

Pellet Fueled Central Heating in New England:

***Convenient and Automatic Central Heating
with Sustainable Fuel from our Forests***

Presented by Dr. William Strauss

President, FutureMetrics

*Co-Founder and Director, Maine
Energy Systems*



What is the possible future?

We can look to Europe which is decades ahead.

Note the role of biomass in the European renewable energy portfolio.

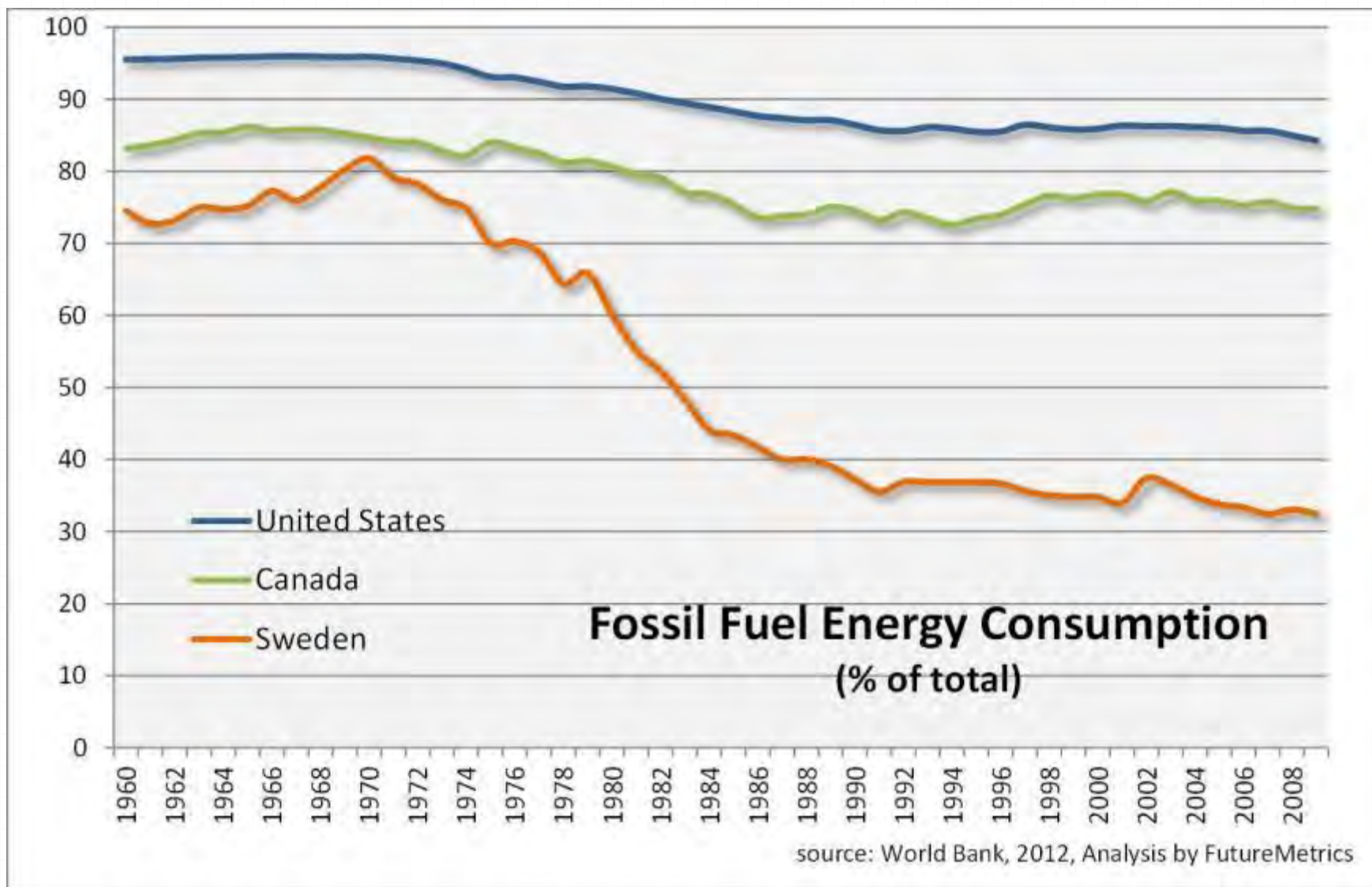
While solar and wind make up important electricity generating components of the mix, **heat for homes and buildings is not made from electricity.**

(Geothermal heat pumps are a good heating solution and should be part of the strategy. But in much of New England hard rock drilling is required making the capital cost very high. Most of New England's homes will rely on combustion systems for heat.)

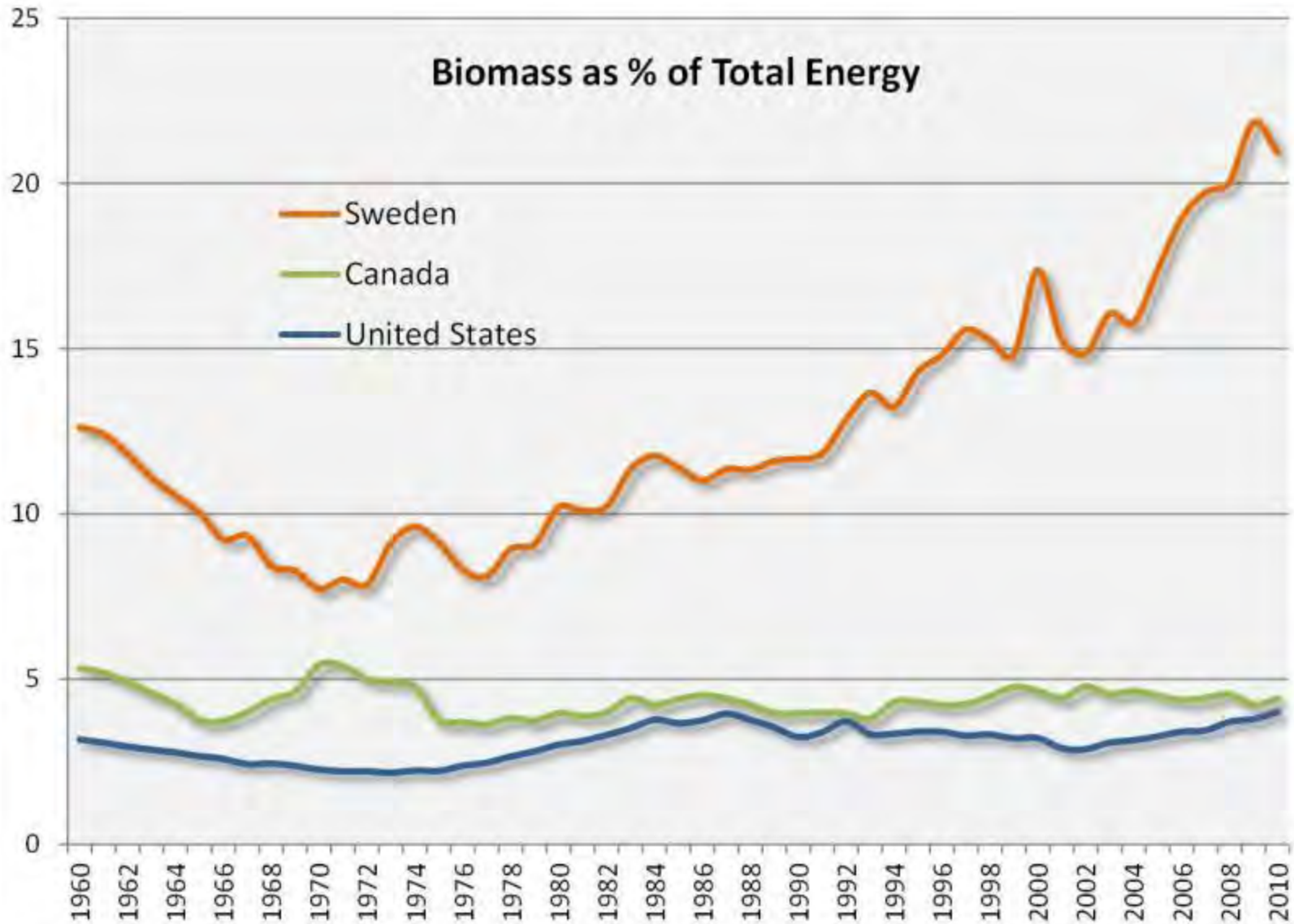
Total Renewable Energy Production in Europe in 1000's of tons of oil equivalent (TOE)												
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Solar energy	0.4%	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	0.7%	0.8%	0.9%	1.2%	1.6%
Biomass	60.7%	60.5%	60.1%	59.2%	62.3%	64.1%	63.8%	65.4%	66.0%	66.8%	66.5%	66.8%
Geothermal Energy	4.5%	4.7%	4.8%	4.5%	4.8%	5.0%	4.8%	4.6%	4.5%	4.3%	4.0%	3.9%
Hydro power	31.3%	30.9%	30.8%	31.5%	27.2%	24.8%	24.5%	22.4%	21.4%	19.8%	19.6%	18.7%
Wind power	1.0%	1.3%	1.9%	2.3%	3.1%	3.6%	4.5%	5.2%	5.7%	6.7%	7.2%	7.6%

source: Eurostat Energy Statistics, 2011

Let's look at the US and Sweden's aggregate numbers

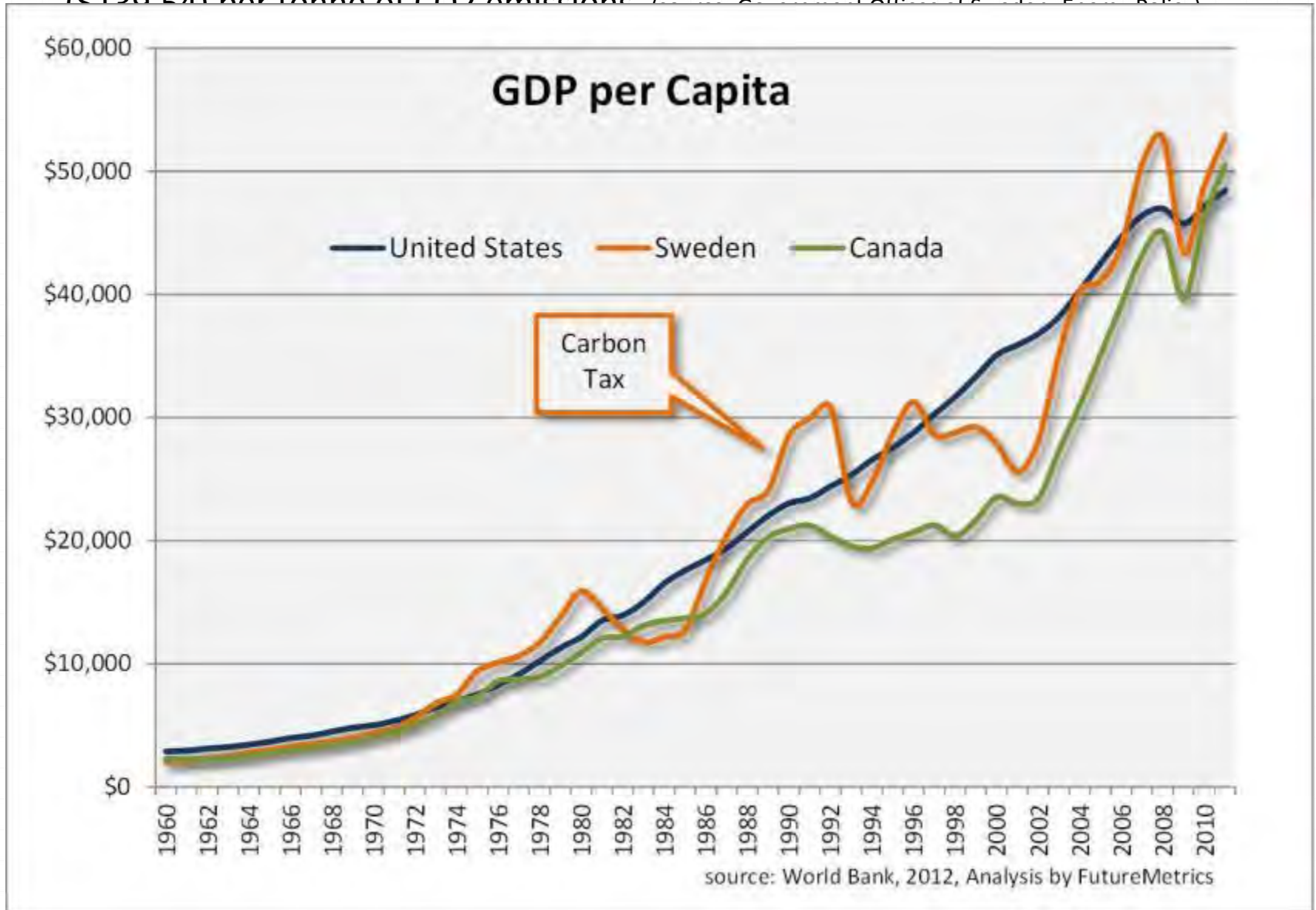


Biomass as % of Total Energy

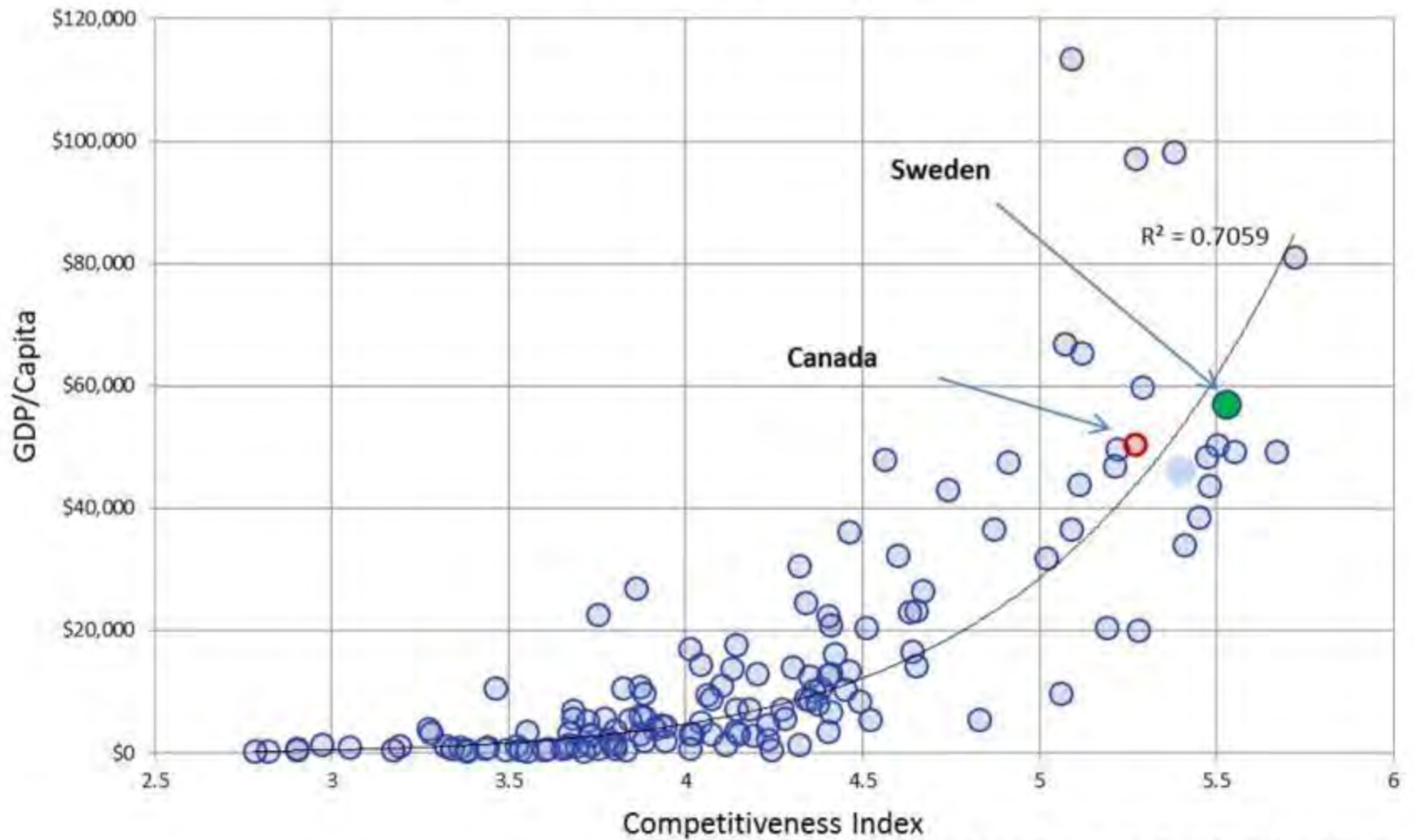


source: World Bank, 2012, Analysis by FutureMetrics

Sweden currently has a carbon emissions tax of 930 Swedish Kronor (SEK) (\$120.54) per tonne of CO2 emissions (from Government Office for Economic Policy)

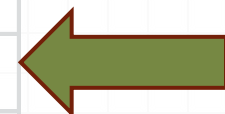
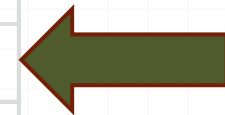


GDP/Capita vs. Competitiveness

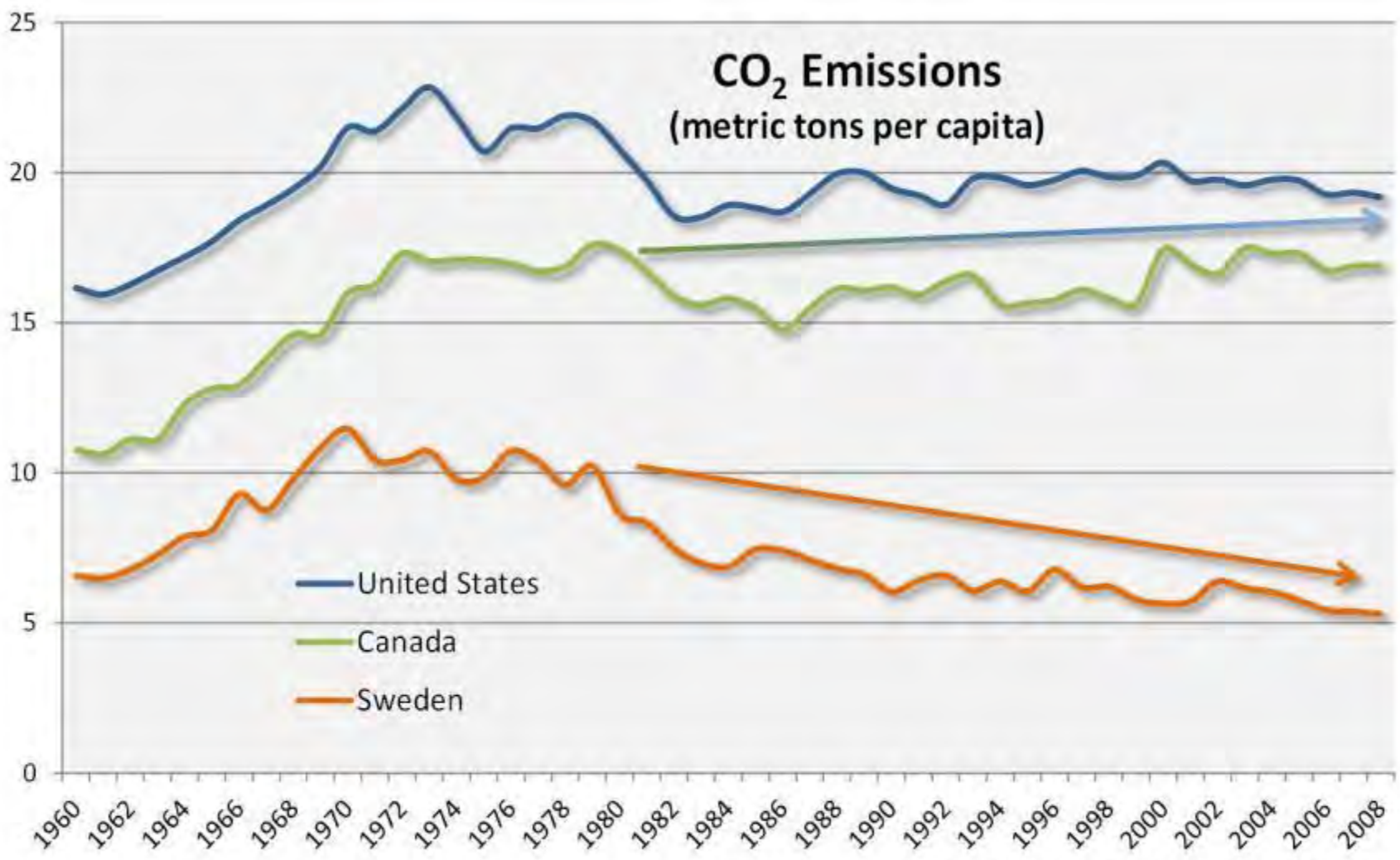


source: World Economic Forum, analysis by FutureMetrics

	GDP/Capita
Luxembourg	\$ 113,533
Qatar	\$ 98,329
Norway	\$ 97,255
Switzerland	\$ 81,161
United Arab Emirates	\$ 67,008
Australia	\$ 65,477
Denmark	\$ 59,928
Sweden	\$ 56,956
Canada	\$ 50,436
Netherlands	\$ 50,355
Austria	\$ 49,809
Finland	\$ 49,350
Singapore	\$ 49,271
United States	\$ 48,387

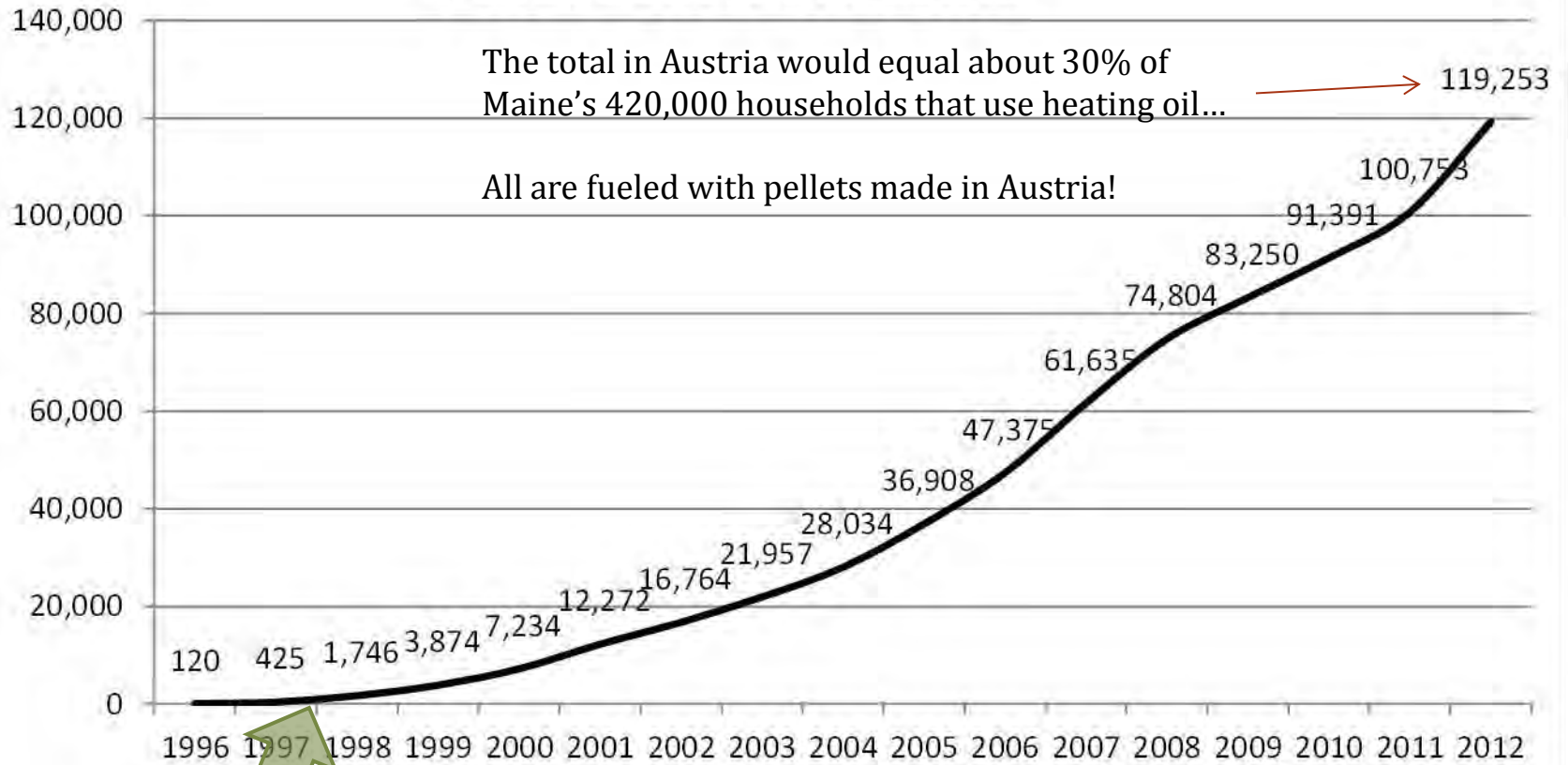


CO₂ Emissions (metric tons per capita)



source: World Bank, 2012, Analysis by FutureMetrics

Pellet Boilers in Austria

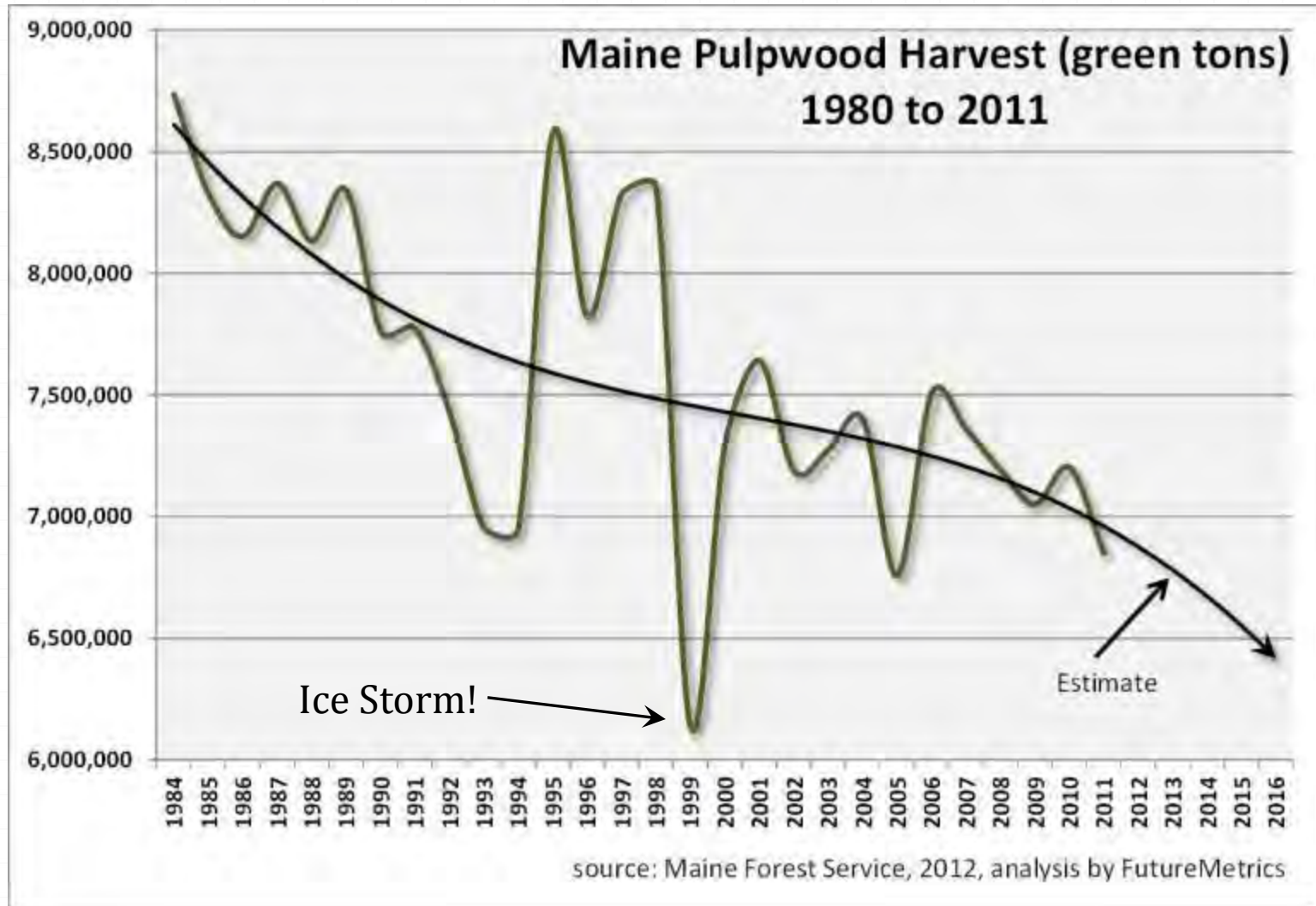


source: the EU's Intelligent Energy Program, 2012, Analysis and 2012 forecast by FutureMetrics

We are here!

Pulpwood Demand is Declining

The wood-to-energy business will keep the forest products industry alive!



Wood pellet production for domestic use in the north can replace propane and heating oil

Wood pellet heating in the U.S.

Wood pellet boilers have been heating homes and businesses in Europe for more than a decade. This brand, currently assembled in the Maine for the US market, has more than 40,000 units in service around the world.

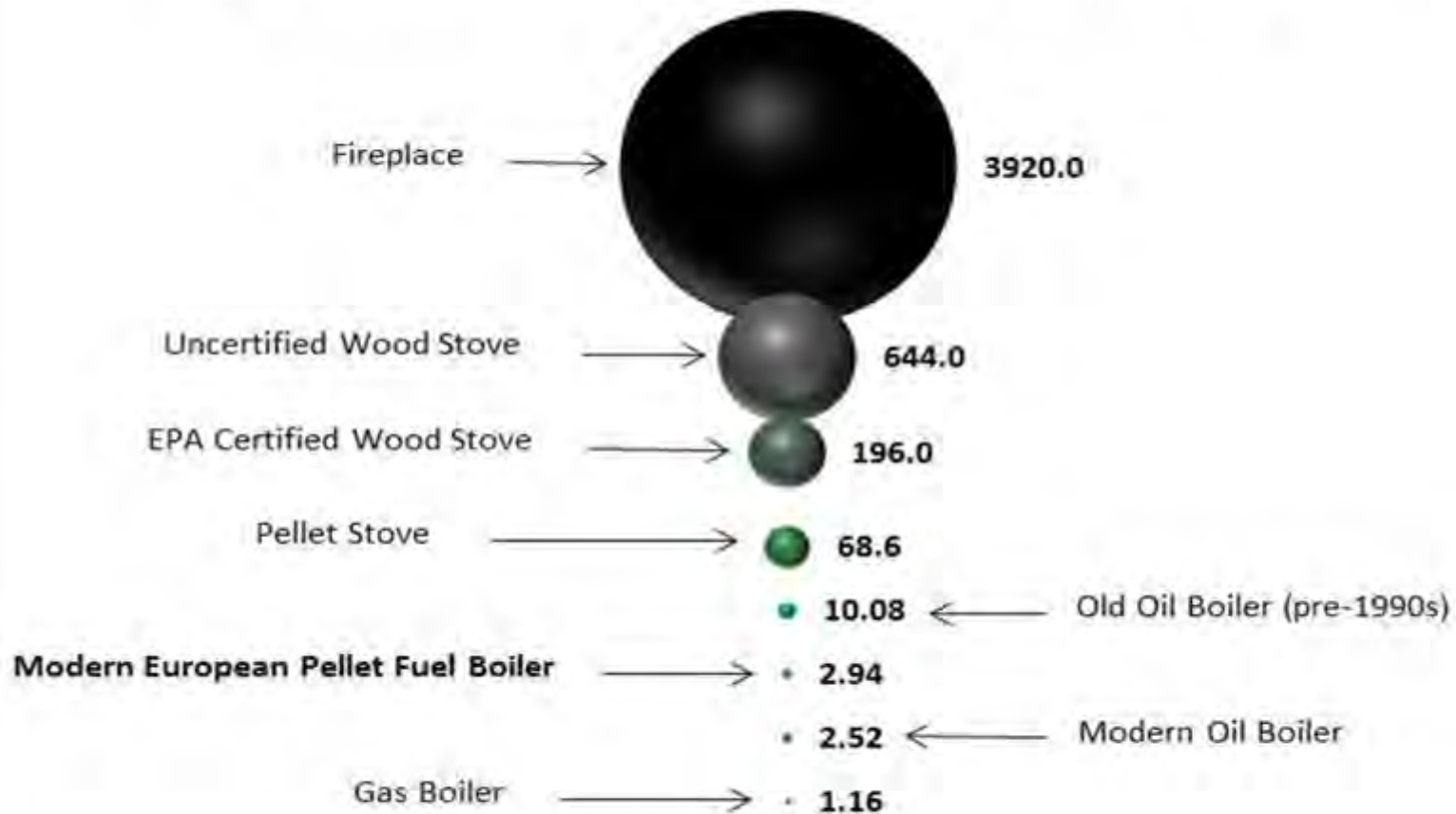


MIESYS
WOOD PELLET HEATING

ÖkoFEN
PELLET HEATING

Modern Wood Pellet Boilers are CLEAN and completely automatic

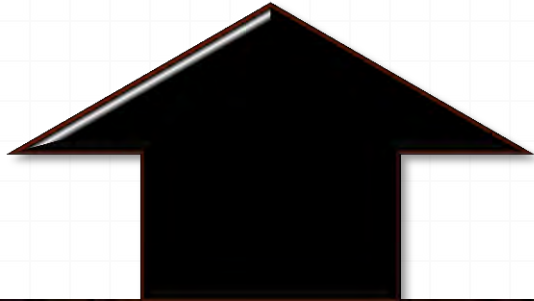
Total Pounds of Particulate per Year
normalized to the equivalent of the BTU from 1000 gallons of heating oil per year



Source: USEPA, Maine Energy Systems, OcoFEN Eco Engineering GmbH, 2010, analysis by FutureMetrics¹²

To put this into perspective, let's compare using one cord of wood in a fireplace and one cord of wood's worth of energy from wood pellets in a modern pellet boiler.

375 pounds



Particulate emissions (SMOKE!)



**0.28
pound**



BEAT OIL! & Stay Warm

\$1.99

ENERGY
GUARANTEED TWO YEARS*



AutoPellet Boilers

- Automatic Operation
- Automatic Ash Removal
- Automatic Fuel Delivery
- No Fuel Handling
- Highly Efficient
- 40,000+ Units in Service
- Clean Burning

FINANCING AVAILABLE

- FHA guaranteed loans from Admirals Bank.**
- Pellet fuel and boiler payment may be less than just your oil bill.



(207) 824-NRGY (6749) • MaineEnergySystems.com

* Maine Energy Systems guarantees the delivery of bagless bulk wood pellets at the price of \$239 / ton, the BTU equivalent of \$1.99 / gallon heating oil, within 150 miles of Bethel, Maine through June 2014.
** Financing available disclaimer here. ** Financing available disclaimer here. ** Financing available disclaimer here. ** Financing available disclaimer here. ** Financing available disclaimer here.

Wood pellet fuel is common in Europe where more than a million homes have home heating systems automatically fueled with wood pellets.

Imagine...



TAKING A VACATION WITH YOUR FUEL SAVINGS

Switch to the world's finest fully-automated wood pellet boiler.
The boiler that saves more than it costs.

- **Automatic Operation**
Just Turn Your Existing Thermostat
- **No Fuel Handling**
Delivered in Bulk / Automatically Fed
- **Automatic Ash Removal**
No Ash to Touch
- **Clean Burning**
Exceeds all EPA Emission Standards
- **Reliable**
40,000+ Units in Service Worldwide
- **Affordable Fuel**
Lock-in at \$1.99 / Gallon Oil Equivalent



Contact Us
Stop being held hostage
by your heating system.

MESYS

MAINE ENERGY SYSTEMS



877-917-2319
MESysHeat.com

Seriously...



DON'T BURN YOUR MONEY.

If you think your cost of heating is high, switch to the world's finest fully-automated wood pellet boiler, it saves more than it costs.

- **Automatic Operation**
Just Turn Your Existing Thermostat
- **No Fuel Handling**
Delivered in Bulk / Automatically Fed
- **Automatic Ash Removal**
No Ash to Touch
- **Clean Burning**
Exceeds all EPA Emission Standards
- **Reliable**
40,000+ Units in Service Worldwide
- **Affordable Fuel**
Lock-in at \$1.99 / Gallon Oil Equivalent



Contact Us
How's \$1.99 / gallon for
the next 2 years sound?

MESYS

MAINE ENERGY SYSTEMS



877-917-2319
MESysHeat.com



Haines, AK (commercial)



East Burke, Vermont (institutional)



South Paris, Maine (municipal)



Newark, Vermont (residential)



Augusta, Maine (institutional)



Bethel, Maine (municipal)



Jackman, Maine (institutional)



Marshfield, Vermont (municipal)



Kennebunk, Maine (residential)



Blue Hill, Maine (municipal)



Lyndonville, Vermont (commercial)



Bethel, Maine (institutional)



Gardiner, Maine (municipal)



Swanton, Vermont (residential)



Freeport, Maine (residential)



Greenwood, Maine (commercial)



Bucksport, Maine (municipal)



Bethlehem, New Hampshire (institutional)



Newry, Maine (residential)



Cambridge, Vermont (residential)



MAINE ENERGY SYSTEMS



MIESYS

MAINE ENERGY SYSTEMS



AutoPellet
Wood Pellet Central Heating Systems





OUR COMPANY

Maine Energy Systems (MESys)

Headquartered in Bethel, Maine, our primary mission is to support a transition to the use of renewable wood pellet fuel for heating of homes, businesses, schools and municipal buildings.

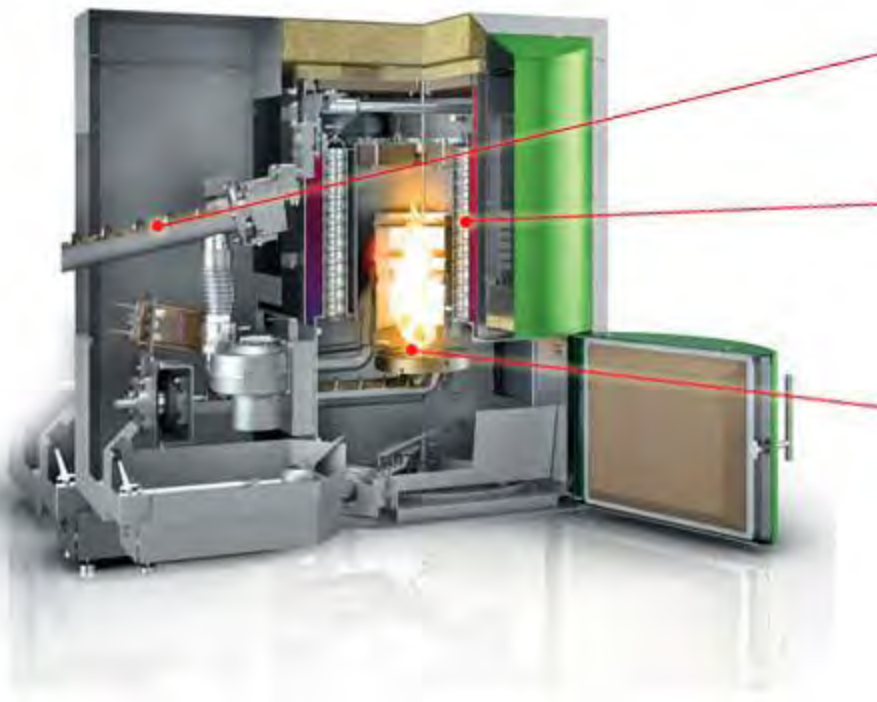


MESys AutoPellet Boilers

MESys manufactures and distributes MESys AutoPellet Boilers in Bethel, Maine. The licensed design was acquired from ÖkoFEN, the world's leader in automatic wood pellet boiler design and technology since 1989.



The world's **finest** wood pellet boiler.



Automatic Auger or Vacuum Fed Fuel

From the pellet mill to the burner, you never see or touch the fuel.

Automatic Tube Cleaning

Tubes are automatically cleaned daily, never requiring a manual cleaning. There is no need to shut or cool down the MESys AutoPellet for cleaning.

Bottom Fed Burner

Our unique bottom fed burner design eliminates emptying ash from the burn chamber for a restart, this results in no by-product build up. After a period of low-demand only the application of air is commonly necessary to restart.



Fuel storage for **any** application.



From 1 /2 Ton to 50 Tons, We Can Store It All

With many sizes and configurations available, our wood pellet storage options are designed to fit your space and needs. These options ensure safe, automatic, reliable movement of the wood pellets from bulk storage to the burner. Our FlexILO storage bags are well suited for indoor spaces where space is limited.

[View Available Sizes >>](#)

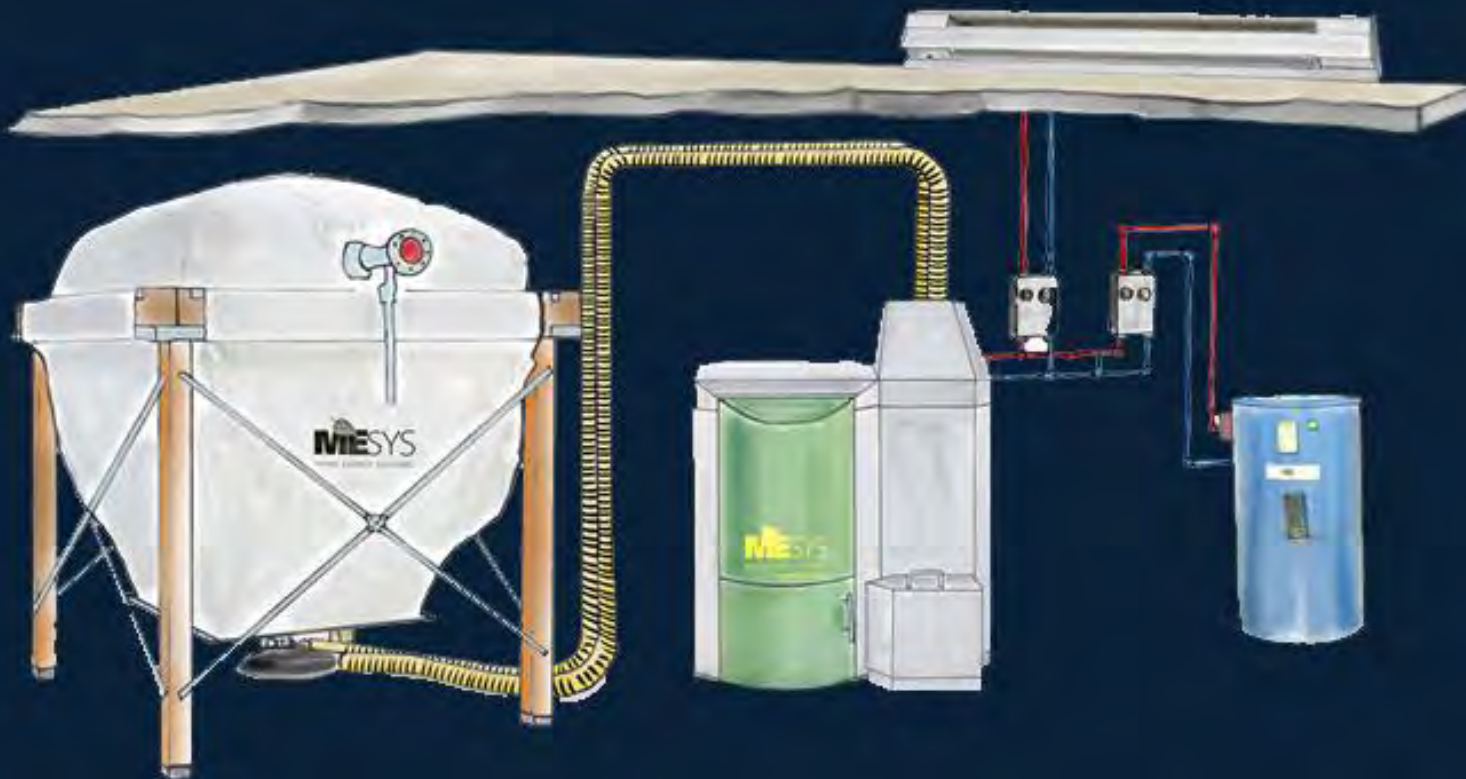




MESYS AUTOPELLET

Centralized Heat with Wood Pellets

The MESys AutoPellet Boiler is ideal for central heating and domestic hot water. The fully-automated, highly efficient wood pellet boilers are designed to meet the demands of households, businesses and institutions without backup.







PELLET DELIVERY

Clean, Easy, Convenient Delivery

Pellets are delivered bagless in bulk by our specialized pneumatic pellet delivery truck.







ASH REMOVAL

Easy Ash Removal

Ash removal is automated. Boiler tubes are cleaned automatically several times daily. Emptying the ash box requires two or three minutes of your time only three to four times a year in the average home.



Detach ashbox & lift



Empty into storage box



Return to boiler



INSTALLATION LOCATIONS

Installation Locations Include

- Churches
- Colleges & Universities
- Commercial Buildings
- Fire Stations
- Manufacturing Facilities
- Municipal Offices
- Primary Residential Homes
- Private Institutions
- School Districts
- Ski Resorts
- Vacation Homes
- Wastewater Treatment Plants





AFFORDABLE HEAT

Wood Pellet / Oil Comparison

	#2 Heating Oil	Wood Pellets
Annual Fuel Consumption	1,300 gallons	10 tons
Annual Carbon Emissions	39,306 lbs	5,130 lbs
Fuel Cost (unit price)	\$3.83 / gallon	\$239 / ton
Annual Fuel Costs	\$4,979	\$2,408
Annual Savings*	\$2,571	
25 Year Savings*	\$64,275	



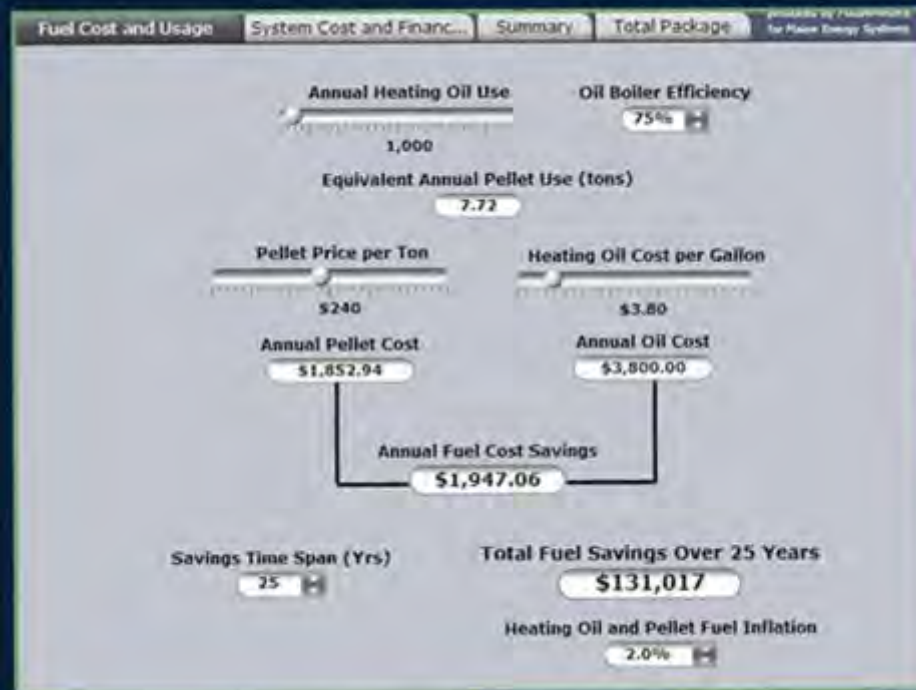
**Assumes fuel prices remain constant.*



FINANCING OPPORTUNITIES

Savings that Begin Day One

With available financing options, pellet fuel and boiler payments are commonly less than a homeowners current oil bill. Calculate your savings at MaineEnergySystems.com.





MESys Energy Box

Up to four 56 kw boilers in a self contained box. Pellet storage is at each end.

Energy boxes are heating municipal buildings, schools, and a ski area base lodge.





CONTACT

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Questions?

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