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L'état des lieux et la gestion des résidus ultimes

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POTENTIAL HEALTH RISKS AND DISCOMFORTS ASSOCIATED WITH NOTHERN LANDFILL

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RÉGIE RÉGIONALE DE LA SANTÉ ET DES SERVICES SOCIAUX DU NUNAVIK
NUNAVIK REGIONAL BOARD OF HEALTH AND SOCIAL SERVICES

SUMMARY

- Regional context
- Open-air burning
- Other health risks and discomforts
  - Leachate
  - Security
  - Smells
  - Animals
- 4 R's
- Alternative to open-air burning
  - Incinerator
- Conclusion

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REGIONAL CONTEXT

- 14 communities with a population around 14000 individuals.
- The population is growing rapidly .
- No road access between the communities and the rest of the province.
  - Accessible by plane and by boat when the conditions are favourable .
    - Resulting in high cost of materials.
- Year-round permafrost and extreme weather conditions.

OPEN-AIR BURNING : ANY FIRE THAT IS BURNING FREELY

- Prescribed by the Regulation respecting the landfilling and incineration of residual materials, CQLR c Q-2, r 19.
  - "*Combustible waste deposited in northern landfills must be burned at least 1 time per week, when climatic conditions permitting*" *(CQLR c Q-2, r 19)*
- Issues(2) :
  - Burn temperature often too low
  - Waste is not always sorted
  - Wind direction is changing
- Potential emitted substances(3-4):
  - Dioxins and furans
  - Others: aldehydes, carbon monoxide, chlorofluorocarbons, heavy metals (arsenic, mercury, lead, etc.), hydrochloric acid, hydrogen sulphide, ozone, nitrogen oxide, solid particles, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and sulphur oxides.

POTENTIAL HEALTH EFFECTS OF THE OPEN-AIR BURNING

- Short term effects (5) :
  - Impacts on the respiratory system in relation to a direct exposition to smoke.
    - Irritation of the mucus
    - Asthma exacerbation
    - Cough
- Long-term effects (5) :
  - Mostly associated with the Dioxins and furans.
    - Cancers
    - Liver problems
    - Effect on the immune and endocrine system
    - Effects on the reproductive system
    - Effects on the developing nervous system and growth-related phenomena.

POTENTIAL HEALTH RISKS AND DISCOMFORTS

- Risk of Leachate (6)
  - Contamination of water bodies
  - Indirect contamination of traditionnal animal hunting
- Security
  - Under article 96 of the CQLR it says that : " Northern landfills must be surrounded by a fence or any other device so (…)"*(CQLR c Q-2, r 19)*
    - Risk of accident, exposure to smoke, danger of burning and injury
- Animals (7-8)
  - Attraction of bears and other scavengers that can cause: injury, anxiety and fear
  - Habituation to human presence
- Smell
  - Discomfort related to the smell that comes from the smoke.

4R'S REDUCE, REUSE, RECYCLE AND RECOVER

- It should be the primary solution.
- If applicable, possible:
  - Reduction of the amount of the ultimate residues.
  - Reduction of residues that need to be burned.
  - Ultimately reduces the greenhouse gas emissions that cause or increase the risk of effect on health and discomfort.
- Act toward kids and teenagers to increase knowledge .
- Compost food residues.
- Reuse the parts that are still working .
- Increase the products that are recycled.

ALTERNATIVE TO OPEN-AIR BURNING

A possible solution: incinerator (would require an evaluation).

- Construction of fixed or mobile incinerator.

- Major concerns :
  - Ensure quality and technical expertise for proper functioning.
  - Ensure the expertise 24\7.
  - Make sure that we have a strict protocol to prevent any accidents .
  - Maintain a satisfactory burning temperature.
  - How many incinerators would there be ?

CONCLUSION

- The whole process should include people from the communities.
  - The information should be available and accessible.
  - Tools and materials should be created to facilitate the understanding and participation of the communities.
- Even if an incinerator were to be built, the 4R's should be made a priority.

Nakurmiik , Thank you

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