

Contact Information

Jim Clark

Clark Energy, Inc.

(610) 325-9229

(610) 299-1743 (cell)

clarkenergy@comcast.net

Beneficial Electrification

GPAEE Meeting
February 23, 2023
Jim Clark

Overview

- Beneficial implies lower emissions (maybe less energy cost)
- Decarbonization implies that the net effect of a measure reduces the carbon release into the environment for the entire life cycle

Comparison HVAC Heating Systems

Gas Input	Power Plant Output	T & D Losses	At House	COP	Space Load	\$ Gas	\$ Electric	HVAC System
1.25			1.25	0.80	1.00	\$ 15.00		Gas Heating
4.00	1.33	0.33	1.00	1.00	1.00		\$ 29.30	Electric Resistance Heating
2.00	0.67	0.17	0.50	2.00	1.00		\$ 14.65	Standard Heat Pump
1.33	0.44	0.11	0.33	3.00	1.00		\$ 9.77	Low Ambient Heat Pump
0.80	0.27	0.07	0.20	5.00	1.00		\$ 5.86	Ground Source Heat Pump
0.56	0.19	0.05	0.14	5.00	0.70		\$ 4.10	GSHP + Extra Insulation
0.43	0.14	0.04	0.11	6.00	0.65		\$ 3.17	GSHP + Extra Insulation + Radiant Heating
0							\$ 0.00	Solar

Assumptions: \$0.10/kWh = \$29.30/MMBTU
 \$12.00/mcf = \$12.00/MMBTU

Contact Information

Jim Clark

Clark Energy, Inc.

(610) 325-9229

(610) 299-1743 (cell)

clarkenergy@comcast.net