

Biomass success in NWT



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NWT

Population: 42,000

Major industry: resource development
(mining – oil & gas)

70 million hectares of forest land
(172 million acres)

No significant forest industry
No local pellet production

33 communities, 17 without all weather road access

Wood Pellet in NWT



Pellet delivery from Factories in Alberta, BC
by Truck or CN Railway, River Barges,
mainly in Bulk, in 1 or 2 tons bags or small Bags

+20,000 tons of pellets distributed/NWT
represent more then 10% of Domestic wood pellets
sold in Canada

- Wood Pellet delivery in Bulk 2015:
- Inuvik Region,
 - Norman Wells Region
 - Yellowknife Region,
 - Hay River/Fort Smith/Fort Simpson

Pellet Storage from the AB, BC border to the Arctic Ocean



Reasons for the success of biomass in NWT

- Coordination in between the Government and Industry
- Pellet delivery: A mixture of Private & Government investment created the infrastructure of the pellet delivery industry
- Mechanical Engineering made by Northern Companies
- Equipment must have CSA, ASME and CRN certification
- Being maintenance friendly
- Adopted to our 4 seasons
- Pellet Boiler systems annual run time 4,500 hours

More Reasons for the success

NWT Government Incentives in for Pellet Boiler Installations:

- \$5,000 Homeowners
- \$15,000 Business
- \$50,000 Communities

- \$1,000 for a pellet stove installations

Today's Installations of Pellets Boilers

- 400 kW - 700 kW Government Buildings: 80% of the installations are in the southern part of the NWT
- 150 kW - 350 kW Private business sector: garage, storage, shops and hotels
- 20 kW - 50 kW Home owners
- Pellet Stoves

Pellet stoves

WETT certified Pellet Stove installations



Private Home Wood Pellet Installation



Containerized Boiler Room



NWT Produced Boiler Box



Energy Box



NWT Biomass Energy Association

DISCUSSION PAPER

- BARRIERS TO BIOMASS ENERGY INSTALLATIONS IN THE NWT

Recommendation #1: Develop Pellet Heating Guidelines for the NWT

- **Pellet boiler systems** (makes & models) already **approved** for use (in the NWT), CSA, ASME & CRN
- Explanation / interpretation of CSA Code B365-10,
- **Pellet storage** and handling
- **Insurance company requirements** re: residential and commercial systems
- Pellet supply, **quality** (EU rules) and **testing protocols**
- Adopt to future **Air quality** and emissions standard;

Recommendation #2: Support the Development / Adoption of National Standards for Biomass Fuel and Heating Equipment

- NWTBEA is proposing that it engage with other jurisdictions (in Canada) and the Canadian Standards Association, **CSA**
 - to support the development of national standards for “Solid Biomass Fuel and Heating Equipment in Canada” and
 - take in to account the specific needs for the **Northern applications**.

Recommendation #3: Conduct Outreach and Education

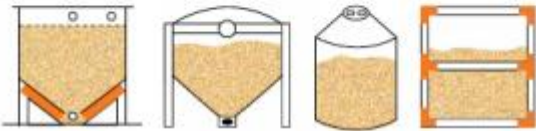
- The NWTBEA is proposing to work collaboratively with the design community, the regulatory authorities, heating and plumbing contractors, the insurance companies and other stakeholders to address concerns and increase understanding of wood pellet boiler and pellet storage systems and **find ways to reduce “red tape”**, delays and costs associated with the installation of pellet heating systems.

Recommendation #4: Develop and Implement a Pellet Testing Protocol for NWT Pellet Supplies

- Assuming that the CANplus pellet certification system becomes fully implemented and **pellet mills in BC and Alberta become certified**, this would provide the basis for implementing a testing protocol to ensure that quality pellets are being shipped to the NWT.

European Standards

Recommendations for
storage of wood pellets



COFOR 



European Pellet Council

**Handbook for the
Certification of Wood Pellets
for Heating Purposes**

Version 2.0

April 2013

Swedish Civil Contingencies Agency

Fuel sort	Wood		Pellets		Heating oil		Other		
	Boiler	Fireplace	Boiler	Stove	Boiler	Stove	Stove	Electric	Other
Death	3	7							4
Hospitalized	7	11			1		3	1	
Treated onsite	43	101	5	11	2	1	8	8	11
Damage to building	134	323	15	6	13	3	34	14	60
Damage to boiler room	835	1121	110	13	36	2	88	41	209
Damage to equipment	2437	2761	372	79	124	11	151	95	483

Reference: Accidents in relation to heating appliances from 2005 to 2010.

Research done by Håkan Sten, February 2012

By Swedish Civil Contingencies Agency based on 780,000 households and smaller building

Opportunities

- Innovations of Pellet & Wood chip production & delivery
- Bulk delivery of Wood Pellets to all Northern Communities
- Pellets or Wood chips are safe, a spill – no pollution
- A Canadian regional product, no major \$ fluctuation
- Pellet & Wood chip industry creates regional and local employment

Wood Chips in the future?



Experience of the NWT Model

For the 292 + Canadian Communities and major Regions

- Creation of a *Strategic Biomass Policy*
- Start with some major infrastructure project
- Mixture private business and government
- Major storage facilities for the *off road* communities
- Incentives to stimulate pellet boiler installations



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