A NEXT STEP

Part of Canada's Radioactive Waste Review

Integrated Strategy for Radioactive Waste

What We Heard Report (2)

Community Engagement Sessions

Held Between May 19th, 2021 & November 10th, 2021

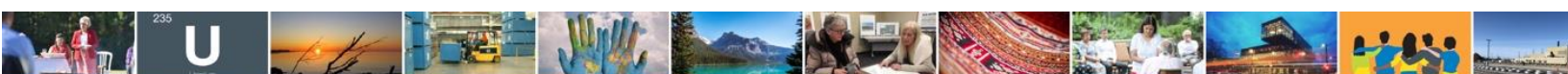
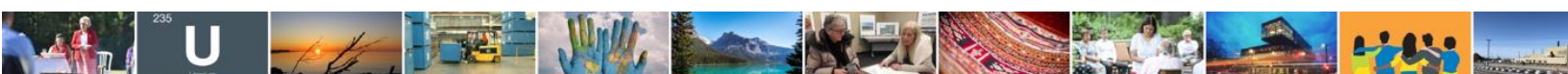


Table of Contents



Executive Summary

In the fall of 2020, the Minister of Natural Resources Canada tasked the Nuclear Waste Management Organization (NWMO) with leading an engagement process with Canadians and Indigenous peoples to inform the development of an integrated long-term management strategy for all of Canada's radioactive waste, in particular low- and intermediate-level waste (radwasteplanning.ca), as part of the government's radioactive waste management policy review. The NWMO was asked to lead this work because it has close to 20 years of recognized expertise in the engagement of Canadians and Indigenous peoples on plans for the safe long-term management of used nuclear fuel. The ISRW is distinct from the work that the NWMO is leading on the Deep Geological Repository for used nuclear fuel which will continue as planned.

In 2021, the NWMO began engaging with Canadians and Indigenous peoples, conducting public opinion research, hosting a Summit to hear from diverse voices, listening to citizens in a series of engagement sessions in communities where waste is stored today, hosting Roundtable discussions, and Technical Workshops. This report summarizes what we heard from our virtual community engagement sessions which took place from May to November 2021.

The intent of the ISRW is to identify next steps to address gaps in Canada's current radioactive waste management strategy, in particular for low- and intermediate-level radioactive waste, and to look further into the future. We stipulated at the start of each session that our focus is on engagement, information sharing and gathering, not consultation.

Through these community sessions we engaged with participants and invited Canadians and Indigenous peoples to discuss the long-term strategy for managing Canada's low- and intermediate-level waste. All the events offered several opportunities for attendees to participate, give feedback and ask questions about topics that were important to them.

This What We Heard Report presents the commonly heard themes that arose over the course of the 13 virtual community engagement sessions across the country and is not a reflection of each of the individual comments that were made. Each session was summarized, and the individual meeting summaries were posted online following each engagement session.

Input from our engagement efforts will be considered in the drafting of the recommendations for the ISRW. This strategy will be based on public input, Indigenous Knowledge, international scientific consensus, and best practices from around the world. Draft recommendations will be published later this year, after the Minister of Natural Resources publishes their revised radioactive waste management policy so that, too, can be taken into account in informing the recommendations.

Refer to links in **Appendix A – Community Engagement Session Summary Reports** to read the summary reports and insights from the communities where we hosted these sessions. The summary reports are in the language of the meeting.

Community engagement sessions were held virtually in the following communities, all in English unless otherwise noted:

- **Deep River, Ontario**
- **Kincardine, Ontario**
- **Bécancour, Québec** (French)
- **Point Lepreau, New Brunswick** (two sessions including one in French**)**
- **Blind River, Ontario**
- **Ignace, Ontario** (English with Ojibway interpretation)
- **Pinawa, Manitoba**
- **Pickering & Clarington Region, Ontario**
- **Port Hope, Ontario**
- **Alberta**
- **Saskatchewan**
- **Open, Canada-wide** (Bilingual English/French)

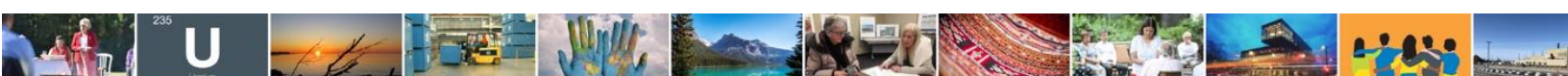
These locations were selected because they are either communities where waste is stored today or that are considering future nuclear projects. Residents in these communities are often already aware of the significance of managing Canada's radioactive waste and were keen to have their voices heard. Refer to **Appendix B – Promotion of Community Engagement Sessions** for more details on how we promoted these sessions.

A consistent methodology was used to structure each of the community engagement sessions. The general format for the sessions Included:

- Participants received a presentation on the topic by a NWMO representative
- Participants had an opportunity to ask questions of clarification from the NWMO representative
- Participants were moved into a breakout room, separate from the NWMO representative, where a facilitator guided them through a series of questions to obtain their views on the topic of 'How should we best deal with Canada's Low-Level Waste and Intermediate-Level Waste over the long-term?'
- Participants returned to the main room and were able to ask questions of the NWMO representative
- The NWMO representative provided additional information on other engagement opportunities for the Integrated Strategy for Radioactive Waste and ended the session with thanks.

The sessions were not recorded but notes were taken, and the individual meeting summaries were posted online following each engagement session.

Refer to **Appendix C – Methodology** for more detail



At a Glance - Key Themes from the Breakout Sessions

This What We Heard Report represents the commonly heard themes that arose and is not a reflection of all the individual comments that were made. These conversations gave participants the opportunity to express their ideas, questions, and concerns, provide feedback, and engage in discussions that would reveal what considerations should be given toward long-term radioactive waste management.

We heard from participants that **safety** was important in every aspect of the nuclear waste strategy. Participants felt that **carbon footprint** and protecting the **environment** were key considerations. Additionally, they emphasized the importance of transparent and clear **communication** to understand the risks associated with the long-term management of radioactive waste.

We also heard from these community engagement sessions that participants wanted **to learn more** about all aspects of the strategy to make better informed decisions that could contribute toward the overall strategy.

We heard differing views on **Rolling Stewardship** and **Disposal**. Most participants supported the idea of taking steps to deal with the waste now rather than leaving it for future generations. However, there were a considerable number of individuals who expressed a preference for Rolling Stewardship, where the waste remained above ground where it is today, so that monitoring of the waste would be assured over the long-term and the location of the waste would not be forgotten. We also heard from participants concerns about **transportation** risks and the need to ensure that when radioactive waste is transported, it is done safely.

Finally, participants expressed a desire for a **single independent entity** to be accountable for long-term waste management. While there were differences of opinion about whether industry should be involved, most felt expertise and accountability were important.

A summary of key findings is below, and these are addressed in more detail in the section entitled Breakout Sessions – What We Heard.

Key Finding 1 – Safety is Paramount

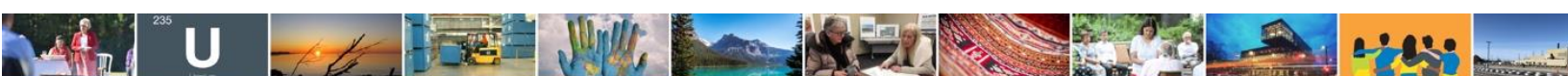
The most prominent theme that emerged throughout these thirteen engagement sessions was the importance of safety in every aspect of the development and implementation of the Integrated Strategy for Radioactive Waste. We heard from communities where waste is stored today, and they emphasized safety should be the main priority when it comes to long-term management of radioactive waste.

Key Finding 2 – Communication and Transparency

Participants were adamant that clear, fact-based, inclusive communication that provides context is essential. We heard that we need to be completely transparent about the waste and any potential risks associated with it, and that we need to communicate effectively and provide context when necessary.

Key Finding 3 – Education and Engagement

We heard that engagement should continue to be an important aspect of this strategy, and any plans going forward. We also heard that education needs to be further integrated into our discussions. Participants shared that they want to contribute to the strategy, but sometimes



need more information. Participants recognized the importance of expertise but had a strong desire to learn more to contribute to the strategy and noted that experts were required to educate and provide options. Education is vital to enable potentially impacted people and communities to be appropriately informed and will help Canadians and Indigenous peoples understand the unique challenges posed by radioactive waste, and how safety is assured.

Key Finding 4 – Sustainability and the Environment

In addition to the safety of the community and its residents, we heard that minimizing the carbon footprint and protecting the environment, in particular water, over the long-term were important. Participants shared that we needed to be mindful of the climate emergency to ensure that every aspect of this strategy is sustainable, considers the risks posed by climate change, respects the environment, and protects water sources for all future generations.

Key Finding 5 – Transportation

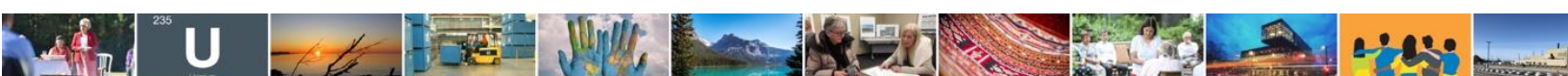
We heard from participants that transportation is a particularly important aspect of the long-term plan and that, when radioactive waste is transported, it must be done safely. We heard that people have many questions about the risks associated with transportation, and the consequences of transportation accidents on the safety of the radioactive waste being transported. We heard that people generally preferred to minimize the transportation of radioactive waste, to reduce any associated risks. Participant views on the relative risks of transportation influenced their views on having one central repository for low-level waste and for intermediate-level waste or having multiple disposal facilities closer to where the waste is produced.

Key Finding 6 – Independence of Accountable Entity

There were varying perspectives regarding who should be responsible for the waste. There were differences of opinion about the role of industry, but there was general agreement that there should be a single entity with appropriate expertise that is independent from government and industry, but subject to regulated safety and environmental oversight. The governance of such an entity was subject to different ideas, with some suggesting that the organization's governance should be comprised of industry, civil society organizations, and Indigenous peoples, and others focusing on ensuring the organization remained independent and included the right expertise.

Key Finding 7 – Rolling Stewardship and Waste Disposal

We heard different views on Rolling Stewardship versus ultimate disposal of radioactive waste. A majority supported the idea of finding solutions to permanently dispose of the waste now, and not leaving the decision for future generations. Uncertainty about climate change, and whether changes to government or society in the long term could leave waste vulnerable under indefinite storage arrangements were some of the concerns that were cited. However, there were others that saw Rolling Stewardship as the preferred strategy because of considerations such as future technology innovations, ensuring that the waste was not forgotten, and the ability to constantly monitor the waste to ensure that any environmental impacts could be identified and remediated before causing significant harm, especially to the water table.



Key Finding 8 – Co-location and Centralization

We heard a range of responses from participants who felt co-locating waste could have advantages. Participants acknowledged the difficulty in finding willing and informed host communities, and obtaining the free, prior, and informed consent of Indigenous peoples made multiple sites more challenging. However, there were concerns about the impact of a single location on the transportation of waste. Some participants cautioned about the importance of ensuring appropriate technical arrangements for different waste types located in the same facility, while others noted the cost advantages of consolidating expertise and facilities in a single location.

The idea of co-location and centralization was more broadly supported for intermediate-level and high-level waste, than it was for low-level waste and intermediate-level waste. The volumes of low-level waste are greater, and participants generally felt that leaving it nearer to the sites where it was generated or stored, rather than transporting it vast distances, was preferable.

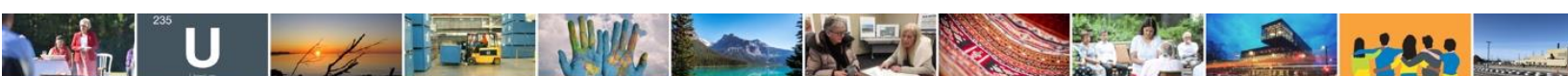
Conclusion

We have heard various opinions, feedback, and thoughts from Canadian communities where waste is stored today or considering nuclear in the future. There is a wide range of sentiment regarding this nuanced issue.

It was our intention to collect and present these views in a manner that reflects the voices of the people we engaged with and integrate this invaluable feedback as we proceed with recommending the next steps towards managing low- and intermediate-level waste in Canada for which there are currently no long-term plans.

This is an ongoing conversation, and inclusion is an essential aspect of our project as this will be a decision affecting future generations of Canadians and Indigenous peoples.

The NWMO's recommendations will also be informed by the revised policy on radioactive waste, which is expected in 2022.



Breakout Sessions – What We Heard

This What We Heard Report represents the commonly heard themes that arose and is not a reflection of all the individual comments that were made. For more details on comments expressed from the community engagement sessions go to the meeting summary reports (Refer to links in **Appendix A – Community Engagement Session Summary Reports**).

At the start of the presentation, we clarified that our focus was on engagement, information sharing and gathering -- not consultation. We emphasized that this was not a siting process and that at this time, we were inviting Canadians and Indigenous people to provide input to the approaches that we should consider for the long-term management of radioactive waste. Attendees had some preliminary questions and comments to share after viewing our educational videos.

Breakout sessions began with an icebreaker to elicit the top-of-mind views of participants when it came to radioactive waste. When asked what came to mind when thinking of managing radioactive waste, participants thought of storage containers, transportation, pre-disposal, long-term management, and we heard that there should be an emphasis on management instead of disposal because the waste has such a long shelf life.

We asked participants to consider the principles developed to guide the ISRW, and to identify any gaps or additional considerations. Overall, we heard from participants who believed that the guiding principles were comprehensive, clear, and well-rounded. Refer to **Appendix D – ISRW Guiding Principles** for the full text of the principles, and a summary of participant input.

The following are the key themes that emerged from the Community Engagement Sessions breakout discussions:

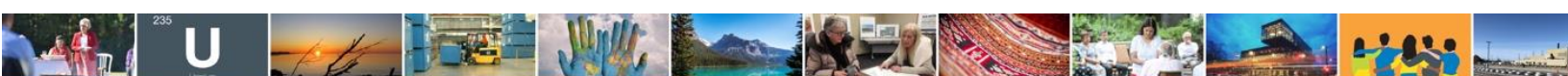
Safety is Paramount

We heard that whatever approach we take must be optimized. It was noted that the way we manage waste now is of a temporary nature, with no clear vision on the end of long-term management. In some communities we heard participants point to problems of double and even sometimes triple-handling radioactive waste, rather than having a clear approach to handling it once and correctly. Participants felt this was an important step.

We heard there were several factors that communities considered important. A concern was raised about waste sites in general, not necessarily radioactive waste, and specifically that there needs to be more emphasis on long-term management over these sites so that they were not forgotten over time, as had been the case with other hazardous substances. We heard that this was critical for the disposal of low- and intermediate-level radioactive waste.

Some participants shared their concerns about the lack of consistency in the current waste management plan and wanted assurance that the strategy will have safety as the overarching principle.

We also heard concerns that the waste may not be safe in 300 years when we are no longer alive.



Communication and Transparency

Participants expressed that an emphasis on transparency and accountability is most important to get right in our strategy. We heard there have been concerns surrounding other projects and participants highlighted that we cannot let projects disappear or be forgotten about, we need to keep track of what we start. Some felt previous long-term solutions were promised but fell through the cracks, which gave communities the sense that the process was disorganized and made them less hopeful about finding long-term solutions.

We heard several recurring perspectives on what is most important to get right when considering any future of low- and intermediate-level waste, particularly from the lived-experience of communities with a history of hosting nuclear facilities. Examples of past practice, and unsuccessful waste disposal plans have led to a sense of distrust and skepticism towards future initiatives related to radioactive waste disposal.

We heard from some participants who expressed uncertainty about how low-level and intermediate-level waste is defined and wanted more transparency around existing quantities of waste and plans for the future.

Education and Engagement

There was an acknowledgement from participants that general knowledge about radioactive waste was generally low, and that some did not know about many of the existing facilities. We heard that it was important to know what radioactive materials were being managed and that being educated on different types of waste, waste characteristics, what is low- versus intermediate-level waste was also critical.

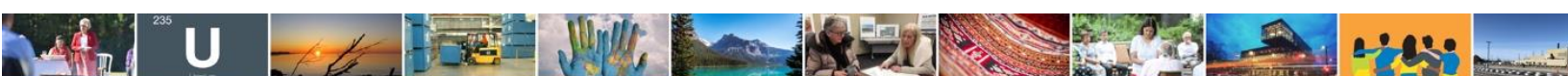
We also heard from participants who thought there were misconceptions surrounding the risks of the nuclear industry, its regulation and management. They pointed out the safety practices at Canadian facilities and Canada's robust regulatory framework as ways to alleviate those concerns. Participants also expressed a desire for further education around how contamination is removed, ways of recycling the waste, and highlighting how we know that an item is clean (free of radioactive contamination).

Participants were also concerned that citizens with little-to-no knowledge of radioactive waste were being consulted and there is a feeling that more education is needed for communities on certain aspects of the nuclear industry and radioactive waste materials. Some participants expressed that it is difficult to understand how dangerous these materials are, for example, what are the side-affects, dangers and risks to the human body when coming into contact with low-level waste.

Sustainability and the Environment

There were concerns about the perceived danger radioactive waste poses to humans and the risk when transporting and housing waste near water. Participants also voiced their concerns about radioactive contamination of soil and water from a nuclear disaster such as Chernobyl (Ukraine 1986) and Fukushima (Japan 2011).

Some participants reflected on their personal experience with the nuclear industry. These stories of lived experience ranged from positive to negative, covering topics such as employment, transparency, community orientation, interactions with the regulator, health, and legacy waste issues. Through these stories, participants expressed it was important that



materials be kept away from waterways and people, and that remediation, where necessary, had to be thorough.

We heard from some communities that we must be mindful of the impact to future generations and avoid leaving them with radioactive waste that is not monitored. Participants expressed that there was a need for Canada to reduce the production of low- and intermediate-level waste and emphasized that this waste should be milled down so it takes up less space.

We heard that there should be more emphasis on waste diversion, demonstrating that waste has been cleaned and is no longer contaminated. We also heard that we should mirror the approach used for recycling programs with extended producer responsibility, making waste generators accountable. This could incentivize them to reduce waste and make it economical to handle.

Some participants expressed that Canada should stop creating radioactive waste all together because of the hazard it represents and because we have enough trouble figuring out what to do with what we already have.

Transportation

Although we often heard that people do not want the waste near them and their sources of water, they also expressed concerns for the potential risks posed by transportation of waste. We heard from participants that transportation is an especially important aspect of the long-term plan and that, when radioactive waste is transported, it must be done safely.

Participants were generally unsure whether moving waste from across the country to one facility would be best or if we should have multiple facilities near where the waste is produced. We heard support from participants for transporting the waste north, into the Canadian shield, as they felt it would be the safest option. Some participants felt the shorter the distance we need to move the waste, the better, as they felt transporting it longer distances multiplies the risk.

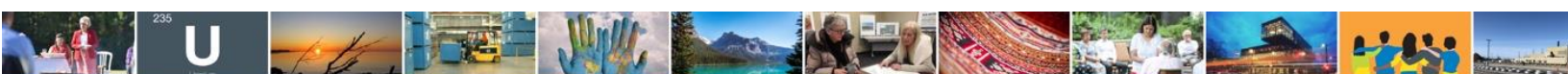
Independence of Accountable Entity

We heard different perspectives regarding who should be responsible for the waste, and we found consistent opinions on this topic, possibly more so than from some of the other questions we posed. In general, there was support for an independent organization to be responsible for all low-level and intermediate-level waste.

While many participants were optimistic about the idea of having one organization control the management of radioactive waste, others highlighted plans for the waste are not long-term enough. We also heard from some participants who have participated in discussions about nuclear waste with civil society organizations that those groups are boycotting these sessions because they feel that the industry should not be leading this discussion.

Some participants acknowledged that there are challenges, including Indigenous rights and site selection issues but different companies coming together in a collaborative approach would be the overall best solution.

There were several opinions expressed that conveyed a mistrust in the waste owners being responsible to manage waste disposal in the long term. Participants cited concerns that the waste owners may focus on money and cut corners which could diminish safety. We also heard concerns about waste owners trying to make a profit from waste management and emphasized that no one should be making money from this project, while funding should continue to be the



responsibility of those who produce the waste. Participants stated that, in the past, waste owners were only self-interested and not willing to take other waste located less than a thousand kilometres away. We heard some participants express that the waste owners should be responsible for managing the waste, but also that having an oversight body in place to ensure that the waste is safely managed, solve problems, and enforce proper rules would be beneficial.

Some participants expressed that under no circumstances should radioactive waste be left with producers or government, and that a single organization should be responsible, throughout the life of the waste, to ensure everyone follows the same practices. We heard that a government regulated central body would alleviate public concerns. We also heard that to implement the strategy effectively, any organization needs to be independent of the regulator, independent of government and free from government interference, while following policy and regulations.

We heard that a governing body of representing different interests could be created to oversee an organization responsible for the waste. Various suggestions were put forward for the representation on the governing board of such an organization, including industry representatives, civil society organizations, government, Indigenous peoples, etc. There were differences of opinion about whether industry should be represented, but general agreement that there should be appropriate expertise on such a board or committee and that industry did have firsthand experience and knowledge of the waste.

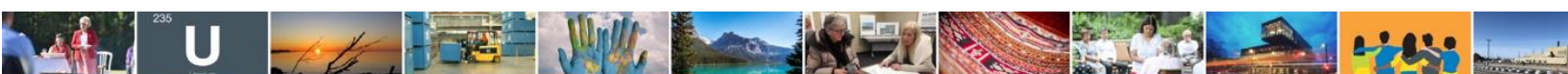
We heard from participants in some communities that they preferred having a national body — one regulatory entity — to oversee everything and bring stakeholders together. When asked which governing body should oversee the long-term management of low- and intermediate-level waste, the Canadian Nuclear Safety Commission (CNSC) was mentioned as being best suited. While a new regulatory body could be introduced, the CNSC already has experience and connections within the industry. Participants in some communities noted they have confidence in the CNSC as they already oversee the existing sites and have a strong record of accomplishment for safety, while some participants questioned the independence of the CNSC. We heard from those participants that there could be an independent body like the Auditor General that would be directly responsible to parliament.

Rolling Stewardship and Waste Disposal

We heard from participants who wanted to keep the waste on the surface and that technology innovation favoured rolling stewardship for low-level waste as it would be easily accessible to eliminate after a few hundred years. We also heard the viewpoint from some participants that storing the waste on the surface near the source with a rolling stewardship plan in place would be best for both low- and intermediate-level waste. These participants felt that the constant ongoing monitoring required by rolling stewardship raised an awareness that the waste existed and kept waste owners accountable.

However, the majority of participants expressed considerable support for long-term waste disposal as the preferred option. Regardless of the option selected, most participants supported the implementation of ongoing environmental monitoring for as long as the waste remains hazardous.

We heard concerns regarding intermediate-level waste and how the waste can vary from quite low contamination levels to being very highly contaminated and dangerous. We heard from participants that it can be difficult to discuss intermediate-level waste as one issue because of this variability. We also heard that we should not be overly prescriptive in defining low- and intermediate-level waste. Noting that some waste has surface contamination only, participants



stated that we should take steps to avoid permanently disposing of items that are only surface contaminated.

Co-location and Centralization

We heard that having several low-level waste disposal facilities across Canada could make sense, because Canada is such a vast country. We also heard that a single distinct intermediate-level waste disposal facility could potentially be more socially acceptable than a combined facility, or multiple facilities for intermediate-level waste.

Some participants expressed that co-locating low-level waste with intermediate-level waste would increase the safety of the low-level waste beyond what was required and could be seen as an enhancement by the public. We also heard that before disposal, decontamination, or additional processing such as solidifying liquid waste into a more stable form should be considered.

We heard that existing host communities have been told radioactive waste that is stored there is on an interim basis and there is a concern that if we backtrack, we may face opposition within the communities. Despite this, some participants wanted multiple long-term storage sites located near the areas where waste is generated or stored. Some participants were adamant that we should use the facilities where the waste is currently stored because the experts there know how to handle the waste.

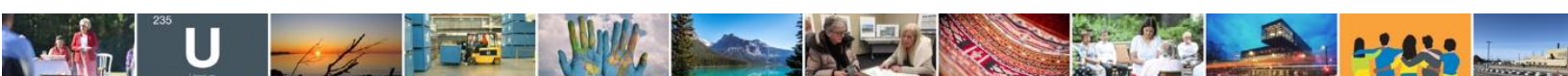
We heard from participants who expressed a desire that there should be one central facility for managing low- and intermediate-level waste so it would be easily accessible, would rely less on transportation and would reduce the risk.

Other participants expressed a preference for having multiple facilities across Canada.

We heard that low- and intermediate-level waste should be stored separately based on their individual requirements. Participants also noted that this would be the most cost-effective choice. We also heard that having separate long-term facilities for low- and intermediate-level waste would be favourable, as it would create jobs in multiple communities and that having one facility for the whole country would be unreasonable.

In some communities we heard it could be acceptable for some of the intermediate level waste to go into the same deep geological repository as high-level waste (co-location). Some participants felt having a single deep-disposal site was the best option for high level waste and intermediate level waste.

We also heard participants were comfortable with storing low-level waste both at surface level and at a shallow depth below surface level and that the waste should be kept at least 20 to 30 kilometers away from water sources.



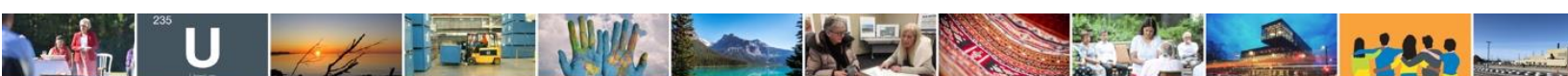
Appendix A – Community Engagement Session Meeting Summaries

All Community Engagement Sessions took place in 2021. The meeting summary notes are in the language of the session and have not been translated.

A link to the presentation used during the community engagement sessions can be found here.

Community Engagement Session meeting summaries are linked below, for each location:

- Deep River, Ontario – May 19th (English)
- Kincardine, Ontario – May 26th (English)
- Bécancour, Québec – June 2nd (French)
- Point Lepreau, New Brunswick – June 9th (English) and 10th (French)
- Blind River, Ontario – June 16th (English)
- Ignace, Ontario – June 17th (English with Ojibway interpretation)
- Pinawa, Manitoba – June 22nd (English)
- Pickering & Clarington Region, Ontario – July 7th (English)
- Port Hope, Ontario – July 14th (English)
- Alberta – August 26th (English)
- Saskatchewan – October 13th (English)
- Canada-wide – November 10th (Bilingual – English / French)



Appendix B – Promotion of Community Engagement Sessions

The Community Engagement Sessions were designed to provide a safe shared space for multiple voices to be heard and to connect participants in new and meaningful ways. The events were free of charge and open to anyone interested.

Methodology, Parameters and Results

As it was important to encourage wide participation, the NWMO used social media (owned and paid), traditional media, and emails to the ISRW distribution list to broaden its existing reach to relevant audiences to raise awareness of the Community Engagement Sessions and stimulate registration.

Paid Social Media

To encourage wide participation, the NWMO used paid promotion on the ISRW's social media channels and struck a balance between its project-specific channels (Facebook and Twitter) and the official languages (English/French).

Ads deployed on Twitter were shown and seen 236,203 times across Canada. A total of 215,542 impressions were earned in the English campaign, and the ads were clicked-through to the website .25% of the time, which is below what might be expected for established brands, but excellent for a "cold-start" brand with little following.

Ads on Facebook reached 358,714 people 929,164 times, meaning the audience saw the ads an average of 2.6 times.

Campaigns on Facebook drove 8,100+ visits to the project websites, which represents a Click-Through Rate (CTR) of .9%. For comparison, the average CTR on Facebook ads is .73% for education and 1.04% for technology industry content.

Owned Social Media

The NWMO also shared social media posts across their owned channels. The NWMO published 12 owned social media posts in both English and French on Facebook and Twitter, promoting each Community Engagement Session as well as five general posts related to the Community Engagement Sessions.

Traditional Media

The NWMO distributed news releases to local media to help reach relevant audiences and raise awareness of the Community Engagement Sessions. The NWMO issued a tailored news releases for each Community Engagement Session. A total of 332 regional outlets were informed of the local sessions. This resulted in 18 news stories and pieces of media coverage in outlets such the Kincardine Record, the Gananoque Reporter, the Toronto Star, and Windspeaker.

Appendix C – Methodology

The objective of the Integrated Strategy for Radioactive Waste's (ISRW) Community Engagement Sessions is to invite and facilitate broad dialogue to develop a strategy for managing Canada's radioactive waste, in particular low- and intermediate-level waste. We approached this goal by listening to the perspectives of attendees across multiple Canadian communities.

The development of the strategy is grounded in a range of guiding principles and objectives as we explored key questions and issues discussed at our events. A consistent methodology was used during each session.

Each community engagement session began with a land acknowledgement, recognizing and expressing gratitude for the land we are on. This was followed by an introduction and an overview of logistics for the evening.

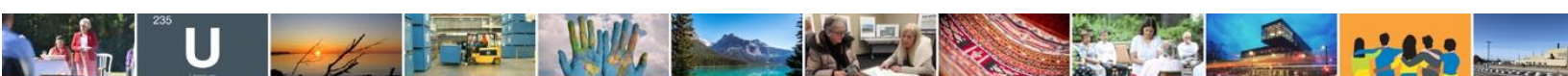
Before addressing the topics for discussion, the engagement sessions started with an opening context-setting presentation from Karine Glenn, Strategic Project Director for the NWMO, which covered the following:

1) Information on radioactive waste such as:
    a. Information on the different levels of radioactive waste
    b. How other countries are managing their radioactive waste
    c. How waste is currently regulated in Canada
    d. How was is transported
    e. How waste is managed now and how it could be managed over the long-term
2) Information on the ISRW project such as:
    a. Gaps in existing plans (e.g., low- and intermediate-level radioactive waste)
    b. Timeline of the project including key milestones and deliverables (from Fall 2020 to Winter 2021/2022)
    c. The Strategy's guiding principles, including: 1) safety as an overarching principle, 2) security must be ensured, 3) environment is protected, 4) informed by the best available knowledge, 5) meets or exceeds regulatory requirements, 6) be transparent and inform and engage the public, 7) respect Indigenous rights and treaties, 8) make use of existing projects, and 9) fiscally responsible.

Throughout the presentation, participants had the opportunity to watch several informative videos that helped re-emphasize information on Canada's radioactive waste as well as the purpose of the ISRW project.

Following the presentation and a question and answers opportunity, attendees were moved into breakout rooms for the discussion-based portion of the session. Joining the attendees in the breakout room was an independent facilitator, and team members who were taking non-attributable notes for the summary reports. To encourage open dialogue, all other NWMO representatives or external observers did not join the breakout room.

At the beginning of the breakout session, participants were asked to participate in a top-of-mind icebreaker exercise where they were asked to share what comes to mind when they think about the future of Canada's radioactive waste.



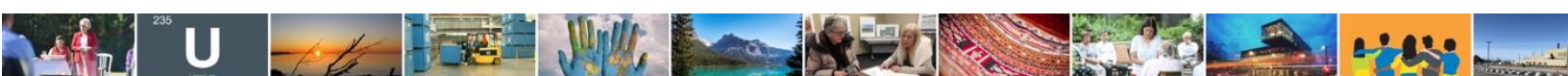
Following the icebreaker, participants were invited to take part in a discussion on three key topics that would help inform the development of an Integrated Strategy for Canada's Radioactive Waste:

1. The first focused on identifying **what is most important to get right** when developing an Integrated Strategy for Canada's Radioactive Waste.
2. The second focused on **how we best deal** with Canada's low- and intermediate-level waste over the **long-term** (considered separately).
3. The third focused on **who should be responsible** for implementing the strategy.

These discussion topics helped identify key considerations that participants view as being necessary to include in a strategy.

Following the breakout discussions, there was a second questions and answers opportunity with the NWMO.

Finally, participants were provided with ways to further be involved in the strategy development process, such as, registering for updates through the project's radwasteplanning.ca website, partaking in the project's online survey, visiting the learn more page on the project's website, and were provided additional resources, such as an email address, to continue the engagement, ask questions and share comments. The session ended with thanks to those participating and to those supporting the session, such as translators, notetakers and production team. The NWMO representative offered to remain on the virtual platform until all participants signed off, should participants have any final questions or feedback. The NWMO representative and production team remained on the virtual platform until all participants signed off.



Appendix D – ISRW Guiding Principles

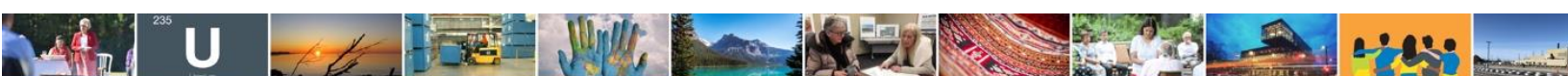
We described the principles that guide every aspect of the ISRW project and asked the participants to review these principles and tell us if anything is missing or should be modified. We asked if the attendees thought that the guiding principles addressed or reflected the most important aspects that a Canadian strategy for the long-term management of radioactive waste should include and what we need to ensure.

The NWMO developed a set of principles that are comprised of what the organization had heard previously from Canadians and Indigenous peoples. These initial principles were included in public opinion research and refined by participants at the Canadian Radioactive Waste Summit — the first of the engagement events for the development of an Integrated Strategy for Radioactive Waste (ISRW), held from 30 March to 1 April 2021. The principles that emerged from the Summit were used as the basis for discussion in the Community Engagement Sessions.

The Guiding Principles are:

- **Safety as an overarching principle**
- **Informed by the best available knowledge**
- **Respect Indigenous rights and treaties**
- **Be transparent and inform and engage the public**
- **Meet or exceed regulatory requirements**
- **Fiscally responsible**
- **Make use of existing projects**
- **Security must be ensured**
- **Environment is protected**

The full text of the Guiding Principles is as follows:

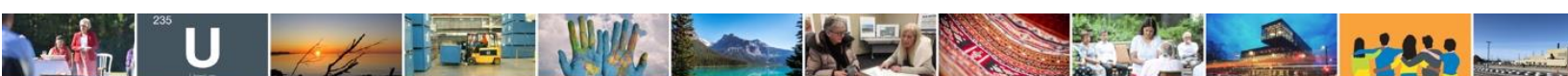


- **The strategy must have safety as the overarching principle** guiding its development and implementation. Safety, **including the protection of human health**, must not be compromised by other considerations.
- The strategy must **ensure the security of facilities, materials, infrastructure, and information**.
- The strategy must **ensure that the environment is protected**, including the protection of the air, water, soil, wildlife, and habitat.
- The strategy must be developed and implemented to **meet or exceed regulatory requirements** for the protection of health, safety and the security of people and the environment.
- The strategy must be **informed by the best available knowledge**. **This includes Indigenous Traditional Knowledge**, science, social science, local knowledge, and international best practices. Ensuring that Traditional Knowledge and ways of life are interwoven throughout is important for a strong strategy. This includes knowledge about the land and environment. It also includes values and principles about developing and maintaining effective and meaningful relationships.
- The strategy must **respect Indigenous rights and Treaties** and consider that there may be unresolved claims between Indigenous peoples and the Crown.
- The strategy must be **developed in a transparent manner that informs and engages the public, including youth and Indigenous peoples.** It is important to proactively provide easily understandable information to those most likely to be affected by implementation of the strategy. Questions and concerns must be heard, acknowledged, and addressed. Information used to develop the strategy will be readily available to the public**.**
- The strategy must be **developed and implemented in a fiscally responsible way** to ensure that the cost of the project does not become a burden to current electricity ratepayers, taxpayers, or future generations.
- Where possible, the strategy should **make use of existing projects** for the long-term management of Canada's nuclear waste.

Overall, we heard from participants who believed that the Guiding Principles are comprehensive, clear, and well-rounded. The participants were pleased about our strong focus on Indigenous rights. We heard the importance of being able to clearly express the principles regarding Indigenous peoples and their knowledge, adding that transparency and a focus on Indigenous rights is important. It was also mentioned that the process is transparent, and this is something that those who know the NWMO believe we do well.

We heard that our guiding principles help the public understand the industry better, with education being a key factor, because when people do not have the facts about radioactive waste, they may make assumptions which are often incorrect or based on disasters.

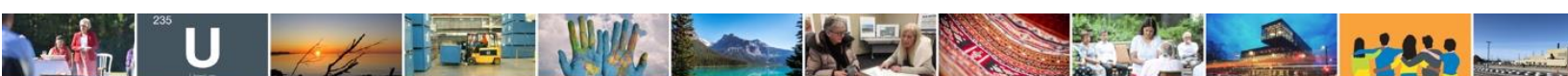
In each community engagement session, most participants viewed "safety" as the most important of our Guiding Principles. Participants agreed that safety encompassed the safety of the facilities, but also the health of individuals and the environment around any potential disposal facilities. Some participants expressed that although safety should be paramount, because we cannot absolutely guarantee safety, that we may be making promises we cannot keep when we include it as the overarching principle. We also heard that it may be hard to ensure the safety and security of a facility over 300 years.



Some participants were skeptical that all the principles could be accomplished because they can be contradictory. For example, some expressed a belief that it was not possible to be fiscally responsible while also protecting the environment. We also heard that the principles have a lot of ‘must’ statements, and it has been asked who is there to enforce these principles.

The principle of “best available knowledge” was also noted as important with participants agreeing that international best practice standards must be followed. Some participants expressed a lack of confidence in how long similar radioactive waste projects have taken around the world.

We heard some participants recommend an additional principle focused on stopping the production of radioactive waste entirely and a commitment to never abandon the waste stored across the country.



Glossary of Terms (Nuclear Waste Management)

Bulk Material: Material that is granular in nature, such as soil, demolished concrete, or construction/demolition waste.

Concrete Vault: Concrete vaults are a type of engineered near surface disposal facility widely used around the world for the disposal of low-level radioactive waste (LLW). Concrete vaults look like large concrete boxes and a repository would be made up of a series of these. Each one would have its own drainage system and an 'earthen cover system' engineered from multiple layers of soil and with grass or other plants growing on top. This disposal method can be used in a wide variety of soil conditions. It is also modular in its design, which means that additional vaults can be added to increase its capacity as needed.

Deep Borehole: Deep borehole disposal is an emerging technology for waste that requires isolation for more than a few hundred years. It may be suitable for the disposal of small volumes of intermediate-level waste (ILW). The series of narrow boreholes are created to a depth of about 500 to 1000 metres into which waste packages would be lowered, creating a stack deep underground.

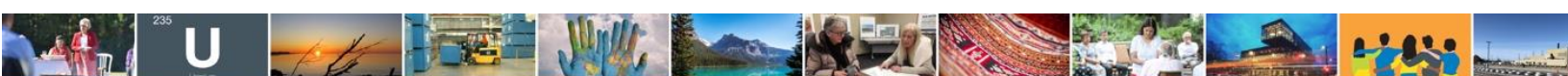
Deep Geological Repository (DGR): A deep geological repository typically consists of a network of underground tunnels and placement rooms for radioactive waste constructed several hundred meters below the surface. Repositories are designed to use a system of multiple barriers: engineered barriers such as waste containers and natural barriers like the rock itself work together to contain the waste and isolate it from people and the environment.

Disposal: The placement of radioactive waste without the intention of retrieval.

Engineered Containment Mound (ECM): Engineered containment mounds are a type of engineered near surface disposal facility that sees waste packages placed on a waterproof base and then covered over with thick layers of natural materials such as clay and soil. Layers of synthetic materials such as high-density polyethylene are also incorporated to prevent release of radiation to the environment. These facilities usually have wastewater collection and treatment systems as well. ECM is suitable for low-level waste which will not reduce in volume or compact over time.

High-Level Waste (HLW): High-level radioactive waste is primarily used nuclear fuel and/or is waste that generates significant heat via radioactive decay. HLW is associated with penetrating radiation, thus shielding is required. HLW also contains significant quantities of long-lived radionuclides necessitating long-term isolation. Placement in deep, stable geological formations at depths of several hundred metres or more below the surface is recommended for the long-term management of HLW.

Intermediate-Level Waste (ILW): Intermediate-level radioactive waste is generated primarily from power plants, prototype and research reactors, test facilities, and radioisotope manufacturers and users. ILW generally contains long-lived radionuclides in concentrations that require isolation and containment for periods greater than several hundred years. ILW needs no provision, or only limited provision, for heat dissipation during its storage and disposal. Due to its long-lived radionuclides, ILW generally requires a higher level of containment and isolation than can be provided in near surface repositories. Waste in this class may require disposal at greater intermediate depths of the order of tens of metres to a few hundred metres or more.



Long-term management: The long-term management of radioactive nuclear waste by means of storage or disposal.

Low-Level Waste (LLW): Low-level radioactive waste comes from operating reactors and from medical, academic, industrial, and other commercial uses of radioactive materials. LLW contains material with radionuclide content above established clearance levels and exemption quantities (set out in the *Nuclear Substances and Radiation Devices Regulations*), but generally has limited amounts of long-lived activity. LLW requires isolation and containment for periods of up to a few hundred years. An engineered near surface disposal facility is typically appropriate for LLW.

Radionuclide: A material with an unstable atomic nucleus that spontaneously decays or disintegrates, producing radiation. Nuclei are distinguished by their mass and atomic number.

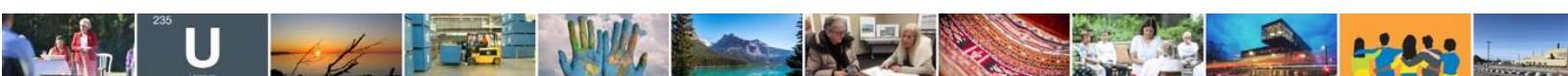
Rolling Stewardship: Rolling stewardship is an approach to managing radioactive materials for which there is no disposal solution in the near term. Under rolling stewardship, the radioactive waste is stored on the surface where human controls can safely contain, isolate, monitor, and secure it for many generations indefinitely i.e., roll the radioactive waste forward from generation to generation (a succession of stewards). This concept is based on the assumption that technology will eventually resolve the problem for the long-term management of the waste, potentially by destroying or neutralizing it.

Shallow Rock Cavern: The shallow rock cavern is an engineered near surface disposal method sometimes used for the disposal of low-level waste, or low- and intermediate-level waste (LLW or L&ILW). A series of rock caverns are excavated at a nominal depth of 50 to 100 meters below the surface in low permeability rock. They are accessed from the surface by a small system of ramps and tunnels

Small Modular Reactors (SMR): Small Modular Reactors (SMRs) are advanced reactors that produce electricity of up to 300 MW(e) per module, which is less than current power generation reactors.

Waste: In the context of the What We Heard report, waste is assumed to be a radioactive waste unless specified otherwise (e.g., non-nuclear waste).

Waste Owner: The radioactive *waste owner* is the organization currently responsible for the radioactive waste.



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