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Royal Roads University

**NWMO Assessment Framework**  
November 29th, 2004, 10am –12noon PST  
Moderated by Dr. Ann Dale

This e-dialogue involved young Canadians from youth and academic organizations, organized into four e-round tables, later joined by some audience members. The e-round tables were co-moderated by Jamie Doyle, Senior Project Manager, Jacques Whitford, Environment Ltd; Lenore Newman, Post-Doctoral Scholar, RRU Canada Research Chair in Sustainable Community Development; Doug Seeley, Professor, Science, Technology and Environment Division, and Nancy Averill, Director of Research, Public Policy Forum. The e-panelists applied the Assessment Framework developed by the Nuclear Waste Management Organization to the three storage options now under consideration--storage at reactor sites; centralized storage and deep geological storage to determine its robustness for decision-making and to identify any gaps.

**Group #4 -- Applying the NWMO Assessment Framework, Determining the Gaps**

**Dialogue**

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**Ann Dale**

Thank you for participating in this dialogue. We appreciate your time and commitment to engaging in one of the critical public policy issues affecting Canadians today.

I look forward to a dynamic discussion in which we can explore questions, share ideas, solutions, and visions of new sustainable futures. We have an opportunity to influence the sustainable management of nuclear waste by applying the proposed framework of values and strategic objectives to the three disposal options.

The two questions we will be addressing are:

1. Is the assessment framework comprehensive and balanced? Are there gaps, and if so, what do we need to add?
2. Are there specific elements that you feel must be built into an implementation plan? What are your thoughts on what a phased approach must include?

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**Lenore Newman**

Hi everyone, this is Dr. Lenore Newman, moderator for group four. Let's start with some brief introductions...

I am a postdoctoral scholar for Dr. Ann Dale, and I study community sustainable development. I am also interested in biodiversity, ecology, and social change. Now can everyone give a short introduction?

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**Cate McKewan**

Hello everyone, Cate McEwen here. I am a recent graduate from the MEM program at RRU. I freelance in environmental education with a focus on holistic science and learning with heart, mind and soul within a place-based context.

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**Lenore Newman**

Well, as people trickle in, let's get started. We are going to start with the question "Is the assessment framework comprehensive and balanced? Are there gaps, and if so, what do we need to add?" So what do people think?

Cate, how does your interest in holism influence your views? I also study from a holistic point of view and so would be curious about what you think

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**Cate McKewan**

I find the framework assessment comprehensive, yet without weighting any of the objectives (and I don't know if this would be desirable anyway) it is difficult to speak about balance. I would personally place the objective of Adaptability as a high priority. The world is changing at an incredible rate as is rate at which we are coming to understand more of our world (i.e. new information is a constant).

As well, we are speaking of a length of time for waste storage that is conceivably beyond the life of a nation state.

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**Ann Dale**

Lenore, do any of the citizen values reflect holistic thinking or a systems perspective, or is that relevant?

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**Lenore Newman**

In my opinion the framework pays some attention to systems perspectives, but there are still some disconnects that need to be bridged. For example as we found in the first dialogue, separating waste creation and waste disposal might be problematic.

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**Ted Naylor**

Hello...I have been having some computer & login problems so am late getting here. Ted Naylor here...I'm a PhD student at the University of Alberta. This topic is new to me but I'll do my best.

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**Lenore Newman**

Ted, good to have you here. So what do you think of the first question "Is the assessment framework comprehensive and balanced? Are there gaps, and if so, what do we need to add?"  
Cate, which option do you prefer?

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**Cate McKewan**

Do any of the citizen values reflect holistic thinking or a systems perspective, or is that relevant?

I think it is relevant and I think the list of objectives for the framework assessment suggests a systems approach. How the interaction and interdependence of these objectives plays out in decision making may be a further test of whether there is a rigorous systems approach. We are dealing with storage time that goes beyond the lifetime of a civilization - that is very daunting.

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**Lenore Newman**

Definitely, Cate. The timeline is unlike any other question we have had to face, which makes this an interesting but difficult issue

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**Ted Naylor**

Again, this is my first intro to this topic but looking at the assessment framework it

looks comprehensive to me and is refreshingly accessible and open to public engagement.

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**K.J. Sammons**

Hi there, I've just joined. My name is Kathie Sammons and my background is in zoology and communications and I have 25 years experience in public science communications and public learning programming.

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**Lenore Newman**

Hi there Kathie, great to have you here. Feel free to jump into the discussion

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**K.J. Sammons**

To jump into the conversation, I thought one thing missing from the Assessment framework is the lack of global thinking and international cooperation as a value. Nuclear waste effects the whole planet.

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**Lenore Newman**

That is true. How do people think that international issues should be incorporated?

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**Ted Naylor**

I was going to raise that as well. It seems odd to talk about nuclear waste as confined to borders. Are there considerations of what other countries have done or are doing with respect to their waste?

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**Cate McKewan**

I agree with the international context - its an issue of coordination as well as sharing new findings and technology ideas.

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**Lenore Newman**

Perhaps Canada could play an educational role in the treatment of nuclear waste?

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**K.J. Sammons**

The other issue is a political one. How will Canada deal with political interference by other countries (possibly negative influence) in the future? Political aspects are unpredictable but this is an issue that can not be "unpredictable".

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**Lenore Newman**

"How will Canada deal with political interference by other countries (possibly negative influence) in the future?"

An interesting point. What type of influences do you mean?

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**Ted Naylor**

I think not just an educational role but a leadership role. If this is done right, there may be significant opportunities to export that kind of expertise globally, particularly as other countries venture (unfortunately) down the road to thier own nuclear energy programs (which Iran claims they are currently doing, for example).

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**Cate McKewan**

Canada playing an educational role with treatment of wastes - that is a great idea, considering Canada exported its CANDU reactor expertise for foreign trade without having the full equation of the cost (econ/socio/ecol) of nuclear energy in hand.

Kathie could you eloborate on what you mean by political interference?

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**K.J. Sammons**

[in reply to Lenore Newman]

*How will Canada deal with political interference by other countries (possibly negative influence) in the future?*

An interesting point. What type of influences do you mean?

Let's consider 100 years from now. Don't know what North America will look like politically, no one can predict. But lets say that the International Atomic Energy Commission is a politcal mess lacking leadership, but with the power to impose

lax rules. Who is to say the companies managing Canada's stockpile of nuclear waste have to do better than the lowest common standard? What if they are owned by multinational companies whose bottom line looks better than public safety?

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**Lenore Newman**

K.J, that is a good point. Do you think that the framework appropriately addresses who will be responsible for the waste in the future?

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**K.J. Sammons**

No I think this is a huge gap. I think the issue of protecting Canada from negative international and political influences should be listed as a separate item having to do with sovereignty. This can backfire however, as Iran would also like to be considered sovereign in its handling of its nuclear program.

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**Cate McKewan**

I believe the best leadership role Canada could play is to move immediately to shut down all nuclear reactors in Canada and no longer export its CANDU reactors (if this is still active).

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**Lenore Newman**

Many people share that view Cate, but the question of what to do with the existing waste will remain. Do you think the framework is adequate for addressing this waste?

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**Cate McKewan**

With regards political instability, etc. does this consideration come under "Adaptability", with specifics given or is the unknown future and worse case scenario an issue of something else, like adherence to social and ecological integrity over economic viability?

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**Lenore Newman**

Going back to the idea of this framework addressing the potential of managing waste beyond the lifetime of our civilization, does everyone think that is

adequately addressed? What do we need to add in order to assure long term safety?

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### **K.J. Sammons**

I just don't trust the science in any of this. Although well intentioned, there lacks experience, just like the east coast cod fishery and the west coast salmon management problem. The science in most cases was just plain wrong.

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### **Ted Naylor**

To ensure "longterm safety" I think the framework has to have flexibility build into it; there has to be a recognition that any "solution" for handling the waste now could be incorrect and have to be addressed at a later date. The very fact that there is no agreed upon disposal method for this waste demonstrates that expert opinion and public policy can often lead to these types of serious mistakes; as it did in this case. A solution for the future should therefore be contingent, open to change and review, and be somehow retrievable.

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### **Ann Dale**

Panelists, a question from the audience that I would appreciate you exploring?

"The 8 objectives in the assessment framework do not directly address ethical considerations and values. The values from the citizen engagements and the Roundtable on Ethics are said to be embedded in the assessments. Would the panelists please comment on whether they can see how ethical considerations and values have influenced the input bubbles to each of the objectives or how they have influenced the thinking in the preliminary assessment by the NWMO assessment team?"

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### **Lenore Newman**

[in reply to Ted Naylor]

*To ensure "longterm safety" I think the framework has to have flexibility build into it; there has to be a recognition that any "solution" for handling the waste now could be incorrect and have to be addressed at a later date. The very fact that there is no agreed upon disposal method for this waste demonstrates that expert opinion and public policy can often lead to these types of serious mistakes; as it did in this case. A solution for the future should therefore be contingent, open to change and review, and be somehow retrievable.*

This is a good comment Ted. How do you think we could achieve this flexibility in the long term?

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### **Ted Naylor**

I'm not sure Lenore. But whatever solution is acted upon has to recognize that new solutions could arise and that any solution will need to be dynamic over the longterm. I wonder what others might think?

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### **Cate McKewan**

How do you think we could achieve this flexibility in the long term?

The "Preferred Management Approach" being proposed is one that includes: adaptability, phased decision-making; robust system of governance; and opportunities for citizen engagement.

This appears to incorporate flexibility. Would others add more features?

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### **Lenore Newman**

One question that has come up in a different group that I think is importance to what we are discussing here is who should be in charge of making this decision? As was mentioned earlier there are questions around the science, and around the positions of various pro and anti nuclear groups. So who should be making the decision? Who should be in charge of implimentation?

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### **Ted Naylor**

I would add something like 'reversability', or the capacity by management to undo its solution to waste management. Flexible management is great but if waste is locked away for good, then the preferred management approach amounts to rhetoric.

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### **K.J. Sammons**

As we have learned from Chernobyl, the aftereffects of a problem are far reaching, both in time and space. I agree that new information needs to be added and the system needs flexibility, and adequate budgeting that allows for on-going research. Adequate will be interpreted differently by accountants than scientists. Responsibility lies with the people in a democratic society. You and I are



responsible.

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### **Lenore Newman**

Ted, you make me wonder if all of the framework considerations are applicable to all three methods of disposal. What do people think?

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### **Lenore Newman**

As we head into the last half hour, I wonder if we could shift focus to the last part of the second question: What is your advice to the NWMO? As Canadians, what matters most to you about this process?

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### **Ted Naylor**

I think they've done an impressive job of making this process transparent and engaging the general public. The challenge will be to continue this engagement over the long term; particularly if mistakes are made. It's much easier to be transparent starting out but as this process matures, there will be a real need to strategize around how to address errors and mistakes in decision making that are likely over the long term.

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### **Roger Steed**

My advice to the NWMO would be to ensure that deep geological storage, which I think is the management technique they are homing in on, is executed in such a way that the used nuclear fuel can forever be safely retrieved. There is a great deal of unused uranium and plutonium in so-called 'spent' fuel, and it is really not 'spent' at all. Canada will be held to have been very unwise if this vast energy source cannot be retrieved and used in the future.

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### **K.J. Sammons**

That there be rigorous, properly funded science devoted to assessing the risks and determining solutions that will reduce the risks and that this be ongoing research by top scientists. That the scientific process be open and transparent (not like the earlier genome work). The solutions' risks need to be more thoroughly researched (I am always sceptical!).

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**Ted Naylor**

I agree with both KJ and Roger. They both assume changes in science and decision-making.

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**Lenore Newman**

As we wind down, I would like to thank everyone for providing such insightful comments. Does anyone have any final points they would like the NWMO to hear?

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**Ted Naylor**

Thanks for letting me participate. I learned alot about this issue through preparing for and participating in the dialogue.

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**K.J. Sammons**

They have mentioned cost estimates. These estimates are theoretical and guestimates. This is an important part of the management program. How will they manage this "line drawn in water"? I have also learned alot and appreciate the opportunity to participate and I value reading others' insights and thoughts.

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**Lenore Newman**

Does anyone have any specific advice to the NWMO about the three disposal options they are looking at?

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**Cate McKewan**

In a sense, we make a fundamental error in separating the NWMO from those that produce the waste. The problems that the wastes present for their storage tax us all in trying to devise a management plan. While efforts have to continue in devising the storage management plan and its implementation, efforts should be made to reduce and eventually eliminate the use of nuclear energy in light of the hazardous wastes. How can this issue be ignored or dismissed from the whole picture? We can focus on one part of the picture but still must address the system.

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**K.J. Sammons**

[in reply to Lenore Newman]

*Does anyone have any specific advice to the NWMO about the three disposal options they are looking at?*

Put it to a public vote.

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**Cate McKewan**

Thanks everyone. I have enjoyed participating with you in this dialogue.

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**Roger Steed**

Before we close, everyone should be aware of Prof Lovelock's recent writing that Nuclear Energy is the most environmentally-friendly source of electric power, and he's a "Green"!!!

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**Lenore Newman**

Thanks everyone. Have a good afternoon and thanks again for your comments.