



Nuclear Waste Management Organization (NWMO)

Adaptive Phased Management (APM) Project

South Bruce Community Liaison Committee (SBCLC) Meeting

**February 4, 2016 – 7:00 p.m.
Municipal Office, 21 Gordon Street East, Teeswater**

AGENDA

- 1. Call to Order**
- 2. Adoption of Agenda**
- 3. Disclosure of Pecuniary Interest and Nature Thereof**
- 4. Minutes of the Previous Meeting**
 - 4.1. November 5, 2015 SBCLC Regular Meeting**
- 5. Delegations**
- 6. NWMO CLC Task List Review**
- 7. Reports**
 - 7.1. 2016 SBCLC Meeting Schedule** – Julie Ireland, Project Co-ordinator, SBCLC
 - 7.2. NWMO Update** – Paul Austin, Relationship Manager, Southern Ontario
 - Watching Brief on Reprocessing was published
 - NWMO Workplan for 2016, including possible Open House
 - Website launch

8. Education

- 8.1 Canada's Deep Geological Repository for Used Nuclear Fuel: Modelling Economic Effects** – M. Stemeroff, AECOM, Jo-Ann Facella, Director, Social Research and Dialogue, and Paul Austin, Relationship Manager, Southern Ontario, NWMO

9. Communications

- 9.1 Dennis Eickmeier, South Bruce Resident**, Email dated January 12, 2016, Forwarding Information Regarding Potential Alternative Uses for Used Nuclear Fuel

10. New Business

11. Next Meeting

The next meeting of the SBCLC is scheduled for Thursday, March 3, 2016 at 7:00 p.m. (location to be determined).

12. Adjournment



**Nuclear Waste Management Organization (NWMO)
Adaptive Phased Management (APM) Project
Community Liaison Committee (CLC) Meeting**

Thursday, November 5, 2015

MINUTES

The South Bruce Community Liaison Committee met on Thursday, November 5, 2015 at 7:04 p.m. at the South Bruce Municipal Office, 21 Gordon Street East, Teeswater.

Members Present: Mayor Robert Buckle; Doug Culbert, Vice-Chair; Brian Knox; George Miller; Les Nichols

Members Absent: Councillor Margie Bates; Councillor Mark Goetz; Jim Gowland, Chair; Corbyn Critchfield

NWMO Staff: Paul Austin, Relationship Manager for Southern Ontario; Dr. Ben Belfadhel, Director, Geosciences

Municipal Staff: Julie Ireland, CLC Secretary

1. CALL TO ORDER:

Vice-Chair Doug Culbert called the meeting to order at 7:04 p.m.

2. ADOPTION OF AGENDA:

MOTION CLC-2015-126

Moved by Brian Knox,

Seconded by Bob Buckle;

Agenda

That the Agenda for the South Bruce Community Liaison Committee Meeting of November 5, 2015, be amended to include an item under New Business regarding the process to amend the Terms of Reference for the SBCLC to appoint new members;

And further, that the Agenda for the South Bruce Community Liaison Committee Meeting of November 5, 2015, be amended to include an item under New Business regarding household radon levels;

And further, that the Agenda for the South Bruce Community Liaison Committee Meeting of November 5, 2015, be approved, as amended.

Motion: Carried

3. DISCLOSURE OF PECUNIARY INTEREST AND NATURE THEREOF:

None

4. MINUTES OF THE PREVIOUS MEETING:

4.1 October 8, 2015 SBCLC Regular Meeting

MOTION CLC-2015-127

Moved by George Miller,

Seconded by Brian Knox;

Minutes

That the Minutes of the South Bruce Community Liaison Committee Meeting held on October 8, 2015, be adopted as printed and circulated.

Motion: Carried

5. DELEGATIONS:

None

6. NWMO TASK LIST REVIEW:

MOTION CLC-2015-128

Moved by Les Nichols,

Seconded by Brian Knox;

Task List

That the SBCLC Meeting Task List presented to the November 5, 2015 South Bruce Community Liaison Committee Meeting, be received for information.

Motion: Carried

7. REPORTS:

7.1 **Phase 2 Preliminary Assessments: Initial Bore Hole Drilling and Testing in Huron-Kinloss and South Bruce (Oral)**

Dr. Ben Belfadhel, Director, Geosciences, NWMO

MOTION CLC-2015-129

Moved by George Miller,

Seconded by Bob Buckle;

Report

That the verbal report of the NWMO regarding Phase 2 Preliminary Assessments: Initial Bore Hole Drilling and Testing in Huron-Kinloss and South Bruce presented to the November 5, 2015 South Bruce Community Liaison Committee Meeting, be received for information.

Motion: Carried

7.2 NWMO Update (Oral)

Paul Austin, Relationship Manager, Southern Ontario

MOTION CLC-2015-130

Moved by Les Nichols,

Seconded by George Miller;

Report

That the verbal update of the NWMO to the November 5, 2015 South Bruce Community Liaison Committee, be received for information.

Motion: Carried

8. EDUCATION:

None

9. COMMUNICATIONS:

None

10. NEW BUSINESS:

Added Item

10.1 Process to Potentially Add Additional Members to the South Bruce Community Liaison Committee (Oral – for information. Copies of the Terms of Reference were distributed for reference)

Added Item

10.2 Household Radon Levels (Oral – for information)

ACTION ITEM: Paul Austin was requested to investigate any programs related to household radon level detection, and radiation safety and awareness that the NWMO may be familiar with, and report back to the next meeting with information about any such programs.

Added Item

10.3 Presentations from Independent Sources (as requested by Vice-Chair Doug Culbert)

ACTION ITEM: Julie Ireland was requested to circulate to the Committee a listing received from the Huron-Kinloss CLC of independent experts and researchers who could potentially provide presentations to the SBCLC in the future.

11. ADJOURNMENT:

MOTION CLC-2015-131

Moved by George Miller;

Seconded by Bob Buckle;

Adjournment

That we do now adjourn at 8:45 p.m., to meet again on Thursday, December 3, 2015 at 7:00 p.m., or, at the call of the Chair.

Motion: Carried

Chair

Vice-Chair

CLC Secretary

DRAFT

2016 South Bruce CLC Meeting Task List

Meeting Date	Motion Number	Person Responsible	Task	Due	Completed	Comments
June-04-15	n/a	Julie Ireland	Julie Ireland was requested to circulate an email to members of the CLC to determine whether July 14 or 16 would be preferable for the workshop. A reply to NWMO staff should be sent by June 15.		Jun 4 2015	
June-04-15	CLC-2015-95	Julie Ireland	That language options be developed for the next SBCLC meeting for a resolution for consideration by the CLC and municipal Council to develop a potential plan for Phase 2 field studies.		Jul 9 2015	
June-04-15	n/a	Paul Austin	Paul Austin will circulate the draft notice regarding the relocation of the Learn More Community Office from Midway to Teeswater for Julie Ireland to review, and for the NWMO to publish the notice in the coming months.		Aug 7 2015	
June-04-15	CLC-2015-98	Julie Ireland	That Julie Ireland, Project Co-ordinator for the SBCLC, be directed to develop a listing of the meeting dates for local service clubs and community groups for the fall of 2015 and possibly early 2016 to facilitate the attendance of NWMO staff at those meetings. And further, that the subject motion be added to the SBCLC Task List.			Draft provided to Paul, and Julie is investigating meetings dates and areas for service groups
June-04-15	n/a	Leanne Martin	Brian Knox asked the Clerk to provide him with a copy of the municipality's vision, goals, etc.			
June-04-15	n/a	Julie Ireland	Jim Gowland requested that a copy of his "letter to the editor" published in the May 21, 2015 edition of the Midway Crier, and the initial letter from S.A. MacDonald, which his comments were in reply to, both be included on the agenda for the July SBCLC meeting.		Jul 9 2015	
June-04-15	n/a	Julie Ireland	NWMO staff were requested to coordinate a presentation by Tom Isaacs for the South Bruce Community Liaison Committee. The speaker will be provided the opportunity to speak for one hour on a future agenda. It was requested that the presentation be scheduled for the September meeting, and to advertise for the meeting, including the name of the presenter.			
June-04-15	n/a	Paul Austin	Forward the motion regarding the proposed site selection process for Phase 2 studies to Council for approval.			
July-09-15	n/a	Julie Ireland; Jim Gowland	That nuclear expert Tom Isaacs be invited to provide a presentation to the SBCLC at its meeting scheduled for Thursday, November 5, 2015.		Jul 28 2015	Jim Gowland made a presentation to Council and the resolution was adopted by Council
Oct 8 2015	CLC-2015-122	Julie Ireland	And further, that Mr. Isaacs be invited to meet informally with members of the South Bruce Community, in a forum to be determined by the Relationship Manager for NWMO and the Project Co-ordinator for the SBCLC.			
Nov 5 2015	n/a	Paul Austin	Paul Austin was requested to investigate any programs related to household radon level detection, and radiation safety and awareness that the NWMO may be familiar with, and report back to the next meeting with information about any such programs.			
Nov 5 2015	n/a	Julie Ireland	Julie Ireland was requested to circulate to the Committee a listing received from the Huron-Kinross CLC of independent experts and researchers who could potentially provide presentations to the SBCLC in the future.		Dec 2 2015	



Corporation of the
Municipality of South Bruce

Report No.
CLC2016-02-02

File No.

Directed to: Chair J. Gowland and Members of the SBCLC

Date
February 2, 2016

Department: Administration

Attachment
1

Prepared By: Julie Ireland, SBCLC Project Coordinator

Subject: South Bruce Community Liaison Committee 2016 Meeting Schedule

Recommendation:

That the meeting schedule for the South Bruce Community Liaison Committee for 2016, be confirmed, as follows:

- Thursday, February 4, 2016;
- Thursday, March 3, 2016;
- Thursday, April 7, 2016;
- Thursday, May 5, 2016;
- Thursday, June 9, 2016;
- Thursday, July 7, 2016;
- Thursday, September 8, 2016;
- Thursday, October 6, 2016;
- Thursday, November 3, 2016;
- Thursday, December 8, 2016;

And further, that any changes to the SBCLC meeting schedule be communicated in accordance with the Municipality of South Bruce Procedural By-law.

REPORT

The South Bruce Community Liaison Committee generally meets on the first Thursday of the month at 7:00 p.m. The Committee has not generally met in January and August, due to availability of members, and those months have been omitted from the schedule for 2016.

For months in which the first Thursday of the month does not fall in the same week as the first Tuesday of the month, the meeting has been scheduled for the second Thursday of the month to reduce travel time for NWMO staff, in order to allow for both the Huron-Kinloss and South Bruce CLC meetings to take place in the same week (Huron-Kinloss meetings are scheduled for the first Tuesday of each month).

I would like to propose moving the meetings to different locations within the Municipality in 2016. Moving the meetings between locations can allow for increased participation from residents, as well as in some cases provide additional seating for larger presentations. The venues, and the rotation of the venues, are open for discussion and can be amended if needed. I am requesting direction from the Committee about whether or not you would like to hold meetings in different locations.

Respectfully Submitted,

Julie Ireland

Julie Ireland, SBCLC Project Co-ordinator



Canada's Deep Geological Repository for Used Nuclear Fuel: Modelling Economic Effects

Presented to: South Bruce Nuclear Waste Community Advisory Committee

Presented by: M. Stemeroff, AECOM
J. Facella, P. Austin, NWMO

February, 2016

Introduction

- Context
- Background for economic modelling work
- Purpose of Update
- Methods Used
- Preliminary Findings
- Next steps



Focus of Discussion during Phase 2

- Can we identify a safe site?
- Is the project a good "fit" for the area?
- Is the project compatible with the area's vision?
- How might the project foster well-being?

The Project will only proceed with the interested community, First Nation and Métis Communities in the area, and surrounding communities working together with the NWMO to implement it

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Communities define Well-being

- NWMO committed to implementing project in a way that contributes to long-term well-being of area
- Communities encouraged to consider this project in the context of well-being as they define it
- And be involved in planning to leverage the project to enhance well-being



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Many dimensions of well-being

- *People*: employment, training, opportunities for population growth
- *Infrastructure*: water and wastewater, schools and libraries, emergency services, roads
- *Environment*: land, livable communities, protection of environmental values
- *Community and Culture*: enhancement of community values, ways of life, cultural traditions
- *Economics and Finance*: economic diversity, revenue
- *Spirit*

The logo for the Preliminary Economic Analysis is located to the left of the title. It features two large, light gray, right-pointing chevrons.

Preliminary Economic Analysis

Purpose of This Analysis

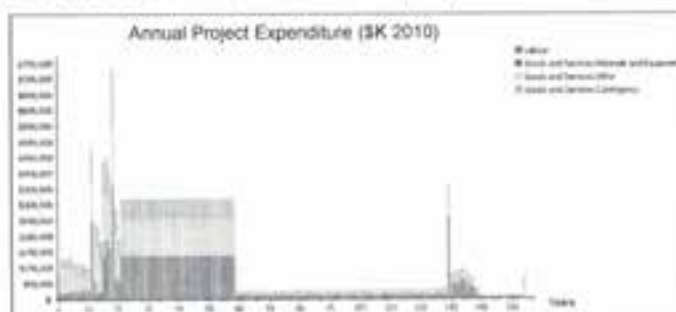
- To update previous “generic” estimates of benefit (2010) that are specific to the candidate host regions and communities of Ontario
- What is the magnitude and scale of benefit to Ontario from the APM project being located in the province?
Three levels of assessment:
 - Province-wide benefits
 - Regional benefits – Economic Region
 - Host area benefits
- Focus on job creation opportunities
- Preliminary assessment: high-level, order-of-magnitude

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Adaptive Phased Management: Expenditure Profile

- Significant investment (\$20 billion)
- Investment over many decades
- Project being considered in six phases: siting, initial licensing, construction, operations, extended monitoring and decommissioning
- Cost and schedule will be revised over project life

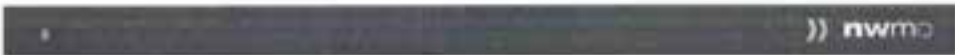


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Cost Estimate and Schedule

- Economic modelling study uses 2010 cost estimate and a more detailed cost breakdown
- APM Project cost estimate is updated every five years
- Provides the basis for financial planning
- Cost and schedule change with each estimate
- Next cost estimate update expected 2016



Estimated APM Facility Expenditures by Project Phase (\$M 2010)

Phase	Timing (Years)	Budget				Total
		Labour	Materials and Equipment	Other	Contingency	
Siting	1 to 7	\$141	\$3	\$450	\$223	\$817
Initial Licensing	8 to 11	\$83	\$25	\$153	\$165	\$426
Construction	12 to 21	\$297	\$1,003	\$1,378	\$934	\$3,611
Operations	22 to 59	\$1,793	\$3,373	\$4,393	\$2,465	\$12,023
Extended Monitoring	60 to 129	\$768	\$23	\$650	\$365	\$1,804
Decommissioning	130 to 159	\$457	\$251	\$269	\$246	\$1,224
Total		\$3,537	\$4,677	\$7,294	\$4,938	\$19,905

- Notes:**
1. The expenditure profile and schedule that drive benefits by project phase are under revision.
 2. Column and row totals are subject to rounding error.
 3. Transportation costs not included.



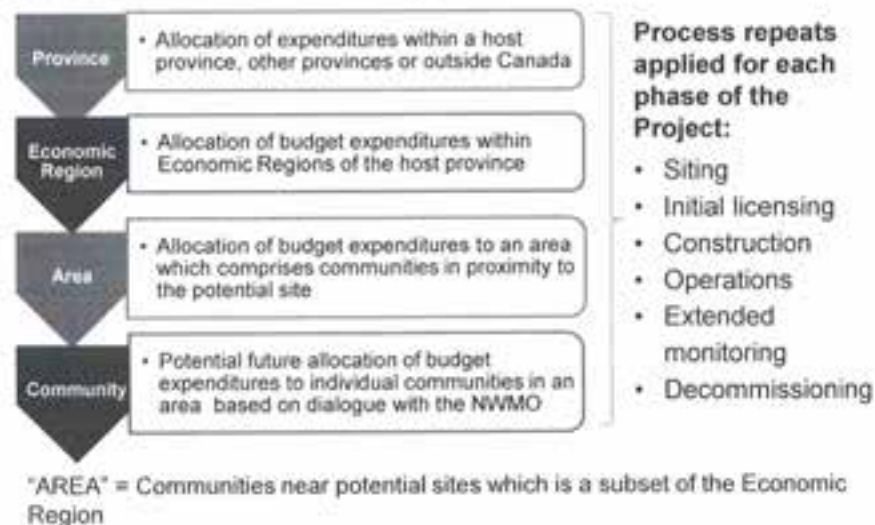
Assessing Benefits

- Estimate of direct, indirect, and induced economic benefits derived from the Interprovincial Input-Output (I/O) Model, which is annually updated by Statistics Canada from National Accounts information
- I/O Model is the sole independent model for producing economic benefits for Canada and provinces based on projected spending in specific industries and/or commodities. Economic benefit outputs include GDP, tax revenues, number of jobs, labour income, etc.
- Model is used exclusively by federal, provincial and territorial governments to determine the economic benefit of different investments in their economies
- Uses current Statistics Canada datasets to generate multipliers
- Economic benefits for Ontario produced by the I/O Model are allocated to regions and siting areas

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Method: Tiered Analysis



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Preliminary Initial Findings - Ontario

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Top Line Findings

- Project size and scale brings potential to significantly affect economic opportunity and diversity over extended period
- Significant job creation in a range of skills areas in the siting area
- Significant employment opportunities extend across the province
- Benefits realized within a community/region are influenced by many factors:
 - Geographic location
 - Population size, dynamics, and characteristics
 - Proximity to supporting services and industry

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Jobs Categories – Three Categories

- **Direct jobs** result from NWMO expenditures for labour, for example labour hired to manage the project, or labour wages paid during operations and expenditures to firms for transporting inputs (construction materials) to the site
 - Direct jobs are expected to be located primarily at or near the project
- **Indirect jobs** result from project expenditures which include inter-industry purchases in the supply chain
 - Indirect jobs would provide support, products and services such as food and accommodation
- **Induced jobs** result from direct and indirect employees purchasing goods and services at the household level
 - Induced jobs include doctors, lawyers and retail

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Estimated Average Annual Employment – Ontario

Project Phase	Years	Direct Jobs per year	Indirect Jobs per year	Induced Jobs per year	Total Jobs per year
Siting and Initial Licensing	1 to 11	215	540	190	945
Construction	12 to 21	795	1,430	575	2,800
Operations	22 to 59	720	1,205	495	2,420
Extended Monitoring	60 to 129	135	100	70	305
Decommissioning	130 to 159	290	115	100	505

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Conclusion:

- This is a major infrastructure project with dedicated funding that will generate sustained benefits (jobs) for Ontario and the area communities for more than 100 years
- This meets the aspirations of area communities seeking to:
 - Build community vitality and growth
 - Build or maintain infrastructure
 - Attract new businesses
 - Provide career opportunities for youth across the area communities

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Initial Estimates for South Bruce and Area

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Estimated Annual Average Employment – Stratford-Bruce Peninsula Economic Region

Project Phase	No. of Years	Direct Jobs per year	Indirect Jobs per year	Induced Jobs per year	Total Jobs per year
Siting and Initial Licensing	11	20	55	20	95
Construction	10	410	770	300	1,480
Operations	40	650	1,100	450	2,200
Extended Monitoring	70	130	90	70	290
Decommissioning	30	250	100	90	440

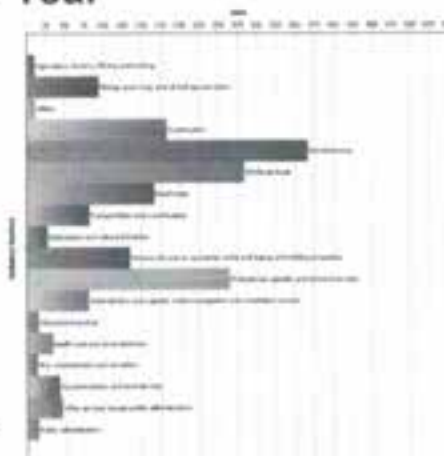
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Employment Opportunities in Stratford-Bruce Peninsula Economic Region – Sample Construction Year

Key opportunity sectors:

- Manufacturing
- Wholesale and retail trades
- Professional, scientific and technical services, finance, insurance, and real estate services
- Construction
- Mining and quarrying
- Transportation and warehousing
- Administrative and support, waste management and remediation services



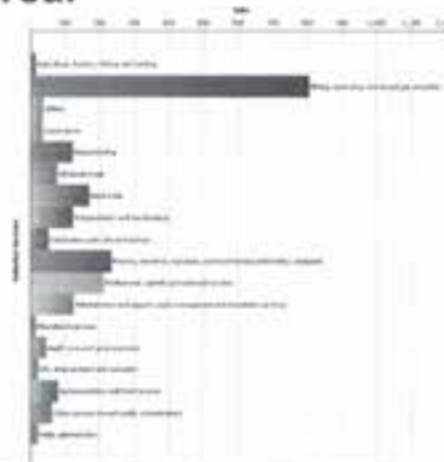
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Employment Opportunities in Stratford-Bruce Peninsula Economic Region – Sample Operations Year

Key employment sectors:

- Mining and quarrying
- Finance, insurance, real estate
- Professional, scientific and technical services
- Retail trade
- Manufacturing
- Administrative and support, waste management and remediation services



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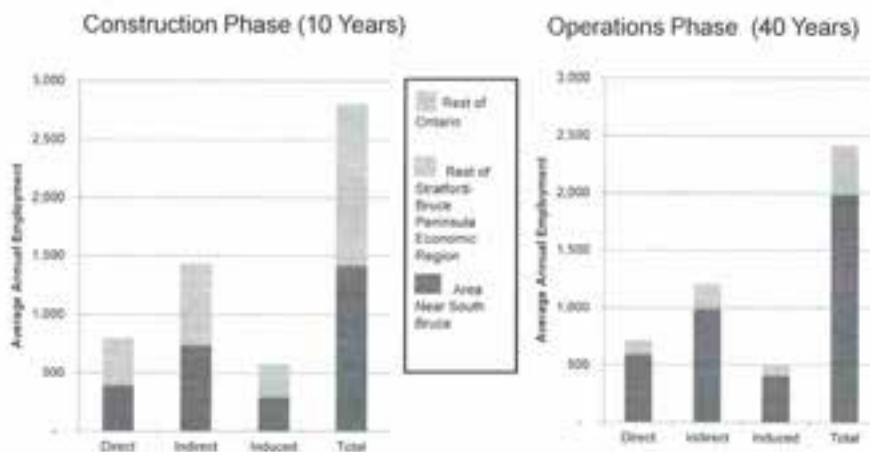
Estimated Annual Average Employment – Area Near South Bruce

Project Phase	No. of Years	Direct Jobs per year	Indirect Jobs per year	Induced Jobs per year	Total Jobs per year
Siting and Initial Licensing	11	20	55	20	95
Construction	10	390	730	290	1,410
Operations	40	590	990	400	1,980
Extended Monitoring	70	120	90	60	270
Decommissioning	30	240	90	90	420

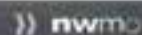
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Area Near South Bruce – A Closer Look at Annual Average Jobs



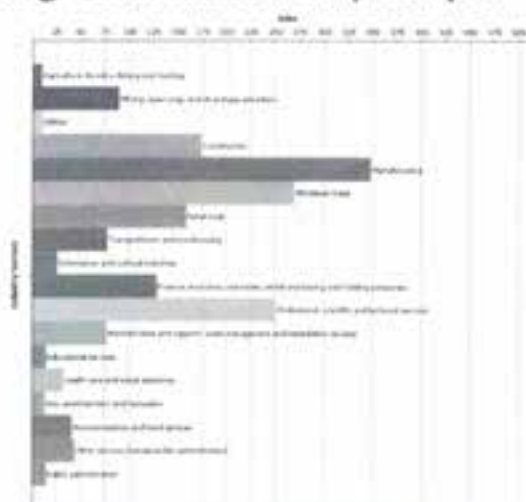
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Employment Opportunities – Area Near South Bruce During Construction (sample year)

Key Opportunity Sectors:

- Manufacturing
- Wholesale and retail trades
- Professional, scientific and technical services, finance, insurance, and real estate services
- Construction



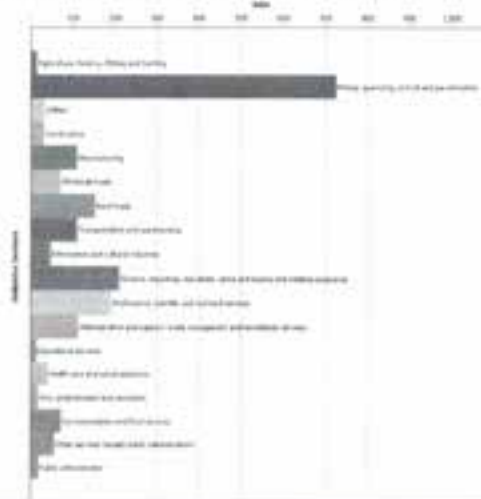
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Employment Opportunities – Area Near South Bruce During Operations (sample year)

Key Opportunity Sectors:

- Mining
- Finance, insurance, real estate, rental and holding companies
- Professional, scientific and technical services
- Wholesale and retail trades
- Manufacturing



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Influencing Benefits

- NWMO committed to work with communities to plan implementation of the project
- Work to create a common economic development strategy, which may include:
 - Training
 - Local hiring and procurement programs
 - Fostering business development and infrastructure

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Next Steps

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Focus of Discussion during Phase 2

- Is the project a good "fit" for the area?
- Is the project compatible with the area's vision:
 - considering the many aspects of well-being, including people, environment, infrastructure, community and culture, Spirit, and economics and finance?
 - from the perspective of interested community, First Nation and Métis Communities in the area, and surrounding communities?

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Next steps

1. Explore economic benefits at regional level and how this might advance other important aspects of well-being
2. Explore the different components of the project and implementation scenarios
3. Envision the Centre of Expertise
4. Begin to prepare for implementation through training and capacity building

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Regional picture

- Explore priorities, objectives and vision at the area level
- Explore potential to advance the vision for the area, and address the priorities and objectives of communities
- The model will help explore economic impact of various implementation plans

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Project Components and Scenarios

- Updated Project Description describes key components of the project
- There are options for how project components would be implemented that would effect economic benefits
- This includes where different project components could be located
- Project components include surface facilities such as:
 - Used Fuel Container Factory
 - Used Fuel Packaging Plant
 - Sealing Material Compaction Plant/ Concrete Batch Plant
 - Centre of Expertise

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Designing and Developing Centre of Expertise

How might the Centre be designed and developed

- Where might we wish to locate the Centre of Expertise if our area hosts the APM Project?
- What would we like the Centre to look like? What architectural style?
- What kinds of facilities and meeting venues would the community find useful if available for general purpose?
- What other opportunities are there for the Centre of Expertise to contribute to community priorities?
- How might we like to see local history and culture reflected in the design?
- How might we like to see indigenous knowledge and local First Nation and Métis cultures reflected?
- How will we involve local people in the day-to-day operation of the Centre and how can we plan for this?
- What other decision points would the community like to be part of?

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Preparing for the project: Building Local Capacity and Employment Opportunities

- Development of jobs and skill inventory
- Implement hiring plan to build locally based staff
- Discuss priority steps for developing skills and job opportunities
- Discuss plan for investments in training, hiring, business development and begin implementation focussed on transferable skills

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Beginning the Discussion

- Review initial findings and report from economic modelling with CLC, community members, others in the area in 2016
- Share initial findings with community in an open house as part of an update on the project
- Continue discussion about fostering well-being including new project description, Centre of Expertise and training

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Subject: FW: Power from nuclear waste -- rather than burial.
From: Leanne Martin <lmartin@town.southbruce.on.ca>
Date: 2016-01-12 10:16 AM
To: denniseic <denniseic@wightman.ca>
CC: sbclc <sbclc@town.southbruce.on.ca>, Kendra Reinhart <kreinhart@town.southbruce.on.ca>

Good Morning Mr. Eickmeier,
Thank you for taking the time to email us with this information. I will forward it onto the South Bruce Community Liaison Committee for their review and discussion.

Sincerely,
Leanne Martin
Clerk, Municipality of South Bruce
www.town.southbruce.on.ca
P 519-392-6623 / F 519-392-6266

Individuals who submit letters and other information to Council should be aware that any personal information contained within their communications may become part of the public record and may be made available to the public through the Council/Committee Agenda process.

From: denniseic [mailto:denniseic@wightman.ca]
Sent: January-12-16 10:11 AM
To: Leanne Martin
Subject: Power from nuclear waste -- rather than burial.

Attention:South Bruce Liaison Committee -- Leanna Martin

RE:DGR-- Deep Geological Repository

Formerly, I wrote you, with my concerns in regard to the DGR deep geological repository proposed for the disposal of nuclear waste. As we all know that a deep repository is very expensive process, as well as a waste of a tremendous amount of energy that could be used and rather than buried. This costs a huge amount of money and the deep repositories around the world have been a colossal failure. Would it not be more feasible to safely and environmentally turn the waste into usable energy for the future. I have spent countless hours researching this issue and found a very promising concept from M.I.T. Dr. Leslie Dewan and Mark Massie who have developed technology that uses spent nuclear waste to produce power for decades from the spent fuel packets. The technology is very, very safe, and cheaper than burial, it eliminate virtual all radiation hazards, also it would provide jobs for people for decades. They formed Transatomic Power to deal with nuclear waste safely.

Therefore here is an internet link that explains the process and it is environmentally friend. Here is the link <https://www.youtube.com/watch?v=4UXXwWOImm8>. Also have provided a PDF white paper attachment to the explain the technology further. This could once again place Canada again as world leader in nuclear technology. Thanks for your time and

consideration.

Please find attached Translator power PDF.

Respectfully

Dennis Eickmeier

dennieseic@wightman.ca

Attachments:

transatomic-white-paper(1).pdf

1.8 MB