



Biomass North Development Centre

Bioeconomy 101

Building Biomass Value Chains



Today

- Bioeconomy 101
- Biomass North Development Centre
 - Mandate
 - Services
 - Projects
 - Technology & Knowledge Transfer
 - Advocacy



What is a Bioeconomy?

An economy founded on **biomass** instead of fossil fuels...
where the basic building blocks for
materials, chemicals and energy
are derived from **renewable biological resources**,
such as plant and animal sources

McCormick, Kes and Kautto, Niina, The Bioeconomy in Europe: An Overview, Journal of Sustainability, 2013



What is Biomass?

Biological material
derived from living or
recently living
organisms

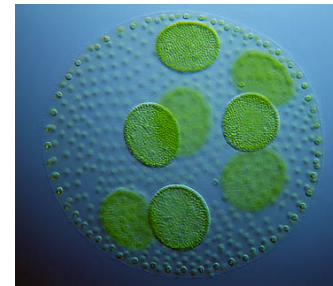
Organic matter renewable
over time (human lifespan)



Forestry Crops & Residues



Agri Crops & Residues



Algae



Industrial Wastes



Municipal Solid Waste



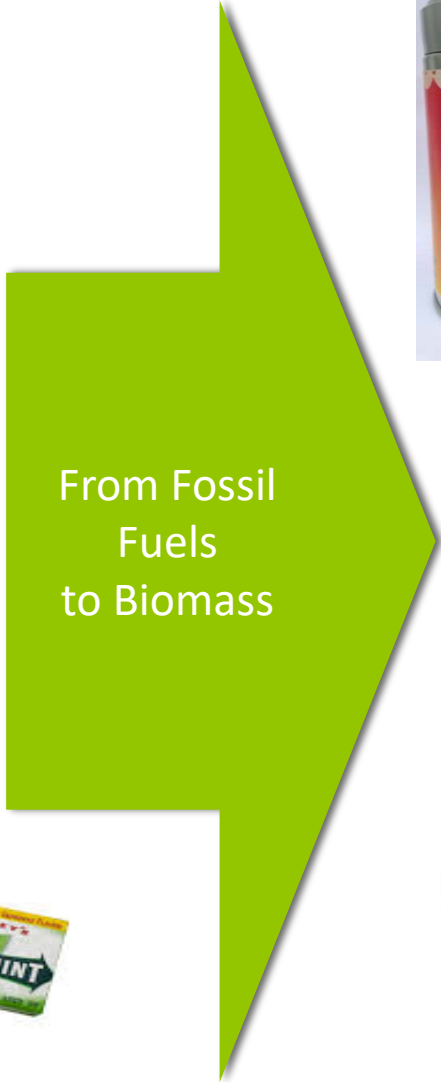
Sewage



Animal Residues



What are Bioproducts?



From Fossil Fuels to Biomass

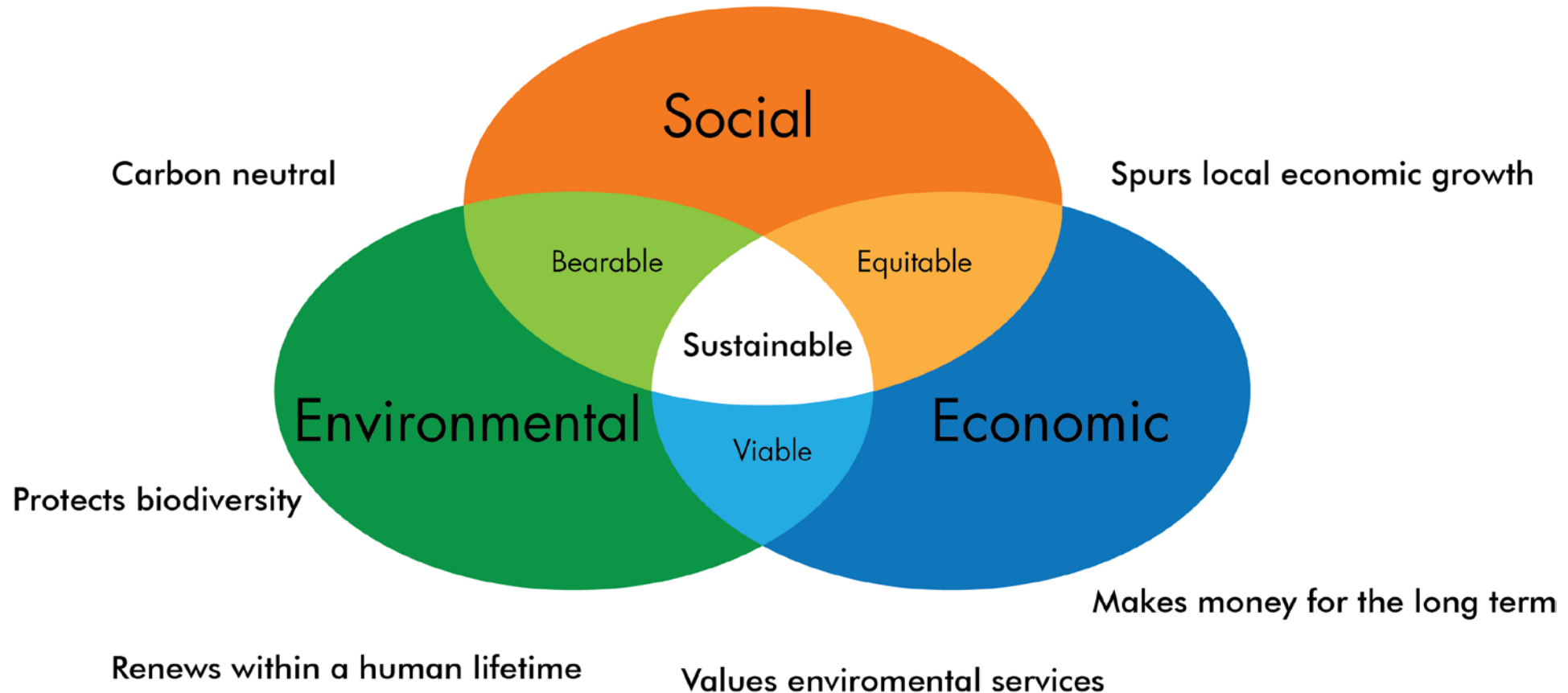




What is a Sustainable Bioeconomy?

Respects indigenous and traditional rights

Creates healthy communities and safe workplaces





“Traditional” Bioeconomy in Ontario

Practices

- Allocate fiber to traditional companies
- Wood residues not used

Bioproducts

- Structural timber & products
- Pulp & paper





“New” Bioeconomy in Ontario

- New Practices
 - Allocate fiber to maximize regional benefit
 - Sustainable path to low-carbon future
 - FN jurisdiction over traditional lands
 - FN stewardship role ascendant
 - Regional partnerships/convergence
 - Reduce waste and ensure sustainable supply
- New Bioproducts
 - Bioheat & Biopower & Biofuels
 - Biochemicals & Biocomposites





Economic Recovery of Key Sector

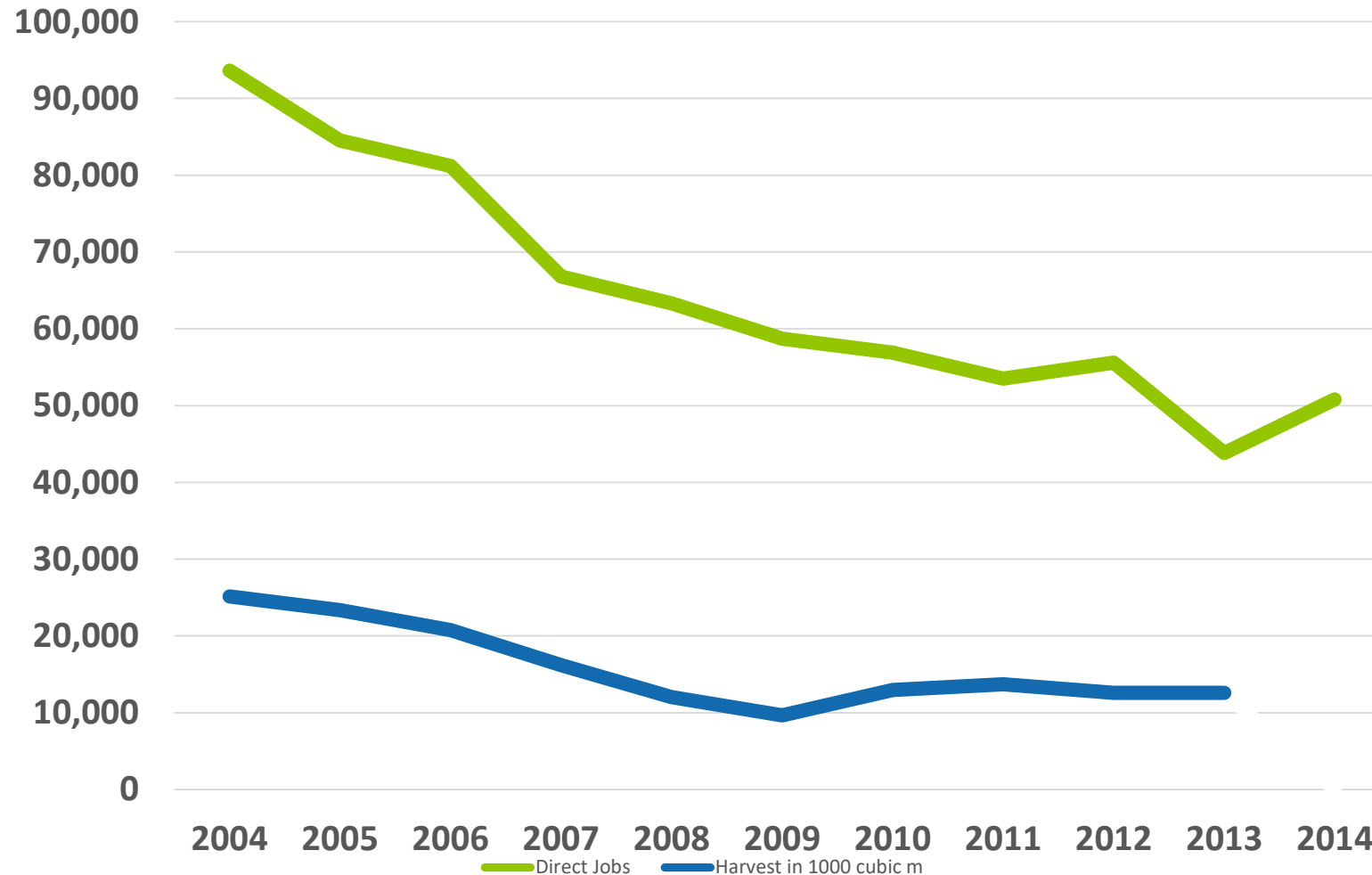
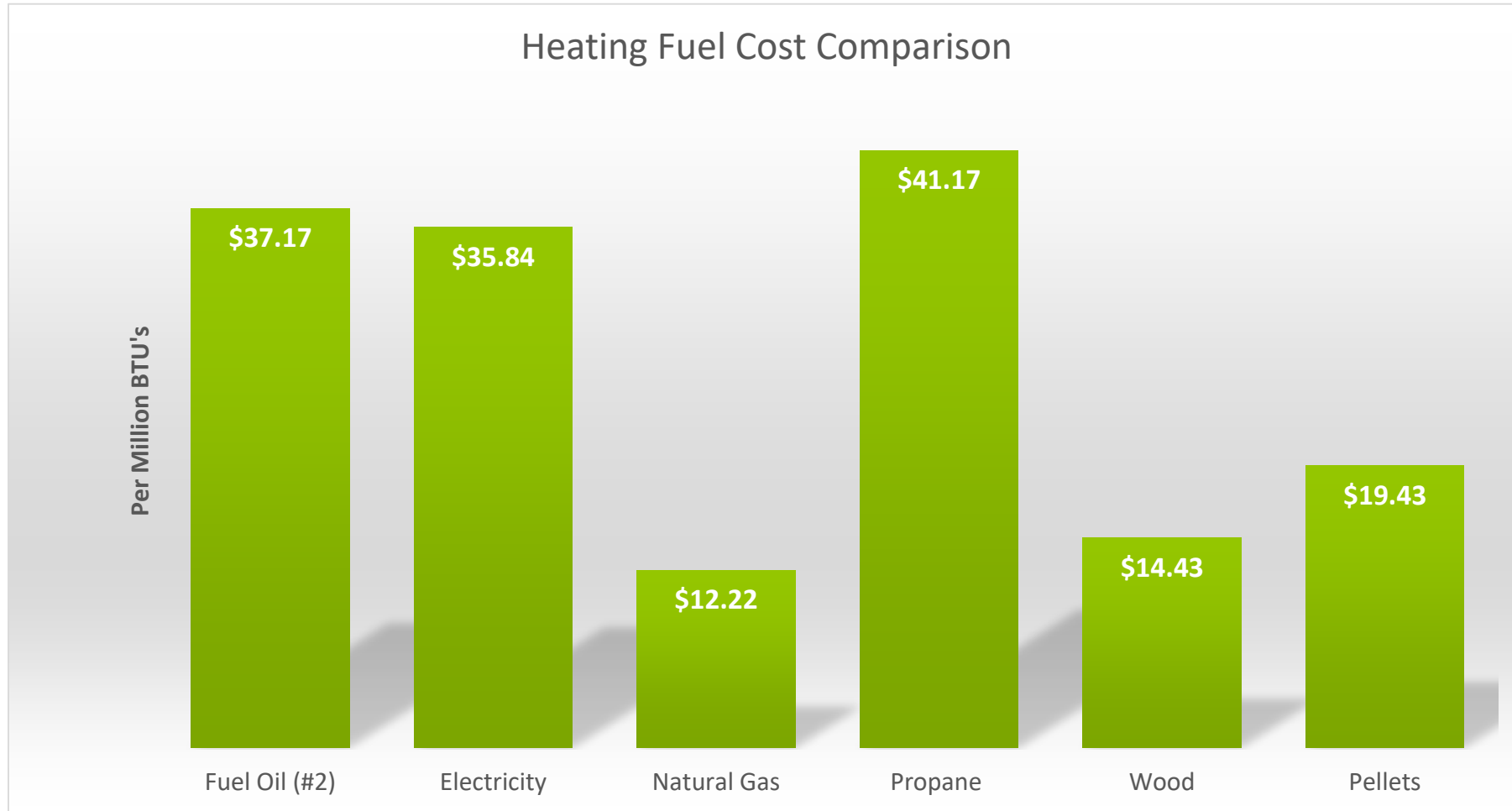


Figure - Economic Impacts of Forestry Downturn 1999-2012

Source: Natural Resources Canada Statistical Data, <https://cfs.nrcan.gc.ca/statsprofile/employment/on>



Wood Energy = Cheaper Energy



Fuel Cost Comparison Spreadsheet: Energy Information Agency, US Government. <http://www.eia.gov/tools/faqs/heatcalc.xls>



Reduce GHG's

Annual total CO2 emissions to heat a typical house (20,000 kWh/yr)

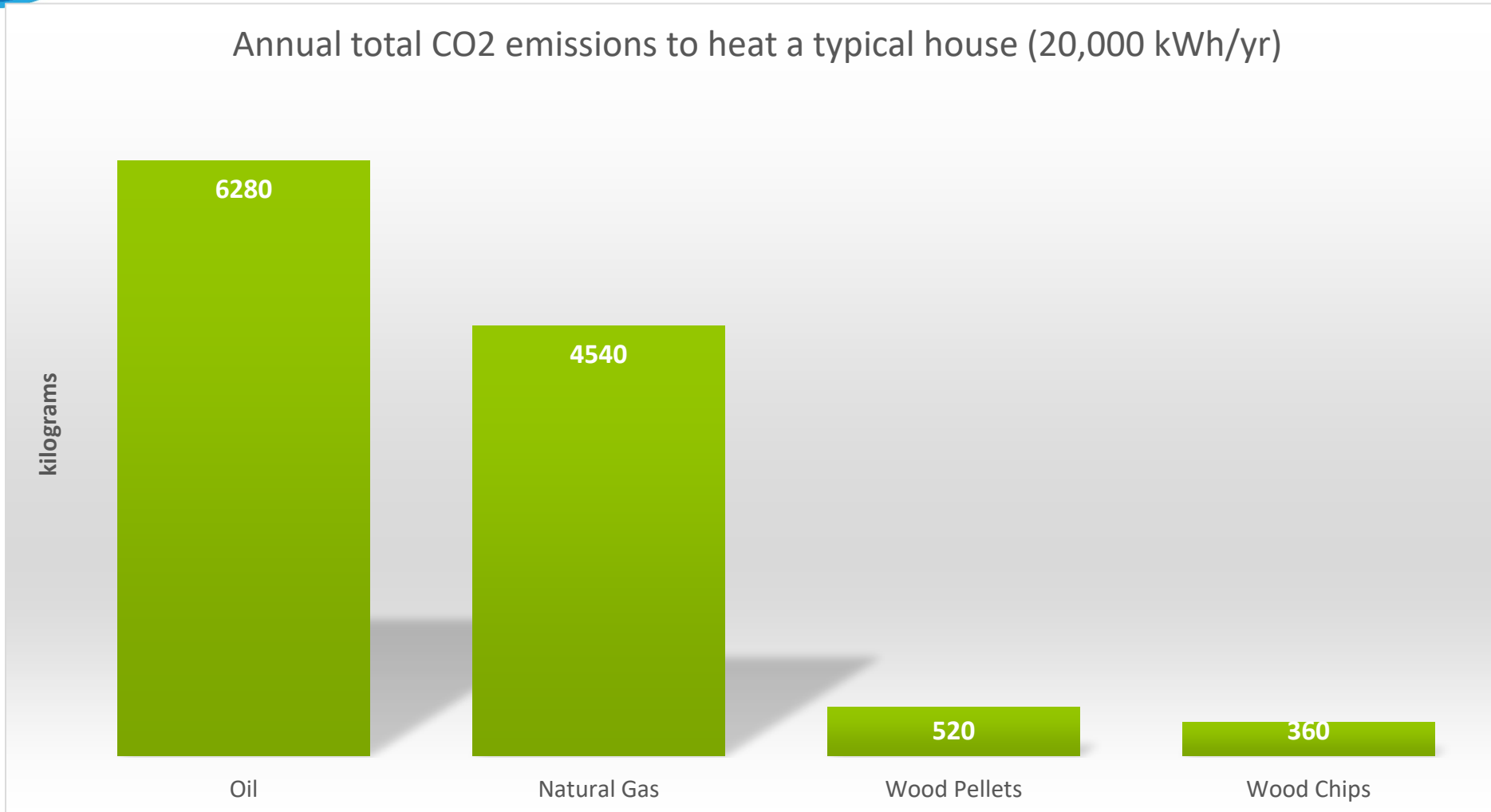


Figure - GHG Emissions from different heating fuel types Source: Biomass Energy Centre
http://www.biomassenergycentre.org.uk/portal/page?_pageid=75,163182&_dad=portal&_schema=PORTAL



Barriers



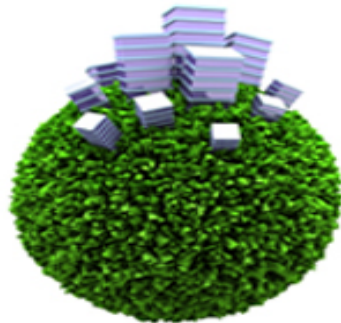
- Numerous policy/regulatory barriers
- Challenges securing supply
- North unable to enter the new energy economy
- Little focus on domestic market
- Lack of regional coordination

No Over-Arching Strategy!



Biomass North Development Centre

Mandate: Support the development of a robust and sustainable bioeconomy in northern Ontario





Sector Association

- Represent and advocate for entire supply chain
- Drive policy & regulatory reform
- Enhance technology transfer & drive innovation
- Develop domestic & export markets for bioproducts
- **One voice** for municipalities, First Nations, and organizations with an interest in the bioeconomy



Services



Bioeconomy Development



Market & Technical Research



Seminars & Workshops



Tours & Trade Missions



Become a Member!

Public Members

- First Nations
- Municipalities
- EDCs
- Academia
- Industry associations

SME Members

- Consultants/Engineers
- Forest license holders
- Bioenergy/bioproducer producers
- Equipment providers
- Forest harvesters

Large Enterprise

- Forest resource processing facilities
- Large industrial and commercial
- Manufacturing facilities

	Allies	Public Members*		Small-to-Medium Enterprise Members*		Large Enterprise Members*	
Annual Rate	Free	Standard	Premium	Standard	Premium	Standard	Premium
		\$300	\$500	\$600	\$800	\$1000	\$1300

*Refer to our website for details



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