COMPARISON OF ENERGY AND ACRES - GAS WELL, WIND TURBINE, NUCLEAR REACTOR

Pennsylvania Gas Well

8,000,000	MCF AVERAGE MARCELLUS WELL ESTIMATED ULTIMATE RECOVERY
1,000,000	BTU PER MCF
8,000,000,000,000	BTU PER WELL
0.000293071	TIMES BTU = KW-h
2,344,568,800	KW-h
25	YEAR AVERAGE LIFE
93,782,752	KW-h PER YEAR
$ 10,000,000	COST

Wind Turbine

4,000	KW WIND TURBINE
35%	CAPACITY AVERAGE
24	Hours per day
365	Days per year
12,264,000	KW-h PER YEAR. 20-25 YR WIND TURBINE LIFE IS AVERAGE
25	YEAR AVERAGE LIFE
7.65	WIND TURBINES PER 1 GAS WELL
$ 22,940,986	COST FOR 7.65 WIND TURBINES AT $3MM PER
19.36	ACRES PER WIND TURBINE - BASED ON 7 ROTOR DIAMETERS FROM NEXT - 80 M ROTOR = 560 M. SPACING
148	ACRES OF WIND TURBINES FOR A COMPARABLE 1 MARCELLUS WELL ON 1 ACRE

Large Nuclear Reactor

1,117,000	KW AP1000 reactor
95%	CAPACITY AVERAGE
24	Hours per day
365	Days per year
9,295,674,000	KW-h per year
2	MULTIPLIER - 50 YEAR LIFE VS. GAS WELL AND WIND TURBINE
5,000	acres per unit - Texas Comanche Peak - 2 units.
$ 3,350,000,000	COST FOR 1 UNIT IN 2018 DOLLARS
1,516	WIND TURBINES PER 1 LARGE REACTOR WITH A 50 YEAR LIFE
$ 4,547,785,714	COST FOR 1516 WIND TURBINES AT $3MM PER
19.36	ACRES PER WIND TURBINE - BASED ON 7 ROTOR DIAMETERS FROM NEXT - 80 M ROTOR = 560 M. SPACING
29,348	ACRES OF WIND TURBINES FOR A COMPARABLE 1 large reactor on 5000 acres

Corrections or improvements welcome

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