

# ARCTIC RENEWABLE ENERGY BIOMASS FUEL

as a replacement for diesel



## IN NORTH AMERICA'S ARCTIC DIESEL IS KING

Of **280** remote villages in ALASKA, **200** rely exclusively on diesel.



**79** towns in the CANADIAN ARCTIC rely exclusively on diesel

and **67%** of all diesel fuel use in CANADA occurs in Yukon, Northwest Territories, and Nunavut.



## THE IMPACT OF DIESEL



### ENERGY MIGRANTS

The high cost of diesel fuel forces some American citizens to leave their ancestral homes.



### BUDGET STRAIN

The Government of Nunavut spends 1/5 of its annual budget on energy, limiting other funds.



### BLACK CARBON

Diesel generators create black carbon, which melts ice and snow, causing global warming.



### AIR POLLUTION

Air pollution from diesel generators has been linked to higher rates of asthma and respiratory issues.

**\$ ALASKANS PAY NEARLY DOUBLE THE NATIONAL AVERAGE FOR ENERGY.**

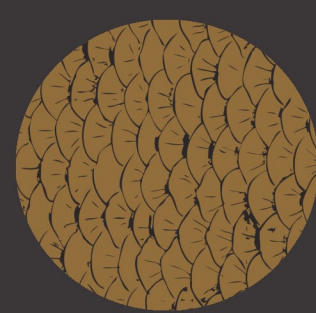
## ONE DIESEL REPLACEMENT IS BIOMASS FUEL

→ fuel developed from organic materials



### WOOD

cordwood, chips, or sawdust byproducts from manufacturing or forest management



### FISH & WASTE

byproducts from fish and municipal waste

## IN CANADA

Biomass is the **THIRD** largest renewable source of Canada's electricity.

**14** biomass heating systems in Northwest Territories reduced heating oil consumption by **six million** litres.

**75%** of the heat demand in Whitehorse area comes from cordwood from beetle-killed trees.

## IN ALASKA

More than **100,000** cords of wood used annually for home heating statewide.

## HOW TO IMPROVE THE USE OF BIOMASS IN THE ARCTIC

### PLANNING & POLICY

- Create Territory and State **biomass plans**
- Incorporate biomass heat in **building codes**
- Conduct **feasibility studies** by engineers
- Include biomass in **policy targets** & whitepapers



### COMMUNITY ENGAGEMENT

- Provide opportunities for **employment**
- Educate** through school-based programs
- Create **community support** for biomass fuel
- Understand **local history** of organic materials



**MORE CAN BE DONE**  
to use biomass heat alongside renewable energy electricity



### FINANCING & TECHNOLOGY

- Integrate** with other renewable energy
- Strive for **100% community ownership**
- Install biomass **monitor systems**
- Use biomass to **heat greenhouses** for food

## BOTTOM LINE: WHAT IS NEEDED?

**PUBLIC FUNDING** for innovation and insallation of biomass fuel.

More access to **STARTUP CAPITAL** through grants, public private partnerships, and green banks.

**FOLLOW-UP SUPPORT** and community training sessions after biomass heating equipment is installed.

Share success stories and data across **REGIONAL AND INTERNATIONAL NETWORKS.**

