



PELLET FUELS INSTITUTE

*New Pellet Fuel Standards:  
Impact on Western Producers,  
Value for Western Consumers*

Pacific West Biomass Conference  
& EXPO January 10-12, 2011  
Seattle, Washington



# John Crouch, Director of Public Affairs Pellet Fuels Institute (PFI)

- PFI is a North American Trade Association Promoting Energy Independence Through the Efficient use of Clean, Renewable, Densified Biomass Fuel.
- Over 120 companies, and NGO's promoting Residential and Commercial Pelletized Biomass, since 1985.



# Pellet Fuel Standards

- Since the late 1980's PFI has published voluntary standards
- Six years ago PFI began creation of consensus standards, 3<sup>rd</sup> party validation
- PFI Anticipates EPA recognition – Revised NSPS
- ISO has a standard in process,
  - Product of ISO-TC238
  - Result of significant work on national standards by CEN



# Why Standards?

- Defines the playing field
  - Allows competitive free market to function
- Protects the customer
  - Particularly small scale consumers – residential, institutional, light commercial
- Levels the Playing field
  - Particularly in category with many small to medium producers (<100,000 tons/y)



# **PFI Certification System**

- **Based on an Accredited Auditing Structure**
- **Designed to support and reinforce Producers in-house QA/QC system**
- **Focused on needs of North American Consumers and Producers**
- **Creates predictable emissions rates for appliance manufacturers & USEPA**



# PFI's Responsibilities

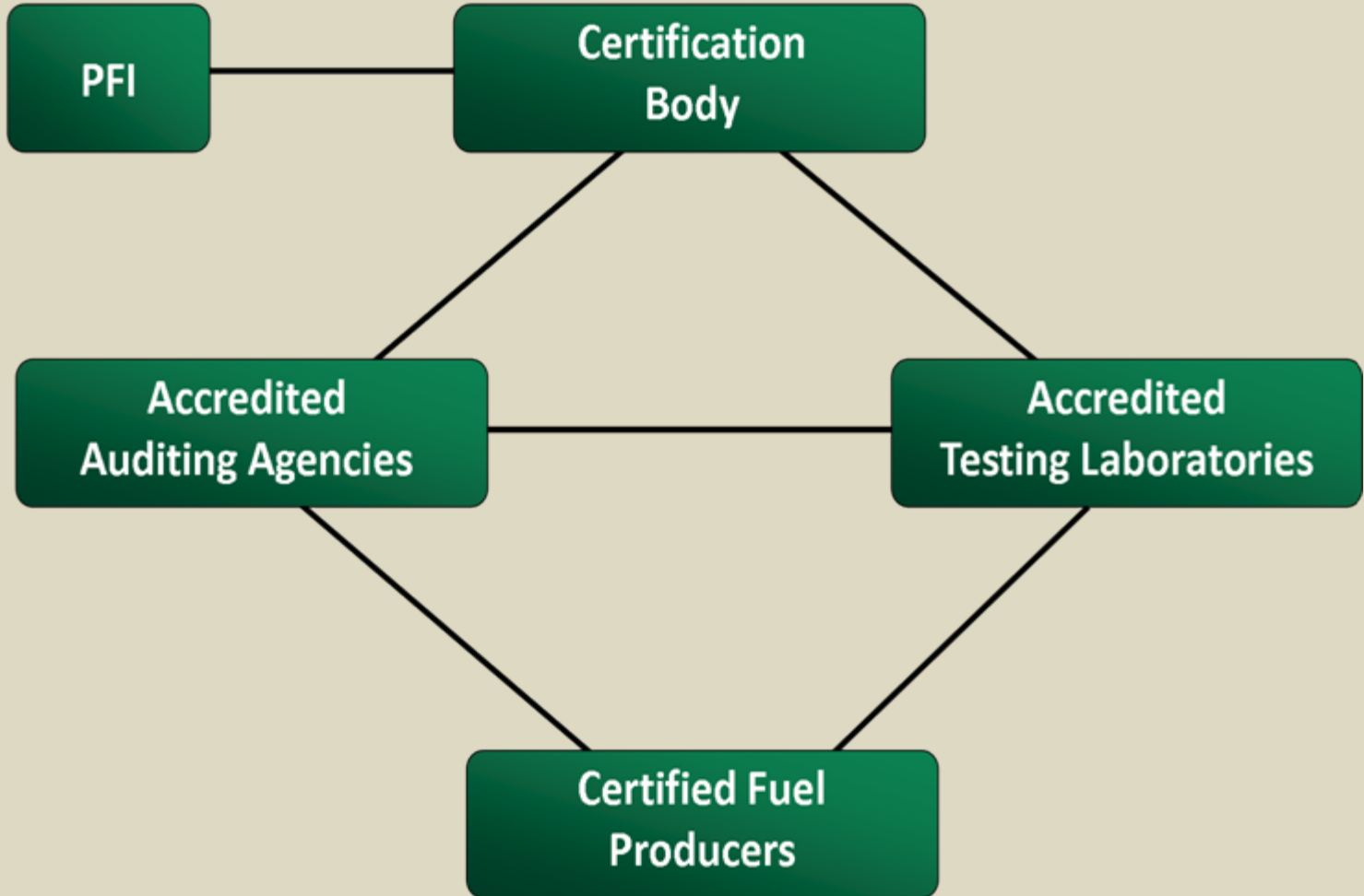
- Issuer / Maintainer / Promoter
- Pursues technical research to improve upon the standards
- Contracts the accreditation body
- Maintains a website registration of all compliant parties
- Pursues any misuse of the certification mark



# PELLET FUELS INSTITUTE

Issuer / Maintainer / Promoter

Implementer / Enforcer





# Accreditation Body

- Accredits auditing agencies and testing laboratories
- Implements and enforces the program
- Administers a laboratory proficiency program
- PFI in discussions with American Lumber Standards Committee (ALSC)



# Accredited Auditing Agencies

- Certifies densified fuel production facilities
- Issue certificates
- Provides periodic monitoring
- Revokes certificates if necessary



# Accredited Testing Laboratories

- Provides QA/QC testing for fuel producers  
– “As Needed”
- Provides testing for samples collected by auditing agencies



# Densified Fuel Producers

- Develop an in-house QA/QC program based on:
  - PFI QA/QC Handbook
  - PFI Standard Specification
- Select an auditing agency and test lab
- Demonstrate compliance with certification system components
- Maintain compliance through periodic audits, inspection and testing

	Residential/Commercial Densified Fuel Standards		
	See Notes 1 & 2		
Fuel Property	PFI Premium	PFI Standard	PFI Utility
Normative Information - Mandatory			
Bulk Density, lb./cubic foot	40.0 - 46.0	38.0 - 46.0	38.0 - 46.0
Diameter, inches	0.230 - 0.285	0.230 - 0.285	0.230 - 0.285
Diameter, mm	5.84 - 7.25	5.84 - 7.25	5.84 - 7.25
Pellet Durability Index	≥ 96.5	≥ 95.0	≥ 95.0
Fines, % (at the mill gate)	≤ 0.50	≤ 1.0	≤ 1.0
Inorganic Ash, %	≤ 1.0	≤ 2.0	≤ 6.0
Length, % greater than 1.50 inches	≤ 1.0	≤ 1.0	≤ 1.0
Moisture, %	≤ 8.0	≤ 10.0	≤ 10.0
Chloride, ppm	≤ 300	≤ 300	≤ 300
Informative Only - Not Mandatory			
Ash Fusion	NA	NA	NA
Heating Value	NA	NA	NA



## PFI CERTIFIED FUEL



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### PFI Densified Fuel Grade: Premium

#### Grade Requirements:

Reg. #1234

Bulk Density:	40–46 lbs/ft <sup>3</sup>
Diameter:	.230–.285 in/5.84–7.25 mm
Durability:	≥96.5
Fines:	≤0.50%
Ash Content (as received):	≤1%
Length:	≤1% >1.5 in.
Moisture:	≤8.0%
Chlorides:	≤300 ppm

#### Manufacturers Guaranteed Analysis As Audited:

Type of Material:	Softwood fiber
Additives:	2.0% corn oil by weight
Minimum Higher Heating Value (as received):	8,000 BTU
Other Manufacturers Guarantees:	

This is our  
Goal –  
Consistent,  
Predictable,  
Certified,  
Fuel



# Other world Biofuel Standards Initiatives

- CEN TC 335
- ISO TC 238
- European Pellet Council



# Key Properties --Ash

- PFI Premium <1 %
- PFI Standard < 2 %
- PFI Utility < 6 %
  
- ISO A1 .7%
- ISO A2 1.5%
- ISO B 3.0%



# Key Properties -- Moisture

- PFI Premium 8%
- PFI Standard & Utility 10%
- ISO A1, A2, B 10%



# Key Properties -- Chloride

- All PFI Grades >300 ppm
- ISO A1, A2 .02% (wt- dry basis)
- ISO B .03 %



# Important Disclaimer

- ISO information is current as off late 2010
  - But is a **Working Group Draft**
- PFI Document nearing completion,
- <http://pelletheat.org/pfi-standards/what-are-the-pfi-standards/>
- Labels, with 3<sup>rd</sup> party validation should appear this fall --



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**T H A N K Y O U**

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