

Site Selection Update: South Bruce

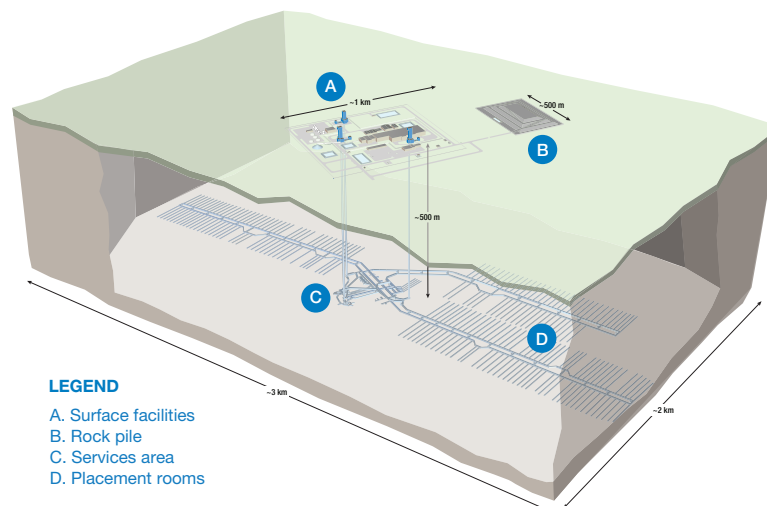
The Nuclear Waste Management Organization (NWMO) is responsible for designing and implementing Canada's plan for the safe, long-term management of used nuclear fuel, in a manner that protects people and the environment.



Canada's plan calls for used nuclear fuel to be contained and isolated in a deep geological repository located in an area with informed and willing hosts, including local municipalities and Indigenous communities.

Canada's plan for the long-term management of used nuclear fuel involves its containment and isolation at a repository site in an area with suitable geology. Facilities associated with the project will include:

- » A **deep geological repository** to contain and isolate Canada's used fuel over the long term using a multiple barrier system.
- » **Surface facilities** will support the ongoing activities at the site such as reception, repackaging and transfer of used fuel bundles to the underground repository, administration, security, quality control, sealing materials production and all the other functions required to support the safe operations of the repository.
- » A **Centre of Expertise** that will be home to a technical and social research program, and a technology demonstration program, involving scientists and experts from a wide variety of disciplines. It will become a hub for knowledge-sharing across Canada and internationally.



LEGEND

- A. Surface facilities
- B. Rock pile
- C. Services area
- D. Placement rooms

The NWMO is committed to implementing the project in a manner that is socially acceptable and safe for people and the environment for generations to come. A plan to foster the well-being of the community through the implementation of the project will be developed with the community and area. This will require many years of technical and socio-economic studies conducted with the involvement of people in the potential host areas.

Of the 22 communities that expressed interest in learning more about Canada's plan and exploring their potential to host it, two remain in the process, the Municipality of South Bruce in Southern Ontario and the Township of Ignace in Northwestern Ontario. We expect to select a preferred site by 2023.

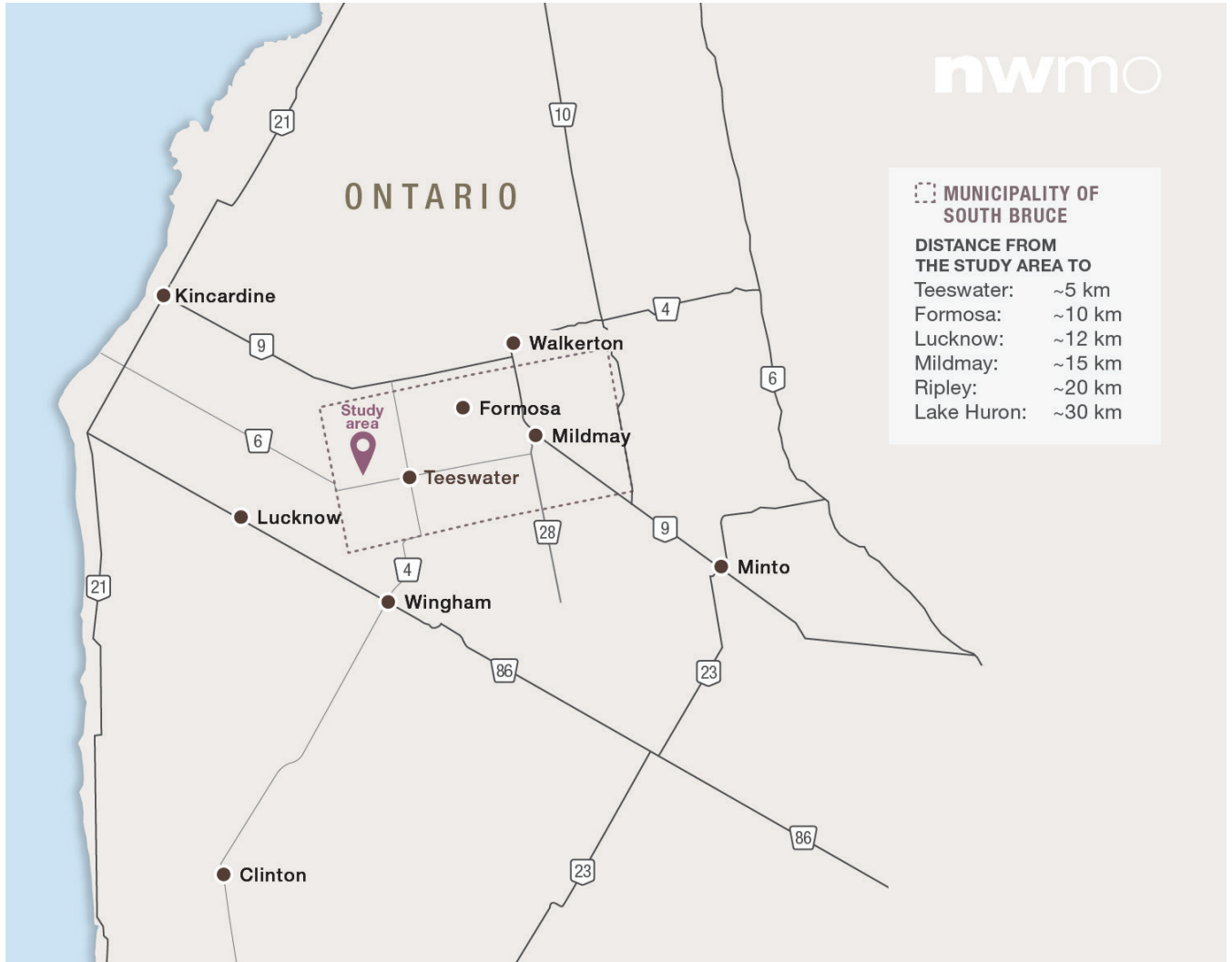
Planned Activities in South Bruce

A key part of assessing safety is to begin site investigations at the potential repository site in South Bruce. To facilitate these field investigations, the NWMO has entered into option or purchase agreements with a number of land owners in the Teeswater area.

Planned field studies include deep borehole drilling to further understand the geology, environmental baseline studies and other site investigation work such as Indigenous knowledge and cultural verifications. The baseline monitoring program will be designed with the involvement of the community through a series of interactive workshops to co-create a shared environmental monitoring program that addresses community concerns and priorities.

The geological and environmental data from field studies along with engineering design studies, safety assessment analyses and Indigenous knowledge will help us ensure we can be confident that the proposed deep geological repository will safely contain and isolate used nuclear fuel.

In parallel to the technical investigations, the NWMO is working with the community to plan well-being studies to ensure that the project is implemented in a manner that is responsive to community members' concerns, objectives and aspirations.



Questions and Answers

Does the Land Access Process mean that the NWMO has selected the Municipality of South Bruce for the deep geological repository?

No. Identifying land for site investigations is part of the larger site selection process, which South Bruce has been involved in since 2012 when it expressed interest in participating. The NWMO is also conducting site investigations at a potential repository site in the Ignace area, in northwestern Ontario. The NWMO has active engagement programs in both areas and expects to identify a single, preferred location with informed and willing hosts by 2023.

How much land does the NWMO need?

The NWMO is looking to access approximately 1,500 acres. This area would allow for the estimated size of the underground repository. The surface facilities of the repository are expected to take up about 250 acres.

Will the NWMO purchase or option more land?

In May 2019, the NWMO publicly launched the Land Access Process and asked interested landowners to voluntarily participate in the process. Since then, the NWMO worked with local landowners to aggregate nearly 1,300 acres (526 hectares) of land northwest of Teeswater, Ont.

By the time we select a site in 2023, the NWMO is looking to access approximately 1,500 acres (600 hectares) of land for a potential repository location. We will continue discussions with landowners in the vicinity of the potential site over the coming months and years to understand and address their comments and concerns.

Will the NWMO expropriate property near the site?

The NWMO does not have the power to expropriate land. The site selection process is designed to ensure, above all, that the site selected is safe and secure, and in an area with informed and willing hosts.

What will the NWMO do when it studies the land?

Canada's plan is about protecting people and the environment for generations to come, and to do so, we have to study the potential site to determine whether it meets the project's robust safety requirements. That work includes borehole drilling, geophysical studies, environmental monitoring, and other site investigation work such as Indigenous cultural verification. NWMO specialists will also conduct field surveys to identify any species at risk or environmentally sensitive habitats in the area.

Are deep geological repositories safe?

Deep geological repositories are the safest method that we have today for safely and securely managing used nuclear fuel. It is the method that is being implemented by all countries with commercial nuclear power programs around the world. This approach is the culmination of more than 30 years of research, development and demonstration of technologies and techniques.

In Canada, this method emerged from many years of dialogue with Canadians. During that dialogue, alternative management methods were also analyzed, including interim storage at reactor sites, which is the current management approach. The deep geological repository is the method that best met people's values and objectives of safety, and the protection of future generations.

Countries with operating deep geological repositories for radioactive material include Finland, South Korea, Sweden and the United States.

How will the NWMO protect people, the environment, farmland, and local watersheds?

The NWMO is committed to protecting agricultural lands and sensitive environmental areas, such as watersheds and sensitive ecological environments. We will need to demonstrate that any site selected can safely contain and isolate used nuclear fuel for a very long period of time. There cannot be any credible risk from the repository to the public or environment.

This project will also be subject to a thorough regulatory review process, including an environmental assessment and a licensing review to ensure that it is implemented in a manner that protects people and the environment. In the NWMO planning timelines, we are currently anticipating that the regulatory review process will take approximately 10 years. Once placed in the repository, the used nuclear fuel will be monitored for an extended period of time.

Have local Indigenous communities agreed to this project?

No, at this time no Indigenous or municipal community has committed to host the project as we are still in a phase of learning together whether the project will be a fit for the area. Ultimately, the project will only proceed with the involvement of the municipality, First Nation and Métis communities, and local and surrounding communities, working in partnership to implement it.

The NWMO continues to engage with the Saugeen Ojibway Nation (SON). We have committed that we will not select a site for the deep geological repository in the SON's traditional territory without the consent of the SON communities.

We remain committed to respecting Indigenous rights and treaty rights. We have also committed to work with Indigenous communities to include traditional knowledge sharing on the land, and if appropriate and requested, to support ceremony.

Will there be a buffer zone around the surface facilities?

Our surface facilities will occupy approximately 250 acres, a small portion of the overall 1,500 acre site.

Within this area, the NWMO will establish a security zone to ensure safe and secure operations. Studies will be done to determine the distance that the security zone must be from the surface facilities. Similar to the nuclear facilities elsewhere in Canada, we predict that the security zone will be very near to the surface facilities.

The NWMO will also establish an area, known as an exclusion zone. Within the exclusion zone public activities can still occur, such as farming or use of recreational trails as currently occurs at the Darlington Nuclear Generating Station site, however people will not be allowed to live on lands within the exclusion zone. Based on our current research, the exclusion zone for the NWMO facility will extend approximately 100 meters. The area needed by our surface facilities includes enough space for the exclusion zone.

How will you protect property values?

As responsible landowners, the NWMO will not allow the project to negatively impact property values of our neighbours if the project proceeds in South Bruce.

We will work with adjacent landowners to understand their concerns and address this question as part of the well-being studies we will complete together with communities in siting areas. These studies will also explore processes and procedures that could be put in place as part of the project implementation to manage potential negative effects and ensure community objectives in this area are met.

The NWMO is committed to implementing the project in a way that preserves and enhances the well-being of the community. We also understand it is up to the community to decide whether the project is compatible with its well-being aspirations.

How will the community be impacted if the project is implemented here?

Safety of people and the environment is paramount. This question will be addressed over the next few years as part of the well-being studies that the NWMO and communities will complete together in the siting areas. These well-being studies will examine potential impacts and will take into account community members' priorities and concerns.

These studies will also explore processes and procedures that could be put in place when the project is implemented to manage any negative effects and to ensure community objectives are met.

How will you determine if the community is a willing host?

Demonstrating willingness is a critical step in the site selection process. The NWMO has been clear that the project will only be sited in a community that is informed and willing. The community must have an understanding of the project and how it is likely to be impacted by the project. As well, the community must demonstrate that it is willing to accept the project.

Best practice and experience suggest there are a range of approaches a community may use to demonstrate its willingness in a compelling manner. Over the coming years, one of our priorities is to work collaboratively with each municipal and Indigenous community involved in the site selection process to explore options for how to test and demonstrate willingness to host the project.

The project will only proceed with the involvement of the interested community, First Nation and Métis communities in the area, and surrounding communities working together to implement it.

What are the project benefits to the community?

Canada's plan is an approximately \$23-billion national infrastructure project that will be developed and implemented in phases over more than 150 years. It has the potential to bring significant economic benefits to the area where it is eventually located, including the community that initiated the area's involvement, and other municipal and Indigenous communities in the area. Benefits include direct, indirect, and induced jobs, involving scientists, engineers, tradespeople and others.





We will work with communities in the siting area to ensure the project will be implemented in a manner that is consistent for the well-being vision they have for themselves. We encourage communities to look at well-being through all dimensions of long-term sustainability, including people, infrastructure, environment, economics and finance, community and culture and spirituality.

As the NWMO and the community advance their planning and begin to develop a more detailed picture of how the project would be implemented in the area, the magnitude and nature of benefits will become clearer. These will be shared for discussion with the community.

The project may also contribute to social and economic pressures that may need to be carefully managed to ensure the community's long term well-being and sustainability. As we work toward building sustainable partnerships, the NWMO is working with the community to explore the need for assistance, such as job training, affordable housing and needed infrastructure.

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