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Building Nunavut Together
Nunavuliuqatigiingniq
Bâtir le Nunavut ensemble

Nunavut

ENVIRONMENTAL GUIDELINE

Wood Stoves

This Guideline has been prepared by the Department of Environment's Environmental Protection Division and approved by the Minister of Environment under the authority of Section 2.2 of the Environmental Protection Act.

This Guideline is not an official statement of the law and is provided for guidance only. Its intent is to increase the awareness and understanding of the risks, hazards, and best management practices associated with wood stoves. This Guideline does not replace the need for the owner or person in charge, management, or control of wood stoves to comply with all applicable legislation and to consult with Nunavut's Department of Environment, other regulatory authorities, and qualified persons with expertise in the management of these appliances.

Copies of this Guideline are available upon request from:

Department of Environment Government of Nunavut
P.O. Box 1000, Station 1360, Iqaluit, NU, X0A 0H0
867-975-7700

An electronic version of this Guideline is available at www.gov.nu.ca/environment/

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1 List of Acronyms

Acronym	Definition
CGS	GN Department of Community and Government Services
CSA	Canadian Standards Association
ENV	Department of Environment, Government of Nunavut
EPA	Environmental Protection Act (1988)
GN	Government of Nunavut
NSPS	New Source Performance Standards (US EPA)
US EPA	United States Environmental Protection Agency
ULC	Underwriters Laboratories of Canada
UL	Underwriters Laboratories [USA]

2 Introduction

This Guideline is intended to inform Nunavummiut on the safe use of wood stoves. Wood stoves should be properly operated and maintained so that they do not present any danger to people and the environment.

One of the main risks associated with the use of wood stoves is the creation of **Excessive Smoke**. **Excessive Smoke** is defined as a large quantity of smoke that is produced when a wood stove is used improperly. This smoke can be harmful to human health and the environment.

Excessive Smoke can be a **Contaminant** under the *Environmental Protection Act (EPA)* (1988).

3 Impacts of Wood Stoves on Health and the Environment

Smoke from wood stoves can affect the quality of the air both outside and inside buildings. It can enter buildings through a leaking chimney, and can infiltrate nearby homes.

There are four main types of **Pollutants** found in smoke:

Particulate Matter	Solid or liquid particles found in the air. They can be very small and travel deep into the lungs.
Carbon Monoxide	A gas that cannot be seen or smelled and is poisonous at high levels.
Volatile Organic Compounds	Chemicals that evaporate into the air and can cause health problems and smog.
Polycyclic Aromatic Compounds	Chemicals that have carcinogenic properties, and are dangerous to inhale.

Wood smoke can worsen respiratory health issues like bronchitis and asthma.

Older adults and children are more vulnerable to the effects of smoke, especially those with existing heart and lung conditions.

Important

Wood stoves also present a risk of starting building fires. Every installation should meet *National Building Code of Canada* requirements as required by the *Building Code Act* (2012).

Also, every home with a wood stove should have Smoke Detectors and Carbon Monoxide Detectors in the same room as the stove.

4 Choosing a Wood Stove

The most important measure that you can take to reduce pollution from your wood stove is to install an efficient one. Modern stoves burn more cleanly, more efficiently, and use less wood.

Stoves should conform to the United States Environmental Protection Agency's (US EPA) *New Source Performance Standards (NSPS) for Residential Wood Heaters*, or conform to the Canadian Standards Association's (CSA) *Performance Testing of Solid Fuel Burning Heating Appliances* (CSA B415.1).

Important

Be sure your wood stove is installed according to the manufacturer's instructions as well as the *National Building Code of Canada* and *National Fire Code of Canada.* You can access these Codes through the Government of Canada website.[1]

Since the introduction of the *Nunavut Building Code Regulations* (2018), the installation or replacement of a wood stove requires a Building Permit.

[1] NRCC (2021). *Codes Canada Publication*.

5 Using your Wood Stove

Wood stoves should always be used and maintained according to the manufacturer's instructions.

The way that a wood stove is used can make a big difference in the amount of smoke that is produced. **Excessive Smoke** is usually created when wood is smoldering (burning very slowly with no big flames or coals). When a stove is used correctly, it burns hot and clean, and little to no smoke is seen from the chimney. When used incorrectly, the stove burns without enough heat and/or air, creating **Excessive Smoke**, and this thick smoke can be seen coming from the chimney.

Following these tips will reduce the amount of smoke made by your stove:

Clean your chimney and flues regularly (follow the manufacturer's instructions).

Make sure your chimney has a chimney cap. This prevents water and snow from getting in and damaging your roof. It also prevents wind from pushing smoke into your house.

Use your dampers (devices that let you put more or less air into the stove): allow more air when starting a fire and close the dampers when the wood is well charred. This technique produces more heat and uses less wood.

Burn smaller pieces of wood: small pieces are more efficient and a better source of heat.

Stack wood loosely in your stove to let the air circulate freely around it.

What to Burn	What Not to Burn
Dry, clean wood	Painted or chemically treated wood
Paper	Household garbage
Cardboard	Plastics, foam and wrappers
Fire logs	Plywood, particle board, or any wood with glue in it
Pellets (in stoves designed to burn them)	Wet, rotted, diseased, or mouldy wood

6 Definitions

Building Permit

Construction permit required under Nunavut's *Building Code Regulations* (2018). More information can be obtained from the Government of Nunavut's (GN) Department of Community and Government Services (CGS), Safety Services Division.

Carbon Monoxide Detector

Device that sounds an alarm when carbon monoxide is present.

Contaminant

A substance that has been released into the environment and has the potential to harm people, plants and/or animals.

Defined in the *Environmental Protection Act* (1988) as:

> "any noise, heat, vibration or substance and includes such other substance as the Minister may prescribe that, where discharged into the environment,
>
> - endangers the health, safety or welfare of persons,
> - interferes or is likely to interfere with normal enjoyment of life or property,
> - endangers the health of animal life, or
> - causes or is likely to cause damage to plant life or to property;"

Excessive Smoke

A large quantity of smoke made by using a wood stove improperly.

Pellets

Small pieces of compressed wood chips sold for burning in a wood stove.

Pollutant

Chemical that has a negative effect on health or the environment.

Smoke Detector

Device that sounds an alarm when smoke is present.

7 References

Building Code Act 2012 SNu 2012 c 15, as amended. Available from: https://canlii.ca/t/8r5g [Accessed 25 November 2021].

Building Code Regulations 2018 Nu Reg 009-2018. Available from: https://canlii.ca/t/95sk [Accessed 23 November 2021].

Canadian Commission on Building and Fire Codes (2015) NRCC 56190. National Building Code of Canada 2015 Volume 1. Ottawa: National Research Council of Canada (NRCC). Available from: https://nrc-publications.canada.ca/eng/view/ft/?id=c8876272-9028-4358-9b42-6974ba258d99&dp=2&dsl=en [Accessed 23 November 2021].

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National Research Council Canada (NRCC) (2021). *Codes Canada Publications* [Online]. Available from: https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications [Accessed 23 November 2021].

For additional information on the remediation of contaminant spills, or to obtain a complete listing of guidelines, go to the Department of Environment website or contact the Department at:

Environmental Protection Division
Department of Environment
P.O. Box 1000, Stn. 1360
Iqaluit, Nunavut, X0A 0H0

Phone: (867) 975-7700
Fax: (867) 975-7742

www.gov.nu.ca/environment

Contingency plans are to be submitted to the above address.


Nunavut