.

This approach also provides more opportunity to manage the lifecycle cost estimate, through detailed and early planning with all partners and efficiencies and innovations throughout the delivery.

The NWMO expects to select suppliers in early 2025, with the initial team setup and preliminary engineering to start immediately after.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Finalize agreements with the selected CCM proponents;
- Establish the project governance, processes and requirements;
- Integrate NWMO staff into the CCM structure;
- Support the regulatory decision-making process through design development;
- Initiate detailed design and construction planning; and
- Enter into a multi-party agreement with several suppliers who will design and construct the repository.

TRANSPORTATION PLANNING

We plan to start transporting used fuel to the deep geological repository site in the 2040s, once the repository is operational. There are rigorous regulatory requirements set internationally and enforced in Canada by the Canadian Nuclear Safety Commission that must be met before we can begin to transport used nuclear fuel.

Transportation planning is a key aspect of safely managing used nuclear fuel for the long term. Our responsibility is to develop a transportation framework that ensures safety and security of the used fuel during transport and considers input from Canadians and Indigenous Peoples.

Transportation of used nuclear fuel occurs on a daily basis worldwide, and the regulatory framework is comprehensive and mature. In almost 60 years, there has never been an accident resulting in significant human or environmental harm as a result of radioactive release. Across Canada today, about 2,000 radioactive shipments are safely made each day. When repository operations begin, it is estimated that the contribution of used fuel transports will be less than 0.3 per cent of all radioactive shipments.

We understand that the transportation of used nuclear fuel is an important topic to Canadians and Indigenous Peoples. We also recognize the need to explain the exceptional safety track record and answer peoples' questions about how the NWMO will uphold this standard.

With this in mind, we are taking a collaborative approach to transportation planning. More specifically, we have designed an approach that will incorporate inputs into the planning process, acknowledging the importance of considering input from the Council of Elders and Youth, and Indigenous Peoples.

We will demonstrate our commitment to the development of a transportation plan through dialogue on the transportation planning framework. It is our responsibility to ensure that people with a broad range of interests are included in our planning discussions, and that we address their questions and concerns whenever possible.

For example, we continue to undertake and share the results of studies that support the safety case for transportation of used fuel. We will also continue to actively engage with first responders and other important audiences interested in transportation planning.

Over the coming years, we will work to ensure planning is reflective of the public's values, principles and objectives, including an emphasis on safety from a social perspective.

To date, we have heard concerns around transportation safety, transportation package performance, and emergency response. Now that a site for the repository has been identified, the NWMO is working to address these concerns through developing site-specific designs of the Used Fuel Transportation System. This includes evaluations of the transportation system modes, as well as equipment design, logistics, routing, security, emergency management, and costing.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Continue implementing the transportation planning framework, which will be updated every three years (2025, 2028, 2031 and continuing until operations begin);
- Continue to engage municipalities, Indigenous Peoples, first responders, and interested individuals and groups;
- Continue to work with Indigenous Peoples to understand how the NWMO can align our transportation planning with Indigenous Knowledge; and
- Seek from the Canadian Nuclear Safety Commission design approval certificates, as required.

Planning priorities: Intermediate-level and non-fuel high-level waste planning

Project timelines: Intermediate-level and non-fuel high-level waste planning

Below are preliminary timeline estimates to guide our work, since the NWMO was tasked with planning for other types of radioactive waste beyond used nuclear fuel from current nuclear projects, through the Integrated Strategy for Radioactive Waste.

Accepting the responsibility for intermediate-level and non-fuel high-level waste	October 2023	Canada's Minister of Energy and Natural Resources accepts the recommendations of the Integrated Strategy for Radioactive Waste.
Developing the siting process	2024-27	The NWMO develops a proposed siting process and conducts public engagement activities before finalizing the process.
Identifying a site using the siting process	2028–mid-2030s	The site selection process is initiated. Site characterization, preliminary design and narrowing down process advance. The NWMO selects a site for the repository.
Towards construction	Late 2030s-50s	The NWMO submits the project description. Further characterization and detailed design are undertaken. Regulatory decision-making takes place. Construction begins. Operations begin.

SITE SELECTION PLANNING

As Canada's plan for used nuclear fuel advances, we are also proudly taking on a new endeavour to safely manage intermediate-level and non-fuel high-level waste for the long term.

The NWMO took on this responsibility in 2023, following the federal government's acceptance of our recommendations in the Integrated Strategy for Radioactive Waste (ISRW). Specifically, the strategy recommended that intermediate-level and non-fuel high-level waste be disposed of in a deep geological repository, with implementation by the NWMO.

The federal government first asked the NWMO to explore solutions beginning in 2020, given that long-term disposal plans were in place for the majority of Canada's radioactive waste, but there were some planning gaps. The ISRW was a first-of-its-kind for Canada and was the result of more than two years of engagement with Canadians, First Nations, Métis peoples, generators of radioactive waste, and waste owners, as well as studies of both technical considerations and international best practices.

Over the next five years, the NWMO will develop a community-driven siting process so this repository can be located in an area that is safe from a technical perspective and that has informed and willing hosts.

In 2025, the NWMO will publish a proposed site selection process that builds on the strength and learnings of the site selection process for Canada's deep geological repository for used fuel from existing Canadian nuclear facilities.

At that time, we will start transparent and inclusive engagement on the proposed site selection process with Indigenous Peoples, as well as youth, elected officials and people from communities with an interest in nuclear energy. The site selection process is expected to be finalized in 2027, with its launch planned in 2028. Implementation of the site selection process itself will take several years.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Draft the proposed siting process and publish it for public comment;
- Engage with Canadians and Indigenous Peoples to finalize what the site selection process will look like; and
- Initiate the siting process and begin assessments of communities.

REPOSITORY DESIGN AND PLANNING FOR WASTE FROM NEW NUCLEAR PROJECTS

Along with advancing the site selection process for this repository project, the NWMO will also advance technical assessments and begin preliminary designs for the facility, ensuring they are adaptive in nature and consider the best available technologies. This work will be done in close collaboration with Canadians and Indigenous Peoples, and consider best practices from our international peers.

As we advance our work, we are maintaining flexibility and remaining ready to be adaptive. In case we need additional capacity in the future, we are also exploring the potential to include future used fuel from new nuclear projects in the same repository that we will use to manage intermediate-level and non-fuel high-level waste.

This is important given the current landscape. Nuclear energy has been identified explicitly by the federal government as a pillar in Canada's climate change strategy for achieving a net-zero emissions economy by 2050, as well as ensuring a continued safe and secure energy system for Canada in the face of global challenges.

In this evolving environment, there is potential for not only extending the life of existing nuclear plants, but also building new nuclear reactors. For example, the Canadian nuclear sector is actively exploring emerging technologies such as small modular reactors and advanced reactors.

Thinking about the future is part of the NWMO's DNA. Even though used nuclear fuel and other wastes from new nuclear projects will not be ready to be placed in a repository for decades, we are already thinking about ways to be flexible and keep options open.

At a glance

In the period from 2025 to 2029, the NWMO will:

- Ensure preliminary designs for the facility are adaptive in nature and are considering the best available technologies;
- Continue to actively monitor and discuss new developments, and work with the nuclear industry to understand plans for new nuclear energy as they take shape, to prepare accordingly; and
- Continue to collaborate with and learn from international peers, including other nuclear waste management organizations, heading into operations.

Cost and funding

Funding for used nuclear fuel

Canadians expect that the money necessary to pay for the long-term management of used nuclear fuel will be available when needed. This expectation is being met.

Canada's plan for used nuclear fuel is funded by the waste owners in Canada: Ontario Power Generation (OPG), New Brunswick Power (NBP), Hydro-Québec (HQ) and Atomic Energy of Canada Limited (AECL). The *Nuclear Fuel Waste Act* requires each of these four companies to establish independently managed trust funds and make annual deposits to ensure the money to fund this project will be available when needed.

Each company pays into the trust fund based on the number of fuel bundles it has and continues to create. The amounts cover estimated fixed costs for the NWMO to construct, operate, monitor and decommission a deep geological repository for used nuclear fuel, as well as variable costs associated with managing each fuel bundle. This process is designed to ensure Canada's plan for used nuclear fuel is funded over the long term.

For more information on trust fund deposits, please refer to the *NWMO Annual report 2024*. In addition to these trust fund contributions, waste owners are also responsible for funding the NWMO's annual operating budget.

Total trust fund deposits: Year 2025		
Owner	**Trust fund balance ($ million)**	**Deposit to trust funds (committed and future bundles) ($ million)***
	December 2024	**2025**
OPG	5,211	88
NBP	225	7
HQ	193	0
AECL	80	0.4
Total	**5,709**	**95**

** Annual trust fund deposits are required to be made within 30 days of the submission of the annual report. A deposit date of April 23, 2025, is assumed for illustrative purposes.*

The NWMO is also responsible for determining what costs can reasonably be expected to arise over the life of the projects, along with a contingency for unexpected events. We maintain a system to estimate funding requirements and communicate with waste owners to ensure they provide the required deposits to the trust funds.

Many factors will affect the long-term cost of Canada's used nuclear fuel repository: the volume of used nuclear fuel to be managed, the location of the facility, the surrounding infrastructure, rock type and characteristics, the design of the repository, and the length of time allocated to monitoring the site following fuel placement. The existing inventory of used nuclear fuel in Canada is approximately 3.3 million bundles, and more bundles are produced each year as nuclear reactors continue to generate electricity. Future decisions about nuclear generation in Canada may change the volume and type of fuel to be managed.

The NWMO updates the lifecycle cost estimate every five years and completed an update of the cost estimate for the project in 2021, with the next update planned for 2026. These estimates provide the basis for financial planning and trust fund deposits for future years.

For planning purposes, our 2021 cost estimate is based on an expected volume of about 5.5 million fuel bundles, which was the anticipated volume at the end of the planned operation of Canada's existing nuclear reactors in 2020. With this expected volume, the total lifecycle cost of the project — from the launch of the site selection process in 2010 to the completion of the project about 175 years later — is approximately $26 billion (in 2020 dollars). This figure covers the initial investment of $4.5 billion (in 2020 dollars) in construction costs over a 10-year period, as well as many decades of lifecycle activity, stretching well into the next century.

Funding for intermediate-level and non-fuel high-level waste

Over the next five years, the NWMO will establish interim funding arrangements with waste owners for the second deep geological repository project.

The initial staffing and funding for this project were benchmarked to a comparable time period of developing Canada's plan for used nuclear fuel. The funding formula and updated five-year business plan reflective of the proposed siting process for the intermediate-level and non-fuel high-level waste repository is expected to be finalized in 2026.

In 2025, modest funding for the project is provided by the current used nuclear fuel owners. The NWMO will engage with waste owners to establish funding arrangements to support the site selection process and technical development, as well as begin considering the long-term lifecycle funding approach.

Sound governance and accountability

The NWMO maintains an accountable governance structure intended to provide confidence to the Canadian public in the conduct of our work. Our governance structure comprises the member organizations, Board of Directors and Advisory Council. The NWMO is subject to the requirements of the *Nuclear Fuel Waste Act* (NFWA) and oversight by the Minister of Energy and Natural Resources.

Members

Ontario Power Generation, New Brunswick Power Corporation and Hydro-Québec are the founding members of the NWMO. The Membership Agreement and bylaws set out member roles and responsibilities in supporting the objectives of the NFWA and the NWMO's implementation mandate. The NWMO regularly briefs our member organizations.

Board of Directors

The Board of Directors is responsible for oversight and taking a leadership role in developing the corporation's strategic direction. The member organizations elect the Board of Directors. There are currently nine directors on the Board, representing a range of perspectives from both within and outside the nuclear industry, including capabilities in Indigenous culture and financial management.

Advisory Council

The NFWA requires that the Board of Directors appoint an Advisory Council to review and comment on the NWMO's work. The council meets regularly with the NWMO's senior management, closely following the organization's plans and activities, and providing ongoing counsel and advice.

As the NWMO's work progresses beyond site selection of Canada's deep geological repository for used nuclear fuel, the NFWA requires that representatives from affected Indigenous organizations and potential host regions be included in the Advisory Council. As the NWMO starts the regulatory decision-making process, the makeup of the Advisory Council will evolve in 2025.

Council of Elders and Youth

The Council of Elders and Youth is an independent advisory body made up of First Nation and Métis Elders and youth. It meets regularly throughout the year and provides counsel to the NWMO on how to align with Indigenous Knowledge in implementing the Adaptive Phased Management project. Additionally, the council provides advice on issues that could enhance the development and maintenance of good relations with First Nation and Métis communities and organizations. As per the NWMO's Three-year Reconciliation strategy, in 2025, the Council of Elders and Youth will be restructured in a manner that reflects the siting milestone.

Integrated management system

The NWMO uses an integrated management system for activities supporting the safe, long-term management of used nuclear fuel. The NWMO maintains our management system to be compliant with Canadian and international standards for quality, environment, and health and safety.

The NWMO management system also satisfies the CSA N286-12, *Management System Requirements for Nuclear Facilities*, which includes nuclear waste facilities and builds on international standards.

The NWMO's integrated management system ensures the organization has a strong foundation for implementing our mission and values. The focus on protecting people and the environment for generations to come fully aligns with the CSA N286-12 management principle that safety is the paramount consideration guiding our decisions and actions.

Independent reviews

The NWMO will continue to seek external expert review of and comment on our technical program. As the program continues to move from research into design, fabrication and demonstration, the reviews are increasingly focused on specific design aspects and features. These reviews ensure the science is sound, contribute to the design and overall program quality, and help enhance public confidence in the NWMO's implementation plan and decision-making.

The NWMO has also created advisory groups and community forums on an as-needed basis to receive external input, guidance and expertise for the project. Peer review is also often incorporated directly in third-party technical work scopes and managed as part of the contracted work.

Independent review is further achieved by regularly publishing technical research and results in scientific journals and at conferences.

Reporting

The NWMO maintains high standards for reporting to demonstrate safety, integrity, excellence, collaboration, accountability and transparency in the implementation of the project. We report regularly on our progress, especially in response to the advice of Canadians and Indigenous Peoples, and the evolving environment.

The NFWA requires us to issue annual and triennial reports. In each case, reports must be submitted to the Minister of Energy and Natural Resources and to the public at the same time. The minister tables each report in Parliament and issues a statement on it. Each triennial report must also include the NWMO's five-year strategic plan, which we do through this implementation plan.

Transparency

The NWMO is committed to being open and transparent in our processes, communications and decision-making, so that the approach we are implementing is clear to Canadians and Indigenous Peoples. To demonstrate this commitment, we maintain a *Transparency Policy* (2020).

Sharing information and encouraging an exchange of perspectives are fundamental to our mandate, and we strive to ensure our practices are aligned with the spirit of the NWMO *Reconciliation Policy* (2019), as well as all relevant freedom of information, access to information and privacy legislation.

Glossary

Deep geological repository is a facility for the placement of intermediate-level and high-level radioactive wastes, including used nuclear fuel, deep underground where both natural and engineered barriers contain and isolate them from people and the environment for generations to come. There is the potential for retrieving some used nuclear fuel.

High-level waste includes mostly used nuclear fuel, and there is a very small amount of non-fuel high-level waste that comes from other activities such as medical isotope production. This waste can generate a significant amount of heat and radioactivity and requires containment and isolation for hundreds of thousands of years in a deep geological repository.

Intermediate-level waste is generated primarily from nuclear power plants, research reactors, nuclear test facilities, and radioisotope manufacturers and users, including some medical applications. It consists of components from such areas as the nuclear plant's purification systems (e.g., filters, resins), the nuclear reactor core (e.g., pressure tubes) and equipment used to support reactor operations (e.g., core detectors). This waste is not flammable, combustible or fissile, and produces minimal heat, but requires a higher level of containment and isolation for longer time periods than is needed for low-level waste.

Low-level waste mostly comes from power plants, and medical, academic, industrial and other commercial uses of radioactive materials (e.g., mop heads, rags, paper towels). These items do not produce heat and contain radioactive levels that require containment and isolation for up to a few hundred years.

Safety in this document refers to the protection of people and the environment, including water, from the harmful or dangerous effects of radioactive waste, including used nuclear fuel, now and in the future.

Small modular reactors (SMRs) provide an alternative to large-scale nuclear reactors. SMRs can be constructed in a modular way. The NWMO would be responsible for the long-term management of used nuclear fuel created through new or emerging technology such as SMRs, if it is implemented in Canada.

Used nuclear fuel is the irradiated fuel removed from a commercial or research nuclear fission reactor, including CANDU and emerging nuclear energy facilities such as small modular reactors. Used nuclear fuel is classified as a high-level radioactive waste, and as such, generates a significant amount of heat and radioactivity and requires containment and isolation for hundreds of thousands of years in a deep geological repository. The radioactivity of used nuclear fuel decreases substantially with time, but it requires safe, long-term management.

Willingness is fundamental to the site selection process for Canada's deep geological repository projects. The NWMO has a number of principles regarding willingness. These include a commitment to only site a project in an area with informed and willing hosts, time and resources for communities to learn about a project before making a decision, and a compelling demonstration of community willingness.

Note about terminology: In this document, we use the terms Indigenous, First Nation and Métis. Our intention in the writing is to honour and respect peoples, nations and communities, as well as historical and contemporary understandings.

What we heard

In March 2024, the NWMO published *Implementing Adaptive Phased Management 2024-28*, updating the previous five-year version of the plan. By also distributing a survey about the plan digitally, we sought to make it easy for the public to review and comment on Canada's plan for used nuclear fuel, supporting our commitment to transparency.

We heard from hundreds of Canadians and Indigenous Peoples, largely from northwestern and southern Ontario, including within the two areas that remained in the site selection process at the time.

The survey offers a snapshot of respondents' thinking and provides insight into confidence in our ability to implement Canada's plan for used nuclear fuel, as well as identifying areas of opportunity for the NWMO. The survey was designed to solicit broad feedback from interested individuals, and it was disseminated at informational events, through social media and other digital channels.

As the survey was open to all interested parties rather than focusing on a representative sample, the results should not be viewed as statistically reliable. Instead, these results should be interpreted as qualitative and indicative of broader trends among individuals with an interest in our work.

It is important to recognize that this survey was specific to the NWMO's work implementing Adaptive Phased Management, and not our work on the safe, long-term management of intermediate-level and non-fuel high-level waste.

Overall participation numbers in 2024 were consistent with 2023. However, the total number of completed surveys decreased slightly over 2023. We received 649 total responses with a 34 per cent completion rate (compared to 37 per cent in 2023, but also significantly higher than 19 per cent in 2022). Most (68 per cent) of the respondents were based in Ontario, with 19 per cent from the northwestern area and 14 per cent from the southern area.

The survey is only one way that we gather input that informs our work. The NWMO also solicits feedback through activities such as on-the-ground and digital engagement efforts, community liaison committees, educational events, advisory groups, publishing in peer-reviewed journals, attending conferences, and meeting with a range of subject-matter experts and all levels of government representatives.

This type of public input informs and guides our work, and the comments received have helped us update this plan year after year. This is a summary of what we heard.

Confidence in the NWMO

Confidence in the NWMO was slightly lower than in 2023 and consistent with 2022.

Overall, more than half (55 per cent) of respondents reported feeling confident in the NWMO after reading the implementation plan, down from 62 per cent in 2023 and on par with 2022 levels.

Confidence in southern Ontario was higher than in northwestern Ontario, although perceptions in the northwest are greatly improving. The majority (67 per cent) also describe the communication in the plan as “excellent” or “good.” Respondents commonly describe the implementation plan as understandable, clear and transparent.

To continue to strengthen confidence, we will continue to implement extensive communications and engagement efforts, with a focus on those who have an interest in our work. For example, this will include ongoing collaboration with the host communities for the used fuel repository, and continued engagement with the wide range of audiences interested in important topics like transportation and water protection. The regulatory process itself will also provide opportunities for Canadians and Indigenous Peoples to provide input on the project’s implementation.

All this will build on engagement work completed in 2024, including efforts supporting education and knowledge sharing in the lead-up to community willingness decisions in both siting areas, and the site selection milestone. Finally, we also strengthened communications related to the transportation planning framework.

Indigenous Knowledge and Reconciliation

As in years past, the majority of respondents told us they share Indigenous Knowledge and Reconciliation as a priority, and they want us to communicate more about the steps in our Reconciliation journey. Among respondents, 52 per cent reported feeling confident in the NWMO’s ability to align with Indigenous Knowledge and our commitment to Reconciliation (down slightly from 58 per cent in 2023). At the same time, we continue to hear concerns about these topics.

In response, the NWMO will continue to share information about the role of Indigenous Knowledge in our work, engage with Indigenous communities and work towards building trust and meaningful collaboration.

In 2024, we also strengthened our data tracking efforts related to Reconciliation and Indigenous Knowledge policies. We continue to conduct mandatory staff Reconciliation training and continuous learning opportunities, informal training opportunities, staff support systems and community-driven work plans.

The NWMO remains committed to our ongoing Reconciliation journey, working with Indigenous Peoples, learning from Indigenous Knowledge and applying these learnings to our work.

Safety

Safety remains a top priority for the NWMO — and it was once again ranked as the most important priority for survey respondents.

In total, 79 per cent of respondents reported understanding the safety approach (72 per cent in the northwest and 90 per cent in the southern region).

About three in five respondents expressed neutral or positive sentiment, with some comments demonstrating support for the priority, including that the NWMO is taking a “very safe and layered approach” and “…simulated worst-case scenarios and mitigated any concerns.”

On the other hand, some comments were linked to general opposition and safety concerns — such as expressing the view that the project is “unproven” — and that “the NWMO is unable to guarantee safety,” especially during transportation.

The NWMO engages directly with residents to address questions and concerns, and through an extensive range of communications activities, we share information on safety-related topics. As part of the regulatory decision-making process, further technical studies will be undertaken at the selected site. These studies will provide even greater clarity for the repository design and formal safety case that will be submitted to regulators.

We will also undertake similar work as we plan for the repository for intermediate-level and non-fuel high-level radioactive waste, and used nuclear fuel from new nuclear projects. Similar work is progressing in other countries with deep geological repository projects underway, and the NWMO will continue collaborating with our international peers to learn from their expertise and share our own.

The NWMO is committed to ensuring these projects are safe from a conventional, social, cultural and environmental perspective.

Transportation

Transportation remains an important priority for the NWMO, and survey responses indicate that while 77 per cent understand it as a priority, there are still many questions and concerns.

There is still a persistent concern that transportation of used nuclear fuel could be dangerous. Respondents, especially in the north, expressed concern about the safety of transportation, particularly due to traffic accidents and road conditions, especially on highways.

The NWMO is continuing to engage with the public on transportation to hear concerns and answer questions related to safety. In 2024, we strengthened our transportation engagement efforts based on this feedback, including providing more information about the safe track record of transportation of used nuclear fuel, in Canada and internationally.

Looking forward, the NWMO's transportation approach will continue to undergo review and public reporting. Every three years, the transportation planning framework will be reviewed and revised, taking into consideration factors such as public input, evolving best practices, new technologies, ongoing adaptation and continuous improvement. The next iteration of the transportation planning framework will be published in 2025.

Engineering

Consistent with 2023, this year's survey showed engineering ranks as one of the best understood priorities, with most respondents understanding and feeling positive about the NWMO's engineering program.

Specifically, 82 per cent of respondents said they understand this priority, and 72 per cent expressed a positive or neutral sentiment about it.

Respondents noted sound principles as a positive, while also expressing safety concerns, perceived lack of engagement and general opposition to a deep geological repository as the method to contain and isolate used nuclear fuel.

The NWMO has continued to collaborate closely with academics, government and international organizations as we advance the repository design and safety case, including as part of the regulatory decision-making process. Throughout 2024, we were invited to participate in a number of events and research initiatives on the international stage, demonstrating our recognized expertise in nuclear waste management.

We are also continuing to engage with Canadians and Indigenous Peoples to ensure the project continues to be considered safe from a social perspective.

Canada's use of a deep geological repository is consistent with international best practice. This approach is the culmination of decades of research, development and demonstration of technologies and techniques. There is also consensus among major nuclear regulatory and monitoring organizations that deep geological repositories are the responsible way forward.

Share your thoughts

Take the implementation plan survey

Your feedback is essential to our work to protect people and the environment.

Every year, we ask Canadians and Indigenous Peoples for their input on our implementation plan to inform and guide our work. We then take that feedback into account in our planning activities, and in each year's implementation plan, we report on what we heard from the public about the previous year's plan. We invite you to share your thoughts until June 6, 2025.

Other ways to provide feedback (you may indicate that you wish for your response to remain anonymous):

- Email us at learnmore@nwmo.ca
- Send us a letter (with your name and mailing address) to:

  Lisa Frizzell
  Vice-President of Communications, NWMO
  RE: Implementation plan 2025-29
  22 St. Clair Avenue East, Fourth Floor
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NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

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