Industrial and Institutional Energy

CIBO supports a strong National Energy and Environmental Policy that considers the unique needs of industrial energy producers and users; that encourages a diverse portfolio of energy resources; and that considers both electrical and thermal energy needs and applications.

Background

- It takes energy to make or do anything. Energy affects every product, every service, every movement of people or goods, and every consumer.
- Every time energy is used or converted we impact the environment.
- Anything that impacts the cost, volatility, availability, or reliable supply of energy will impact every segment of the economy.
- US manufacturers employ nearly 13 million people in the US[1], and consume 22% of the nation's energy[2].
- Oil, gas, solar, wind and biofuels for transportation and electric generation have a strong presence in national sustainability policy dialogue. Industrial and institutional thermal energy requirements deserve equal consideration.

Policy Needs

Industrial and institutional energy is more than electricity. Thermal energy – steam, hot water, refrigeration – are fundamental to the production of our food, agriculture, pulp and paper, chemicals, and many other manufacturing processes. US industry needs safe, reliable, efficient and sustainable energy sources.

- Climate change and carbon policies must include the impacts on industrial consumers of electrical and thermal energy.
- A diverse portfolio of energy sources is needed to provide flexibility and reliability.
- Energy efficiency is the most cost-effective way to lower greenhouse gas emissions. Reducing the overall demand for energy is good for the environment and good for business.
- The most efficient, sustainable and cost-effective source of thermal energy is Combined Heat and Power (CHP). The least efficient route is converting electricity back into thermal energy. Smart policy will promote and incentivize CHP to drive to a low-carbon future.

Smart policymaking – environmental, energy efficiency, CHP, and fuel flexibility – can keep US manufacturers competitive in the global marketplace and accelerate our drive to a sustainable, low-carbon economy.

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[1]December 2018, Bureau of Labor and Statistics (https://www.bls.gov/iag/tgs/iag31-33.htm)

[2]2017 primary energy consumption by sector, US Energy Information Administration (https://www.eia.gov/energyexplained/?page=us_energy_home)

Council of Industrial Boiler Owners

www.CIBO.org

About CIBO

Formed in 1978, CIBO is a trade association of industrial boiler owners, architect-engineers, related equipment manufacturers, and university affiliates representing 20 major industrial sectors that bring a unique perspective to encourage sound energy and environmental policies that ensure that our members can continue to provide safe, cost-effective and reliable energy to sustain a strong economy. CIBO's members are industrial, commercial and institutional energy producers manufacturing products in a competitive marketplace. CIBO members have facilities in every region of the country and a representative distribution of almost every type of boiler and fuel combination currently in operation.

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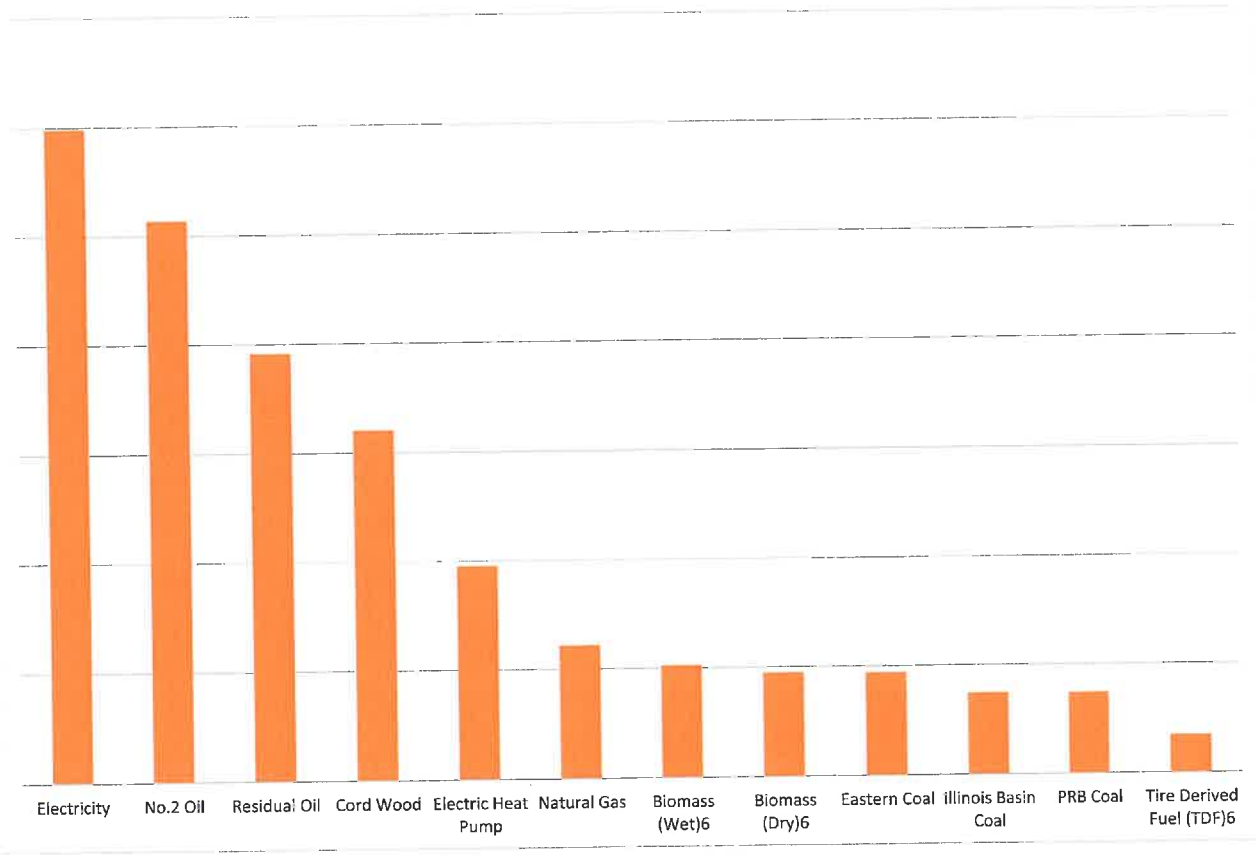
Common Fuel / Thermal Energy Relative Cost Comparison



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Common Fuel/ Thermal Energy Equivalent Comparison[1]

Industrial and Commercial Applications

Fuel	Delivered Cost[2]	Units[3]	BTU/Unit[4]	Conversion Efficiency[5]	$/MMBtu Thermal Energy
Electricity	$ 0.10	$/kwh	3,413	98%	$ 29.90
No.2 Oil	$ 3.00	$/Gal (139000 Btu)	139,000	84%	$ 25.69
Residual Oil	$ 2.50	$/Gal (152000 Btu)	152,000	84%	$ 19.58
Cord Wood	$ 150.00	$/cord (2600 lbs/cord)	15,600,000	60%	$ 16.03
Electric Heat Pump	$ 0.10	$/KWh Above 20 Deg F	3,413	300%	$ 9.77
Natural Gas	$ 0.50	Therm (100000 Btu)	100,000	82%	$ 6.10
Biomass (Wet)[6]	$ 30.00	$/Ton (4,500 Btu/lb)	9,000,000	65%	$ 5.13
Biomass (Dry)[6]	$ 40.00	$/Ton (6,000 Btu/lb)	12,000,000	70%	$ 4.76
Eastern Coal	$ 100.00	$/Ton (12,500 Btu/lb)	25,000,000	85%	$ 4.71
Illinois Basin Coal	$ 70.00	$/Ton (11,000 Btu/lb)	22,000,000	85%	$ 3.74
PRB Coal	$ 55.00	$/Ton (8,700 Btu/lb)	17,400,000	85%	$ 3.72
Tire Derived Fuel (TDF)[6]	$ 40.00	$/Ton (13,500 Btu/lb)	27,000,000	85%	$ 1.74

1. All information is given for relative comparison purposes. Site specific information can be inserted to obtain more accurate comparisons for an individual site.
2. Costs are considered as delivered to the burner for conversion to usable energy
3. Units are presented as normally seen with a typical "As Received" Higher Heating Value energy content.
4. Btu per unit are given as typical. Site specific information can be inserted to obtain more accurate comparisons for the individual site.
5. Efficiency percentages given are typical for conventional boiler/heating systems including moisture and flue gas losses at a boiler exit temperature of around 350 degrees F. Site specific information can be added to obtain more accurate results.
6. Considered opportunity fuels including fuel at $15.00/ton plus transportation, processing, handling, and delivery costs to the furnace. Fuel costs can vary widely based on demand and local availability. In some cases the cost of the fuel could be "free".