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sand-battery-for-home-and-commercial-thermal-storage-simple-low-cost

Infinity Turbine LLC

Sand Battery for Home and Commercial Thermal Storage Simple Low Cost



This webpage QR code

Structured Data

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Sand battery for thermal storage features include no oxidation and fantastic heat retention as compared to water

PDF Version of the webpage (first pages)

<https://infinityturbine.com/sand-battery-for-home-and-commercial-thermal-storage-simple-low-cost-by-infinity-turbine.html>

Sand Battery Results as of 17 January 2024

Sand Battery.

Using a solar vacuum tube filled with:

Sand:

Max temperature without mirror reflectors:

300 F (149 C)

5pm: 148 F (64 C)

Next Morning: 84 F (29 C)

Paraffin:

Max temperature without mirror reflectors:

250 F (121 C)

5pm: 140 F (60 C)

Next Morning: 95 F (35 C)

This test was conducted over a year and sand thermal storage would get hotter, but release heat faster. Paraffin wax was slower to heat up, but slower to release heat. Ultimately a hybrid of the two is the best solution.

7/22/2024

Revenue Opportunities

If you are able to harvest solar or waste heat energy into a sand battery, you may be able to realize the following revenue opportunities.

IT10 Revenue based on gross sales or grid savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT10 (24 hours x 365 days per year x 10 kWh = 87,600 kWh per year):

at \$.20 per kWh = \$17,520 USD per year

at \$.40 per kWh = \$35,040 USD per year

at \$.80 per kWh = \$70,080 USD per year

IT50 Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT50 (24 hours x 365 days per year x 50 kWh = 438,000 kWh per year):

at \$.20 per kWh = \$87,600 USD per year

at \$.50 per kWh = \$219,000 USD per year

at \$1.00 per kWh = \$438,000 USD per year

IT250 Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT250 (24 hours x 365 days per year x 250 kWh = 2,190,000 kWh per year):

at \$.20 per kWh = \$438,000 USD per year

at \$.40 per kWh = \$876,000 USD per year

at \$.80 per kWh = \$1,752,000 USD per year

IT1000 (1 MW) Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT250 (24 hours x 365 days per year x 1000 kWh = 8,760,000 kWh per year):

at \$.20 per kWh = \$1,752,000 USD per year

at \$.40 per kWh = \$3,504,000 USD per year

at \$.80 per kWh = \$7,008,000 USD per year

7/22/2024

7/22/2024

7/22/2024

7/22/2024

7/22/2024

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7/22/2024
