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# Hospital Energy Benchmarking

## How Does Your Hospital's Energy Efficiency Stack Up?

Dan Doyle, P.E., LEED AP  
Grumman/Butkus Associates

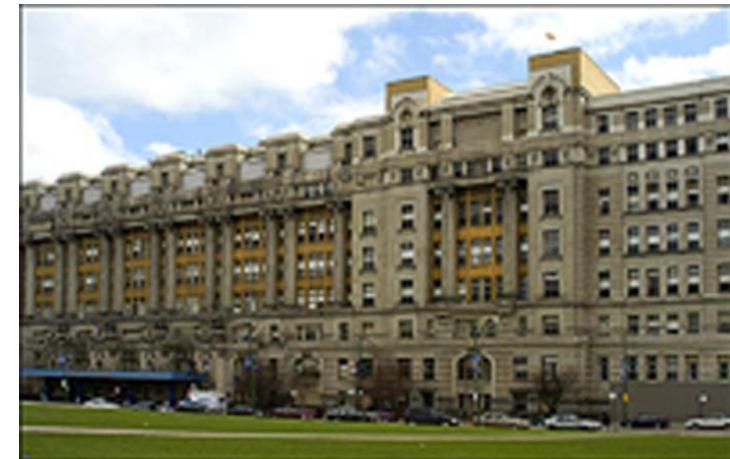
# Why Benchmark Energy Usage?

Is 10 MPG high or low for an automobile?



Answer: Common Knowledge

Is 350 kBtu/SF/YR high or low for a hospital?



Answer: ???

# The Benchmarking Process

- Use benchmarking results to initiate action plans
- Benchmarking only begins the improvement process. If nothing else changes, don't expect your future performance to improve.

# The Benchmarking Process

- Focus on a limited number of performance parameters
  - If your benchmarking report contains 100 pages filled with hundreds of numbers, people may ignore the results or won't be able to figure out what to do with them
- The data should be recent, relevant. For energy:
  - Similar facility types (hospitals)
  - Same usage periods (CY or FY)
  - Same geographic region
  - Same electric utilities/rates, when possible
- Variations of results due to equipment types or system designs can provide insight on designs that are working/not working

# Hospital Energy Benchmarking

- What's available for hospitals?
  - EPA Energy Star Program
  - Static database based on 1997 by EPRI
  - G/BA's Energy & Water Benchmarking Survey

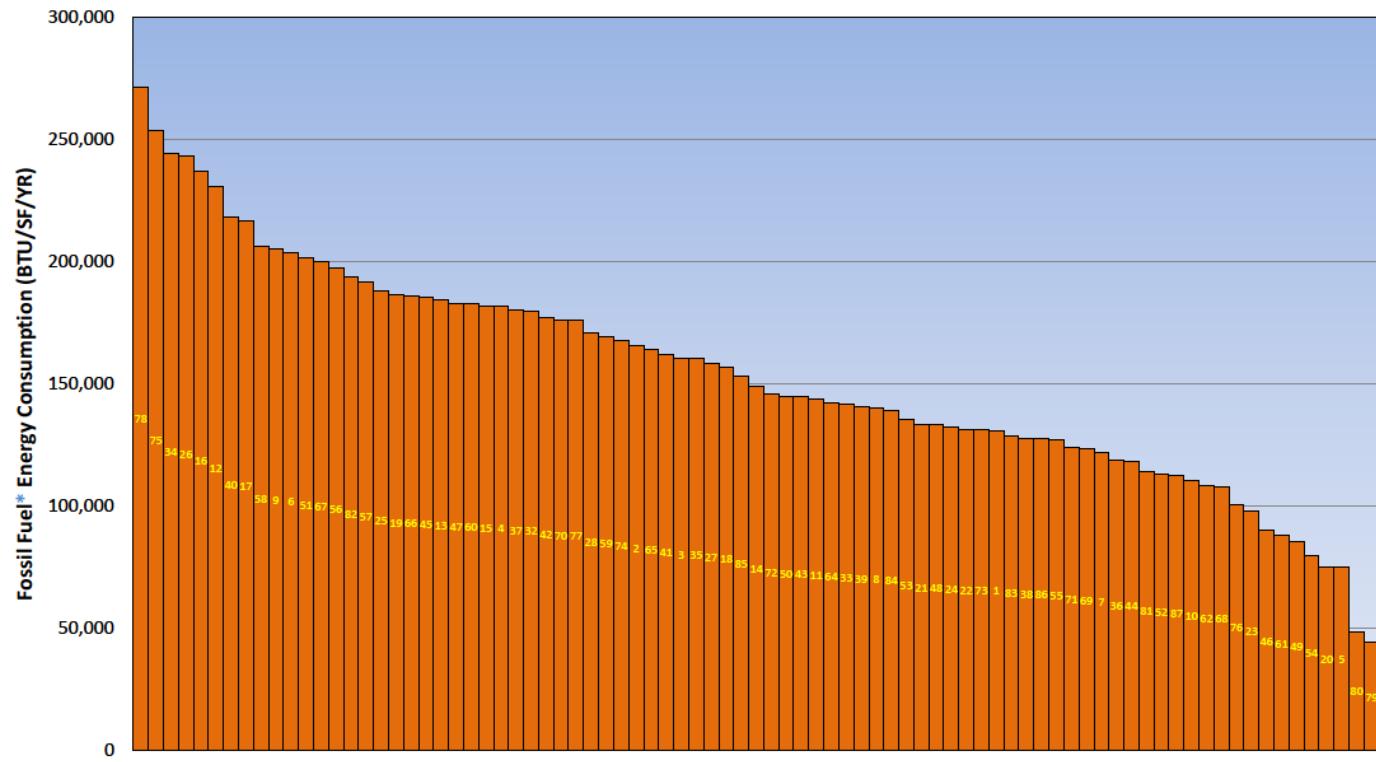
# G/BA Benchmarking Survey

- Started in 1994
- Most data is from similar, midwestern facilities
- All data from the same time period (CY)
- Number and location of participants:

Data Year	IL	IN	MI	WI	OH	IA	MN	Other	Total Hospitals
1999	54	9	2	16				2	83
2000	57	16	3	24		4	7	2	113
2001	30	5	5	20		6	3	0	69
2002	25	5	7	20	1	2	8	1	69
2003	40	7	4	24	1	4	9	1	90
2004	38	10	4	29	1	4	9	3	98
2005	49	10	6	29	1	7	12	3	117
2006	38	14	6	22	1	5	4	1	91
2007	41	6	2	23		2	5	2	81
2008	48	2	6	20		1	4	2	83

# G/BA Benchmarking Survey

**Year 2009 G/BA Hospital Energy and Water Benchmarking Survey**  
For 2008 Gas and Steam Energy Consumption

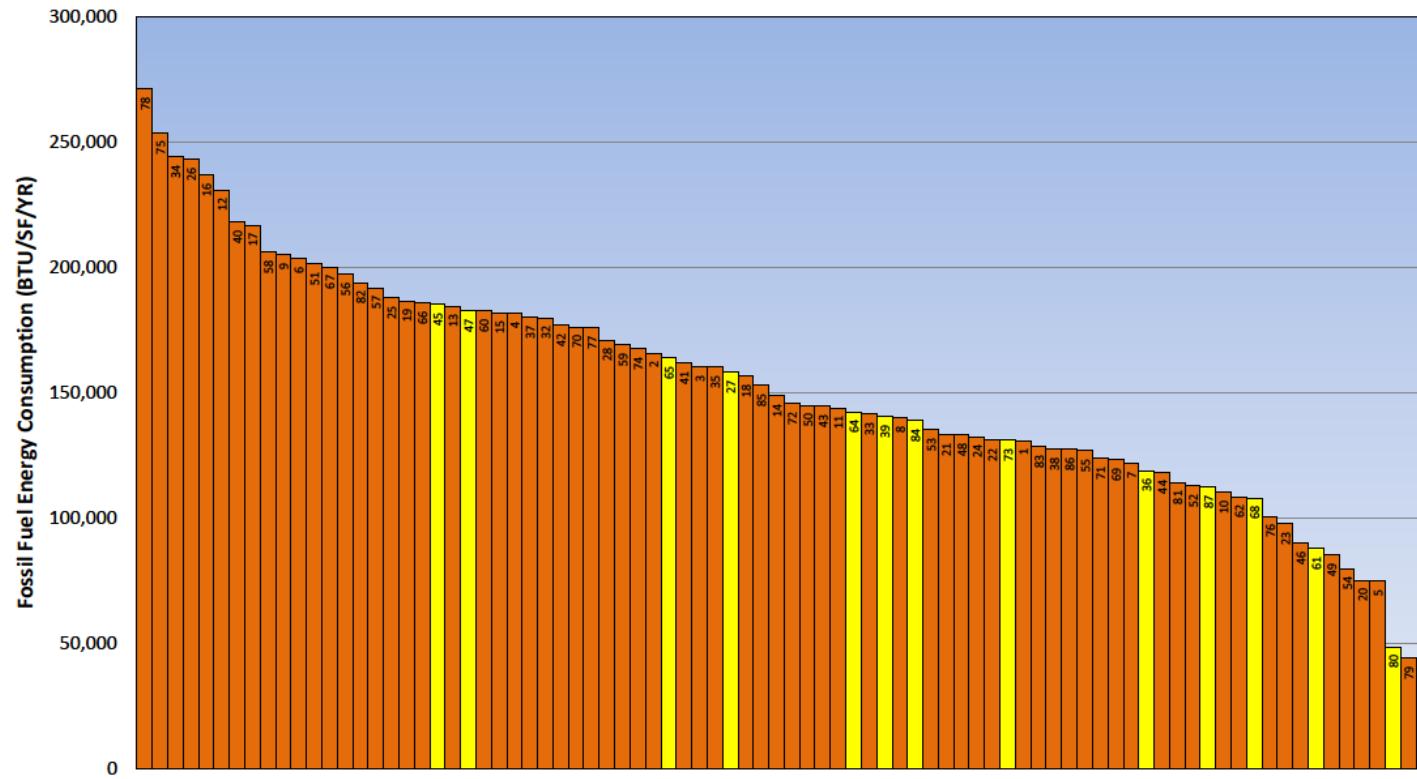


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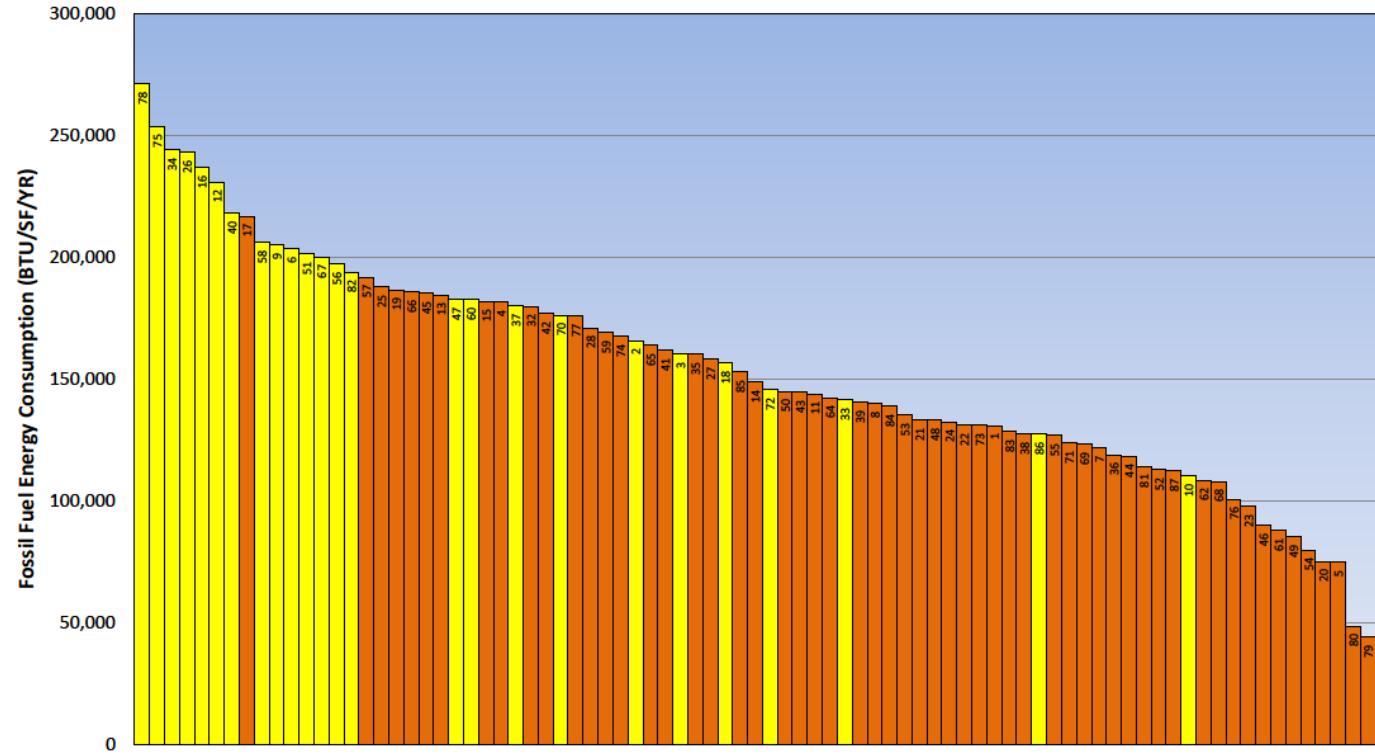


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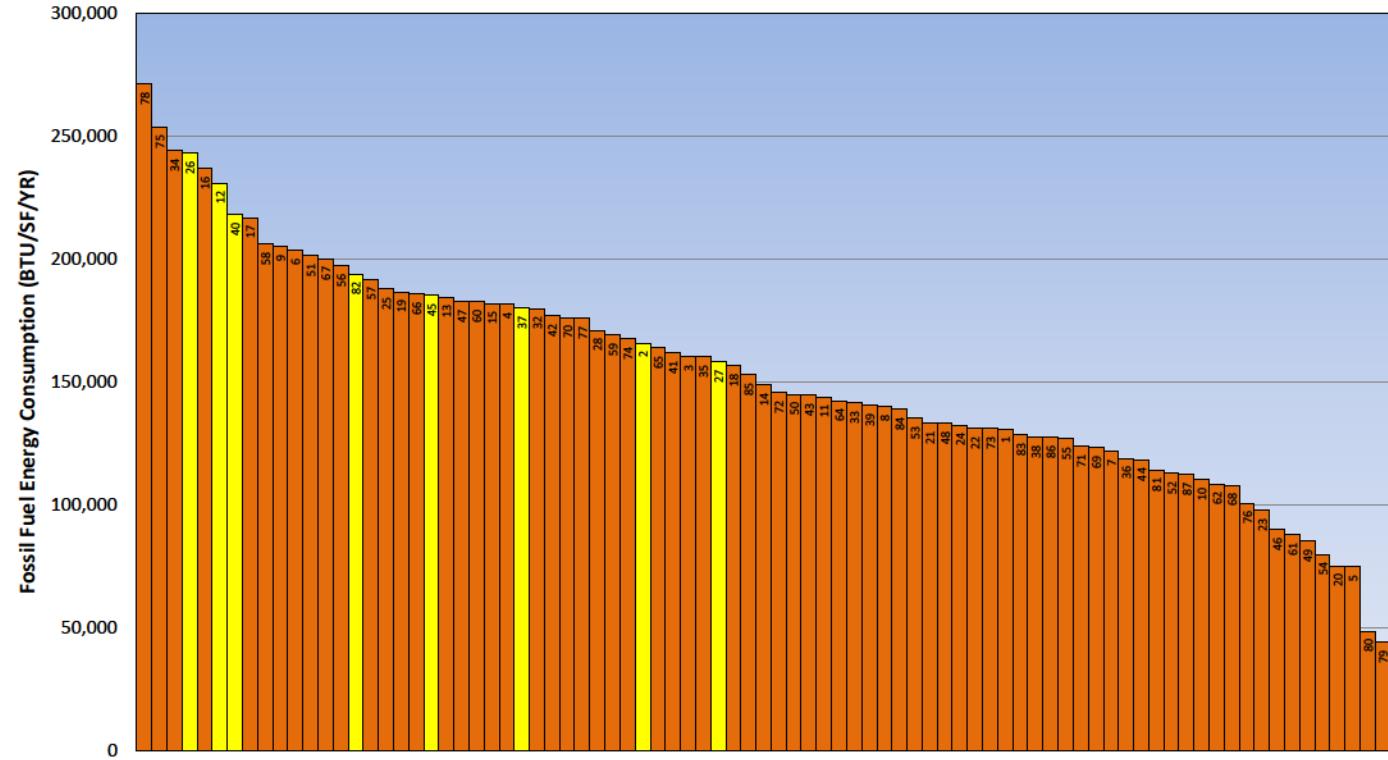


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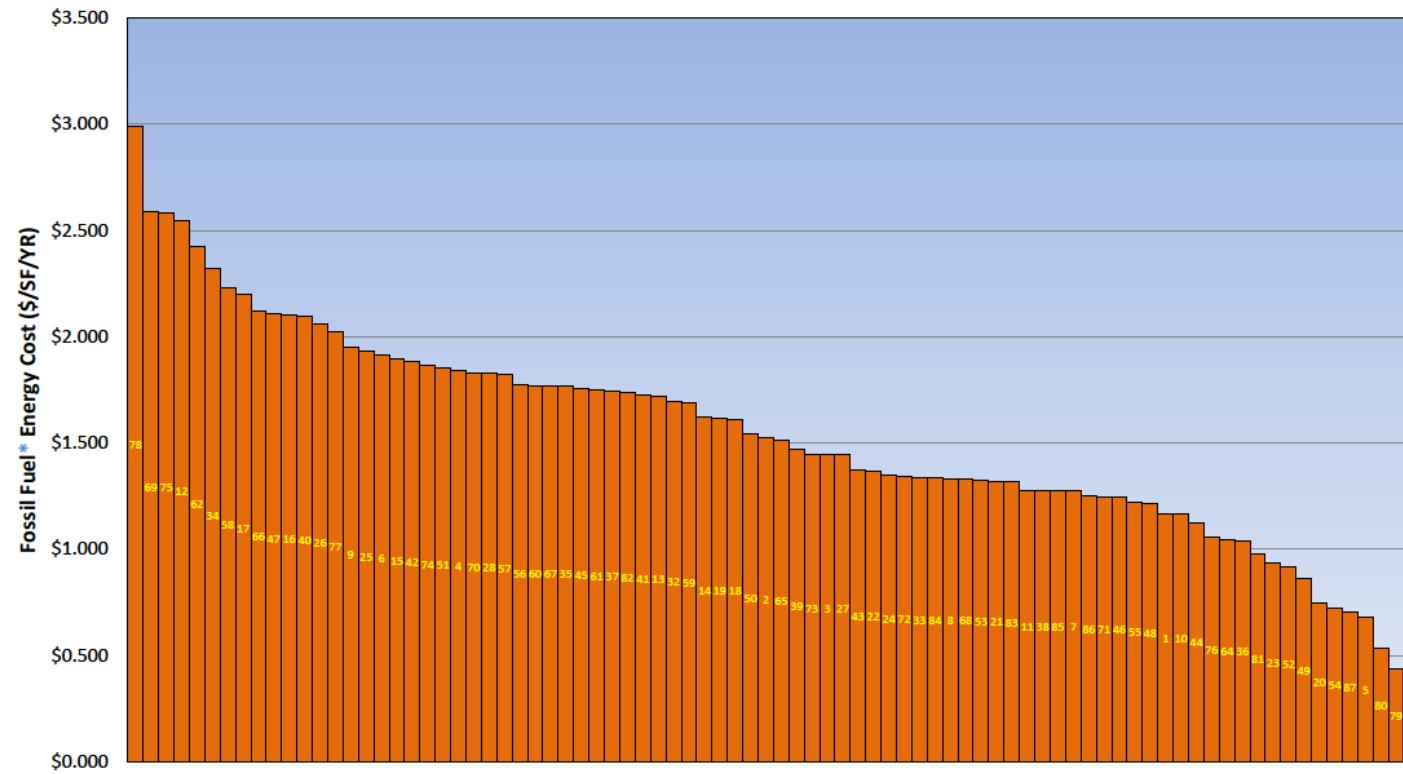


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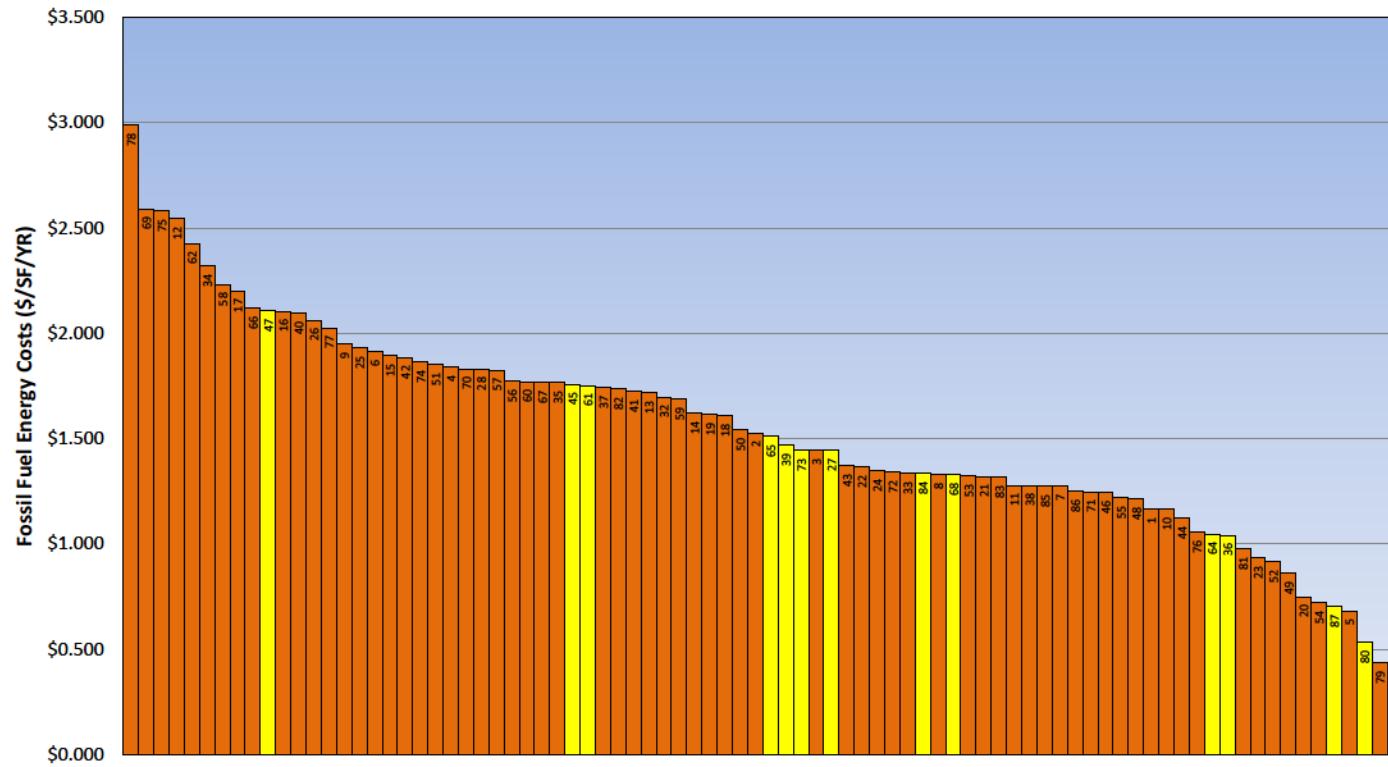


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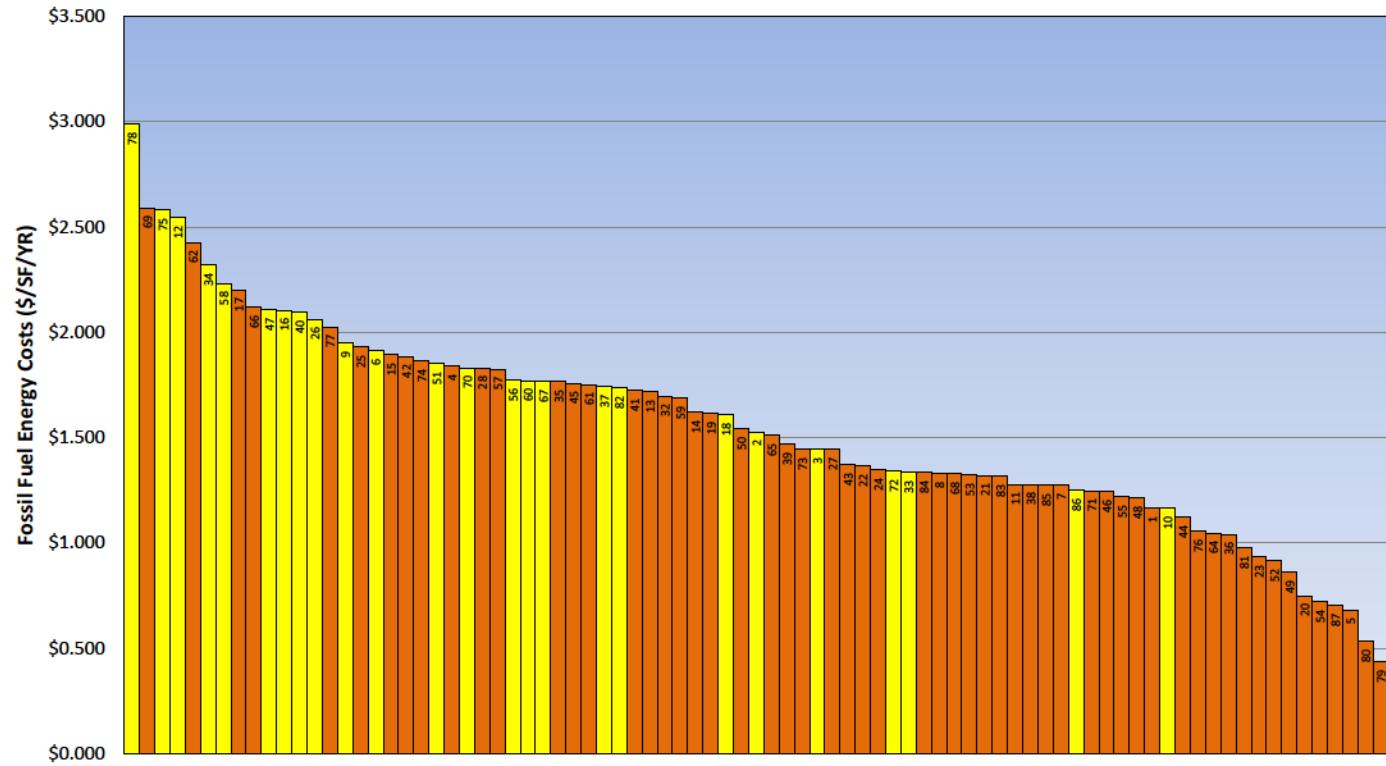


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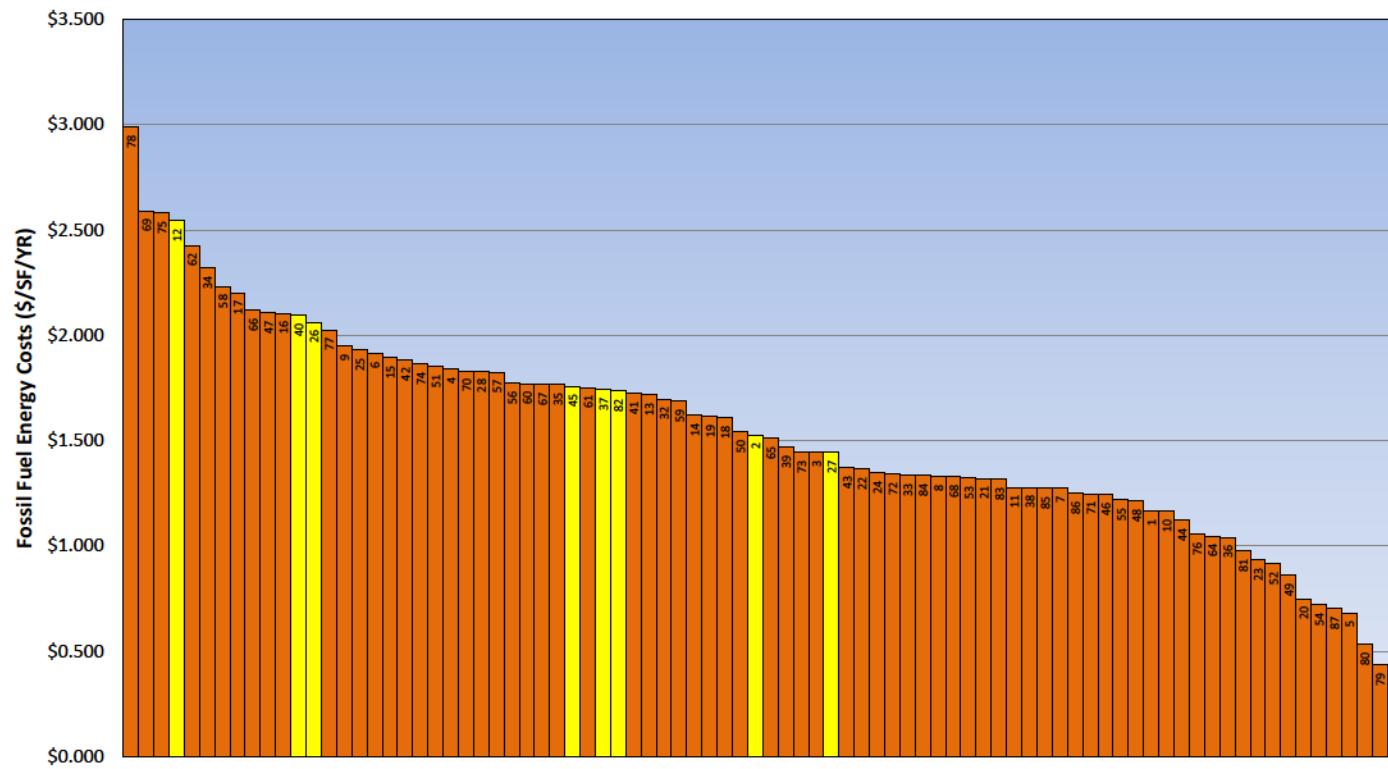


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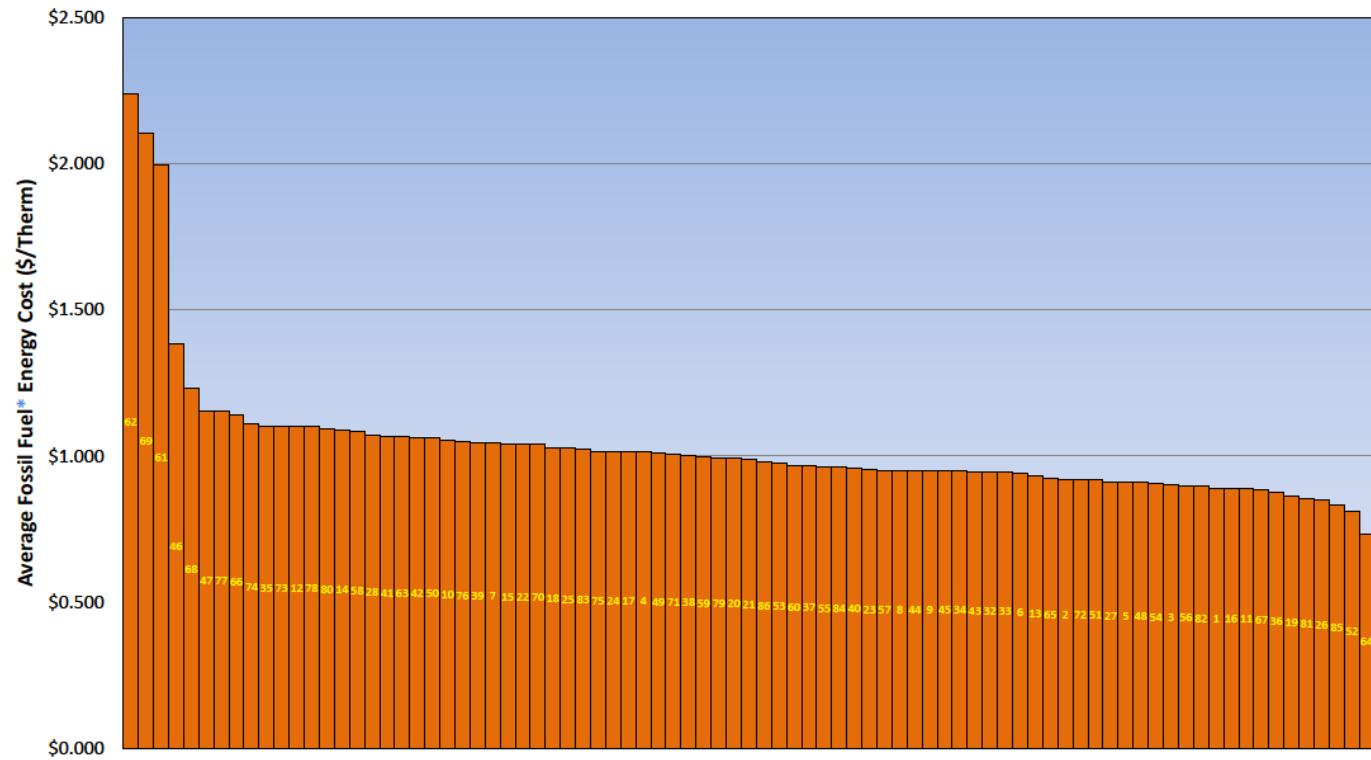


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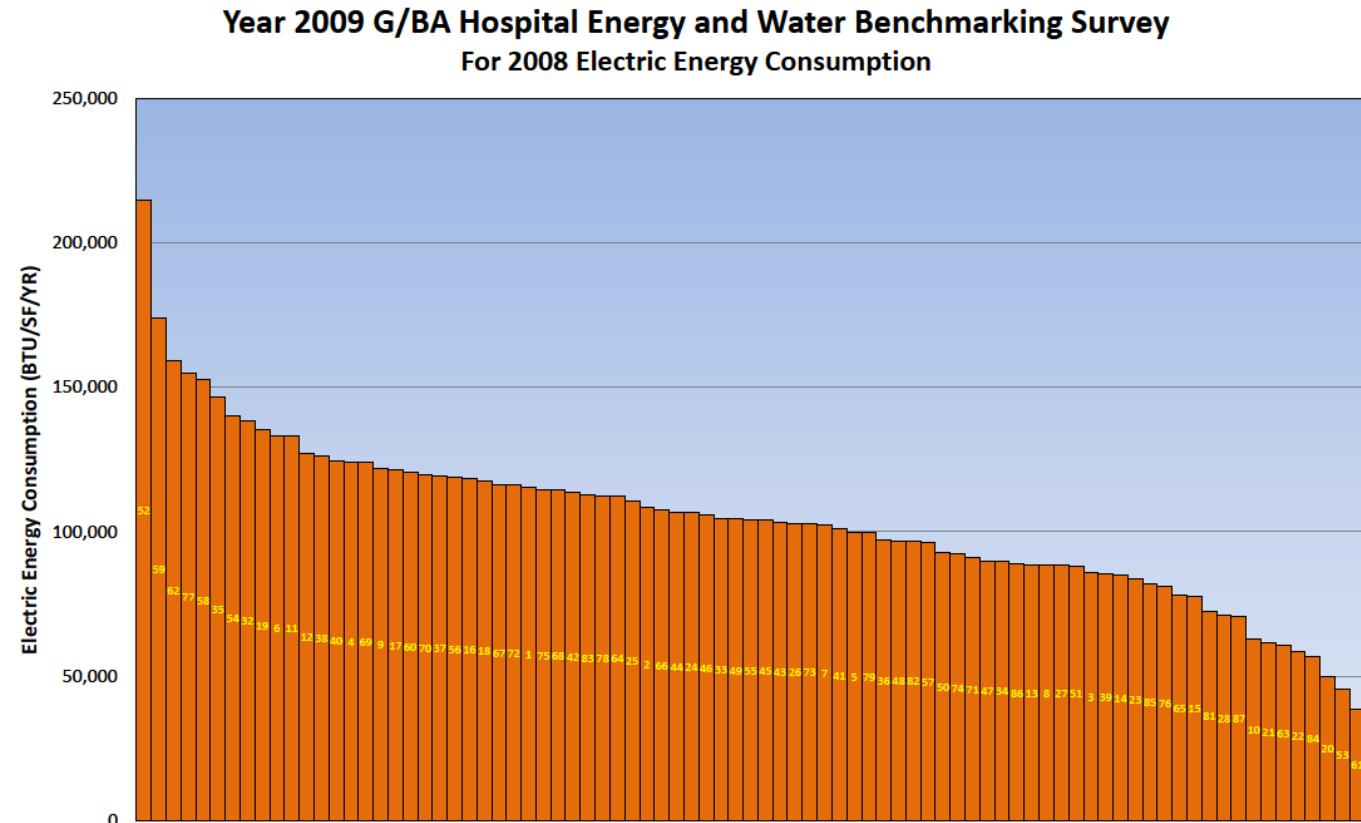
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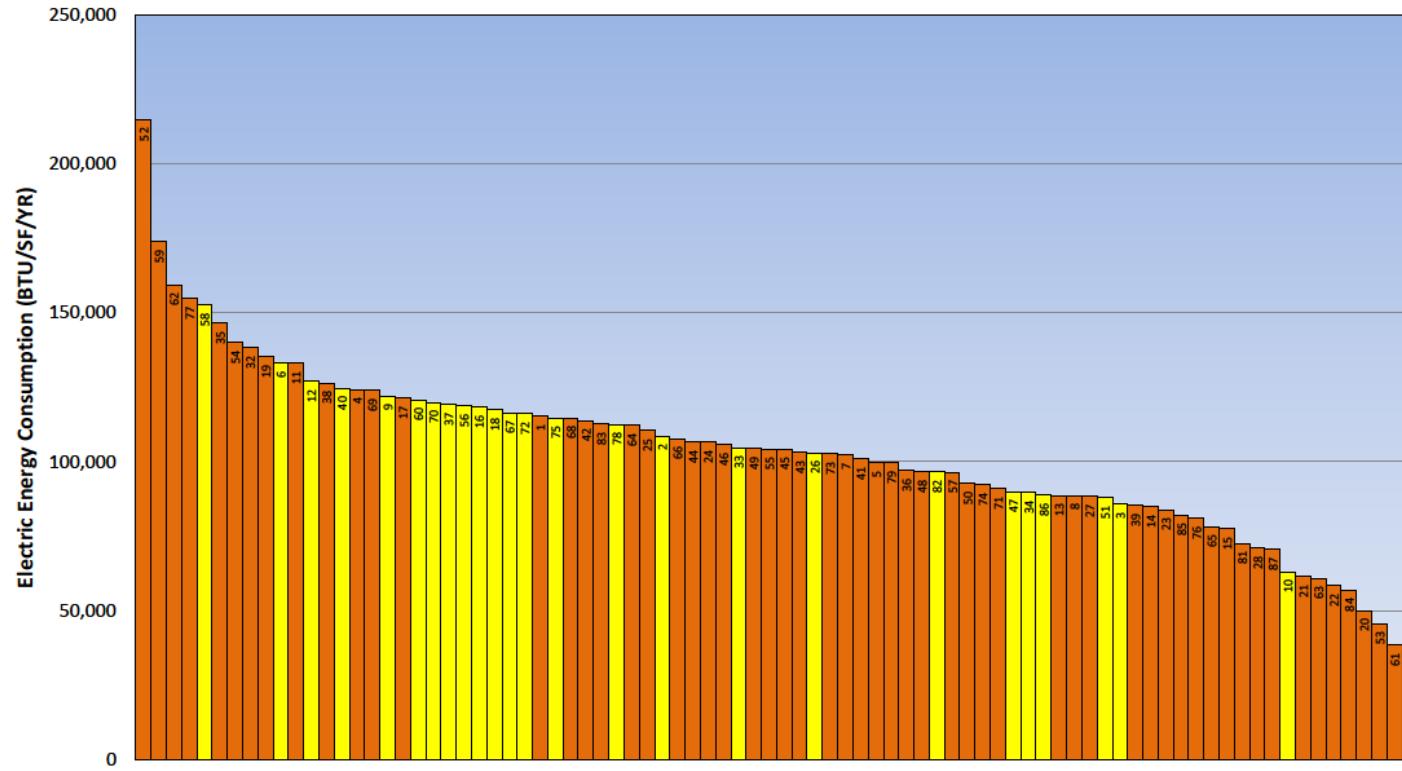


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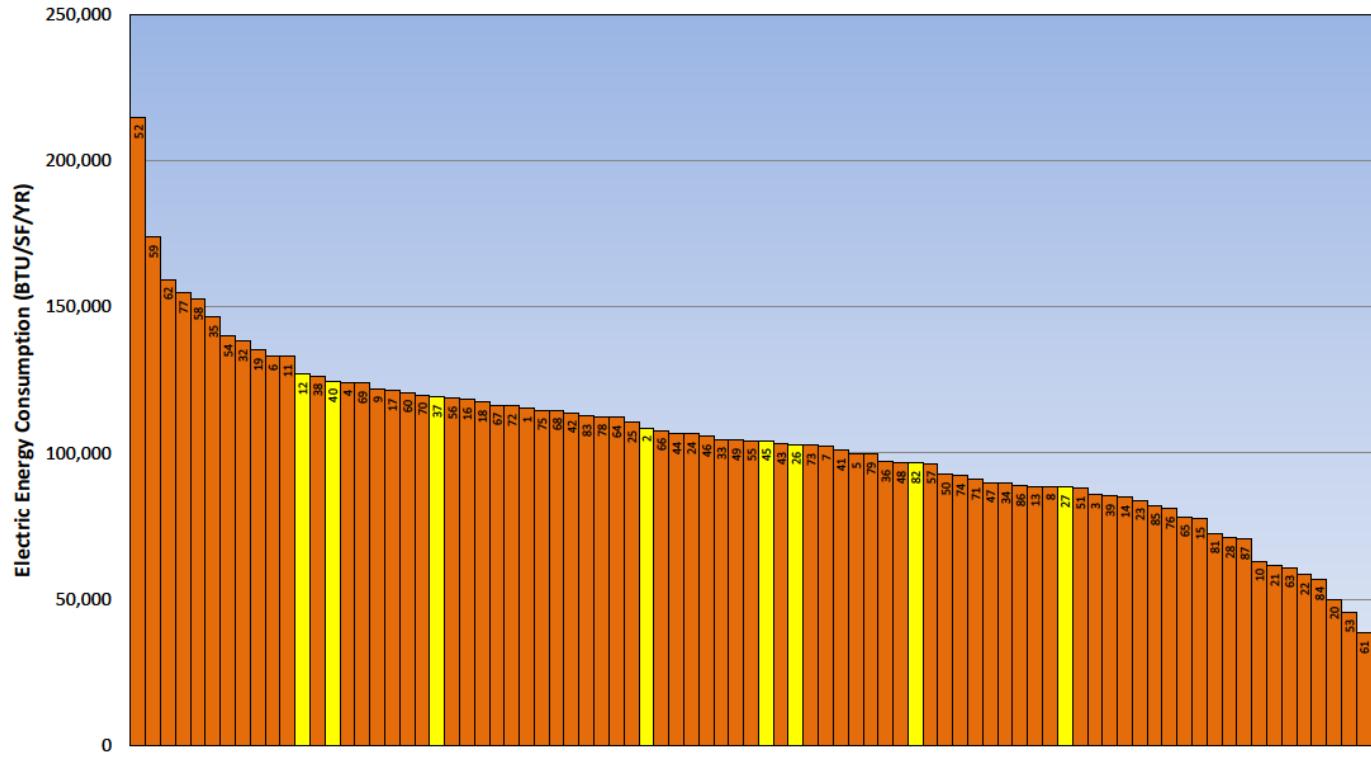


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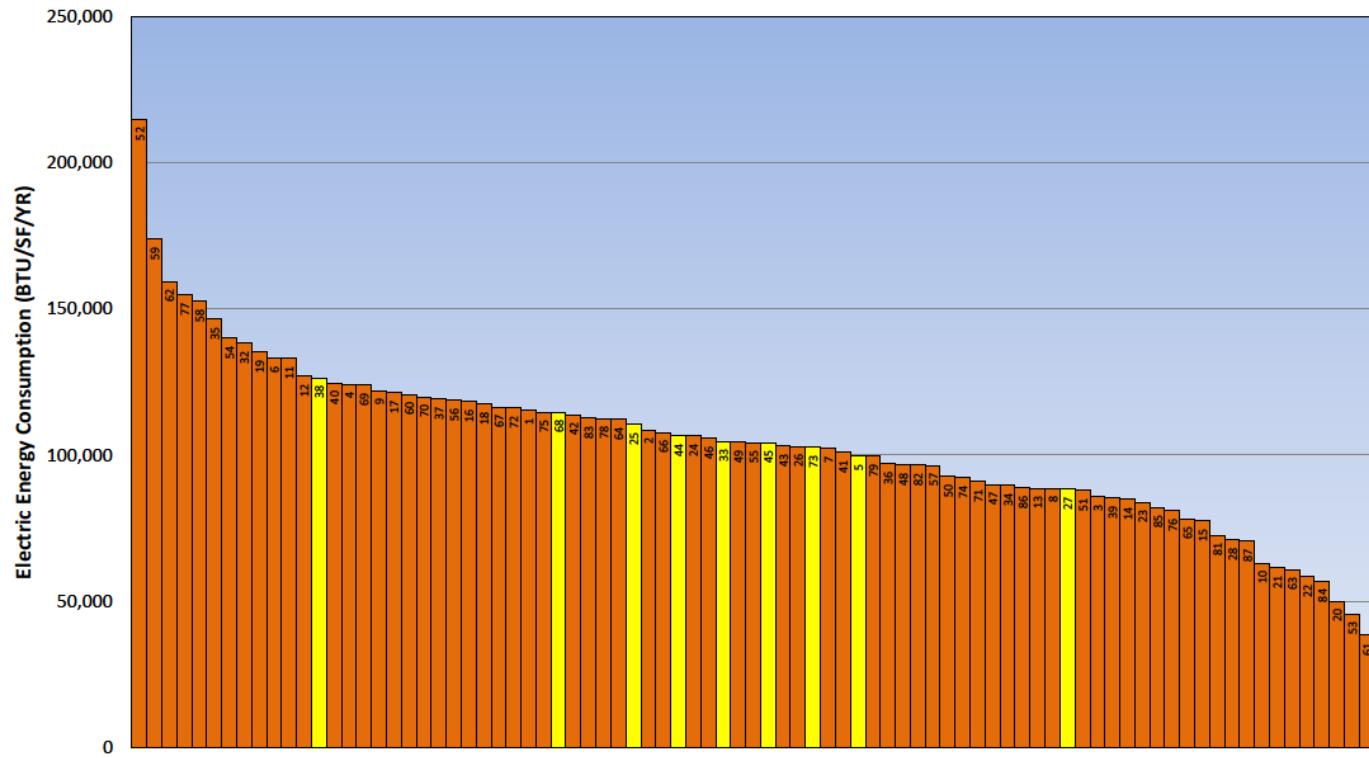
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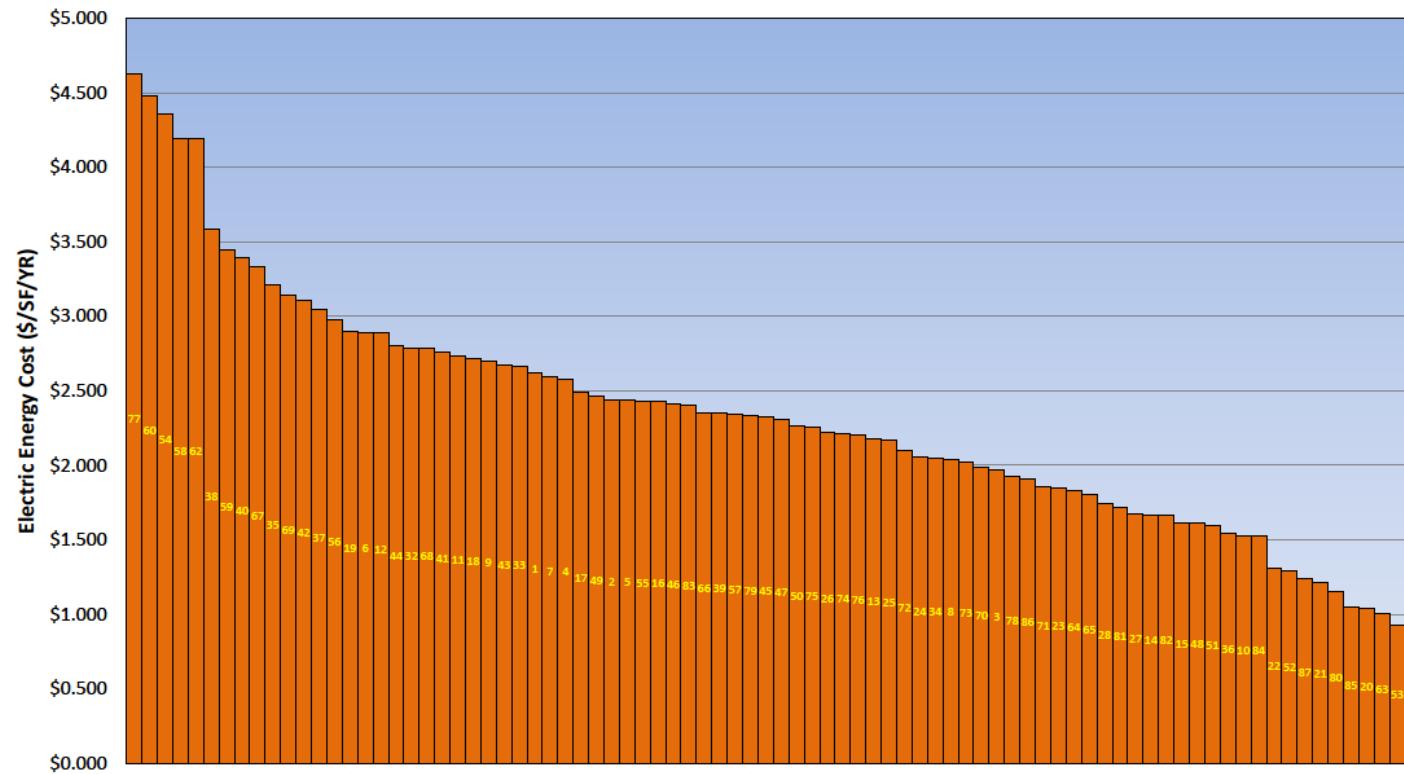
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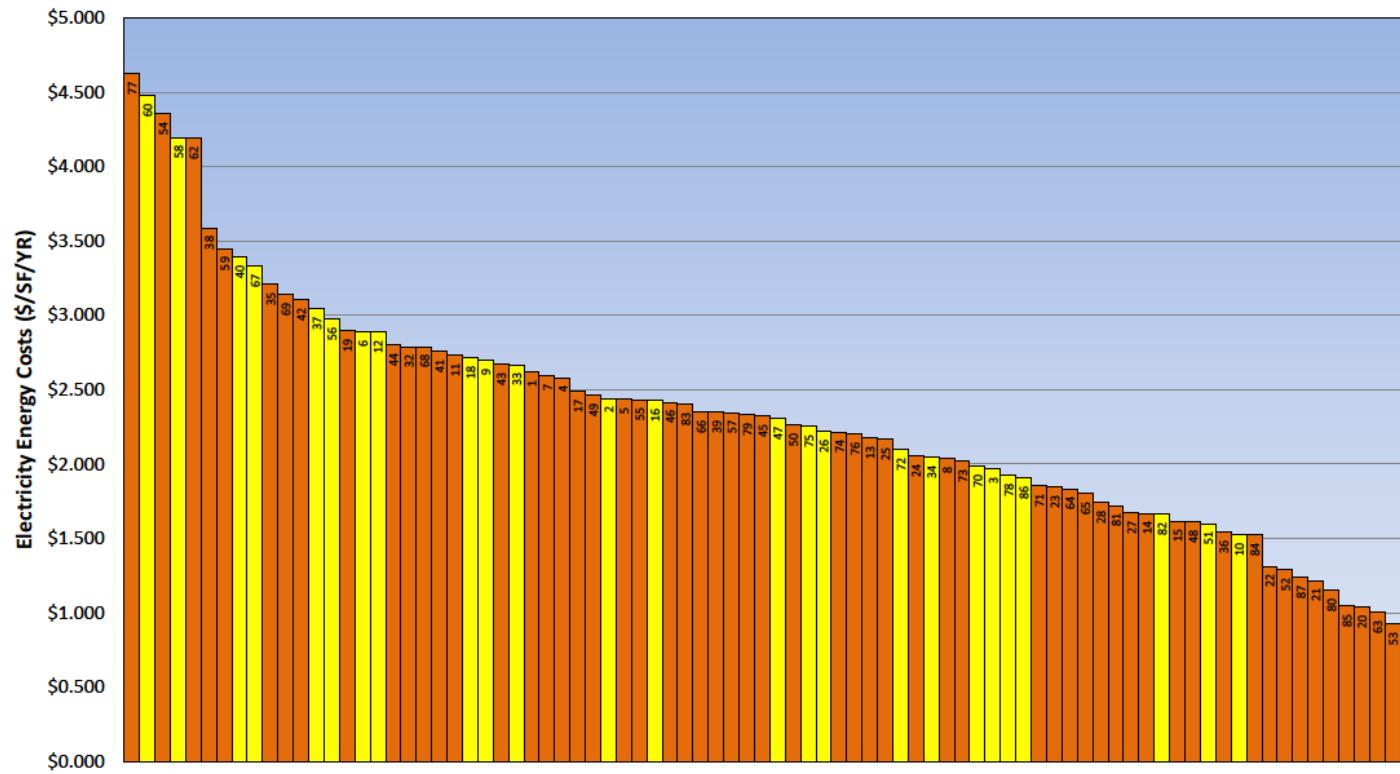


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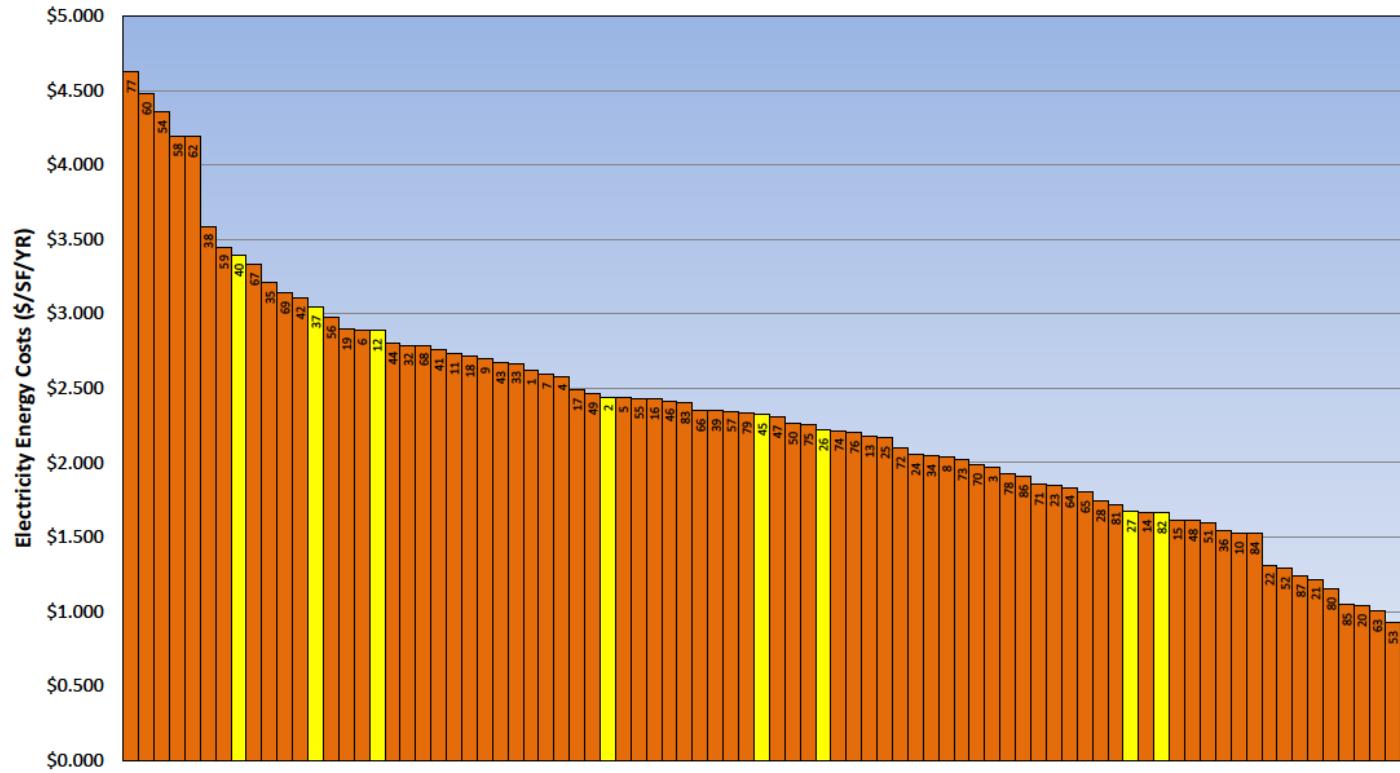


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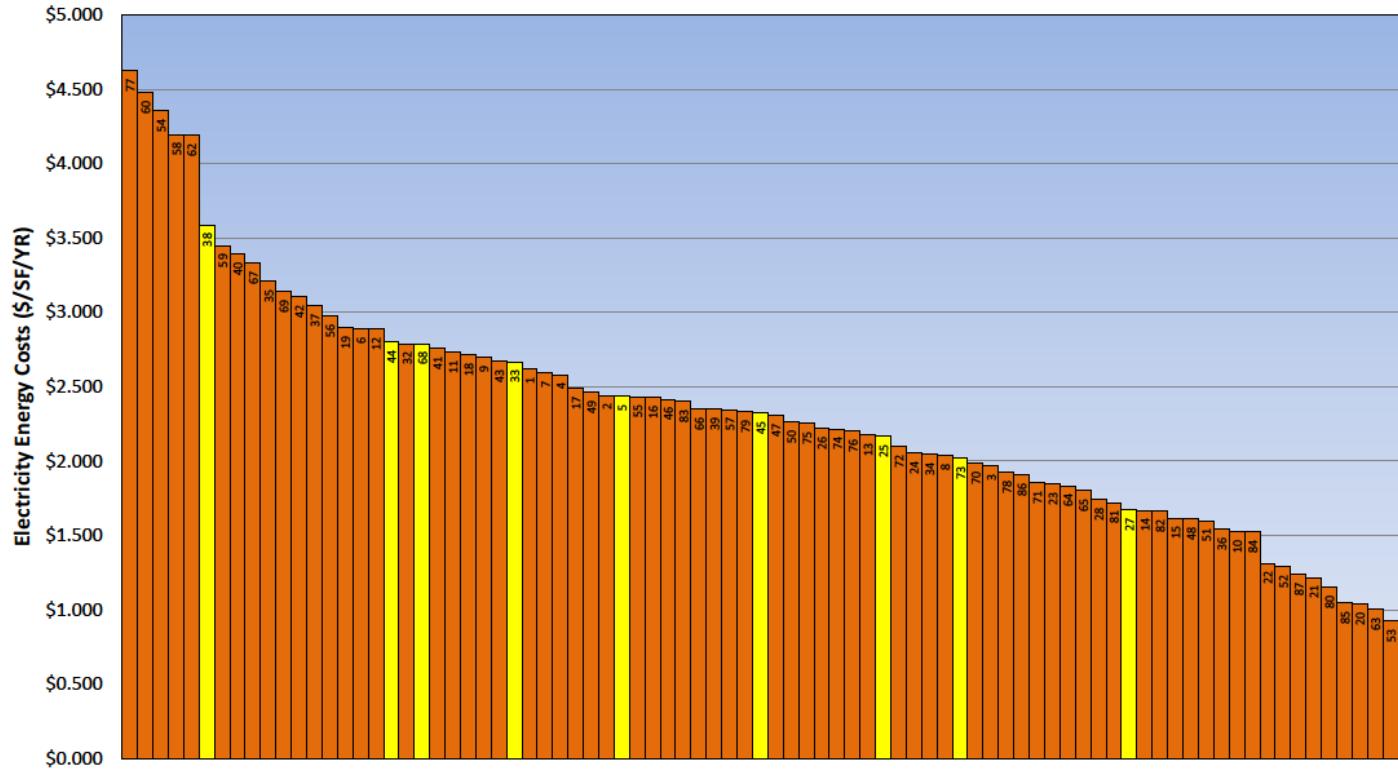


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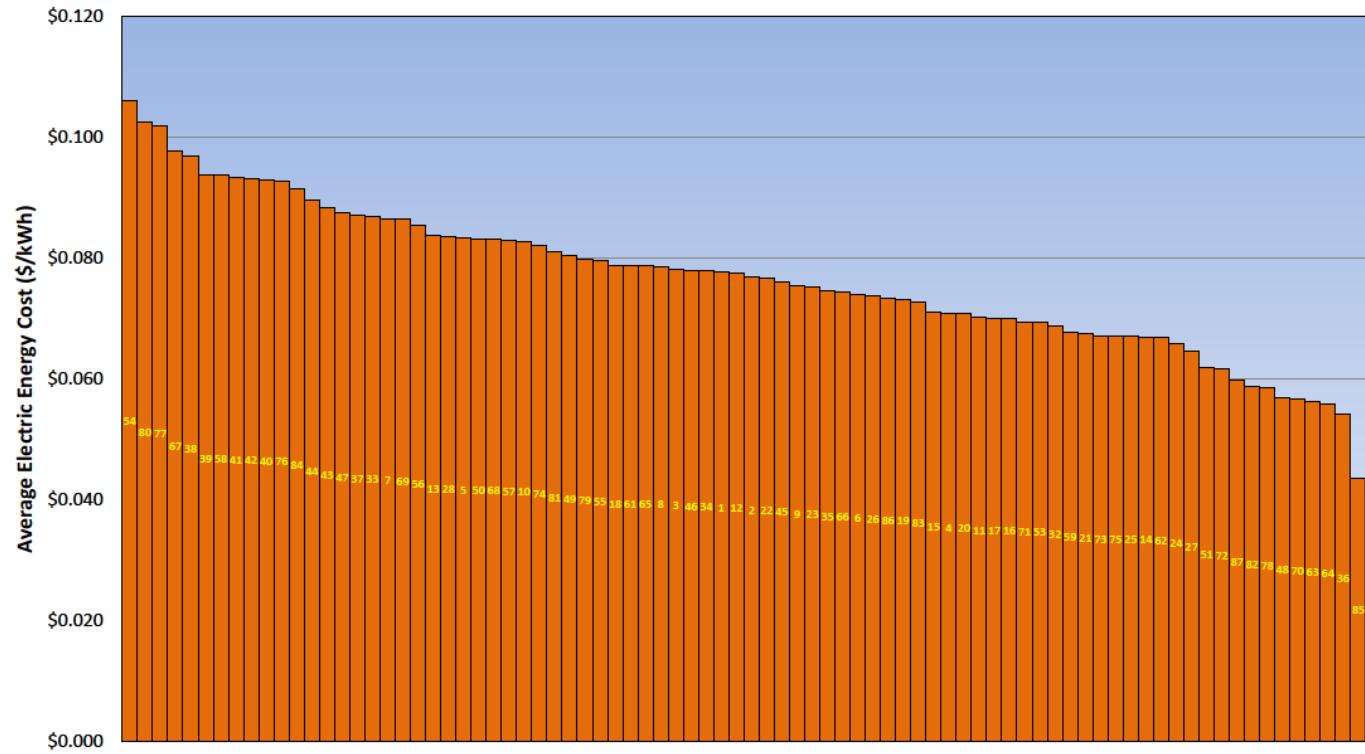


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For Average 2008 Electric Energy Cost

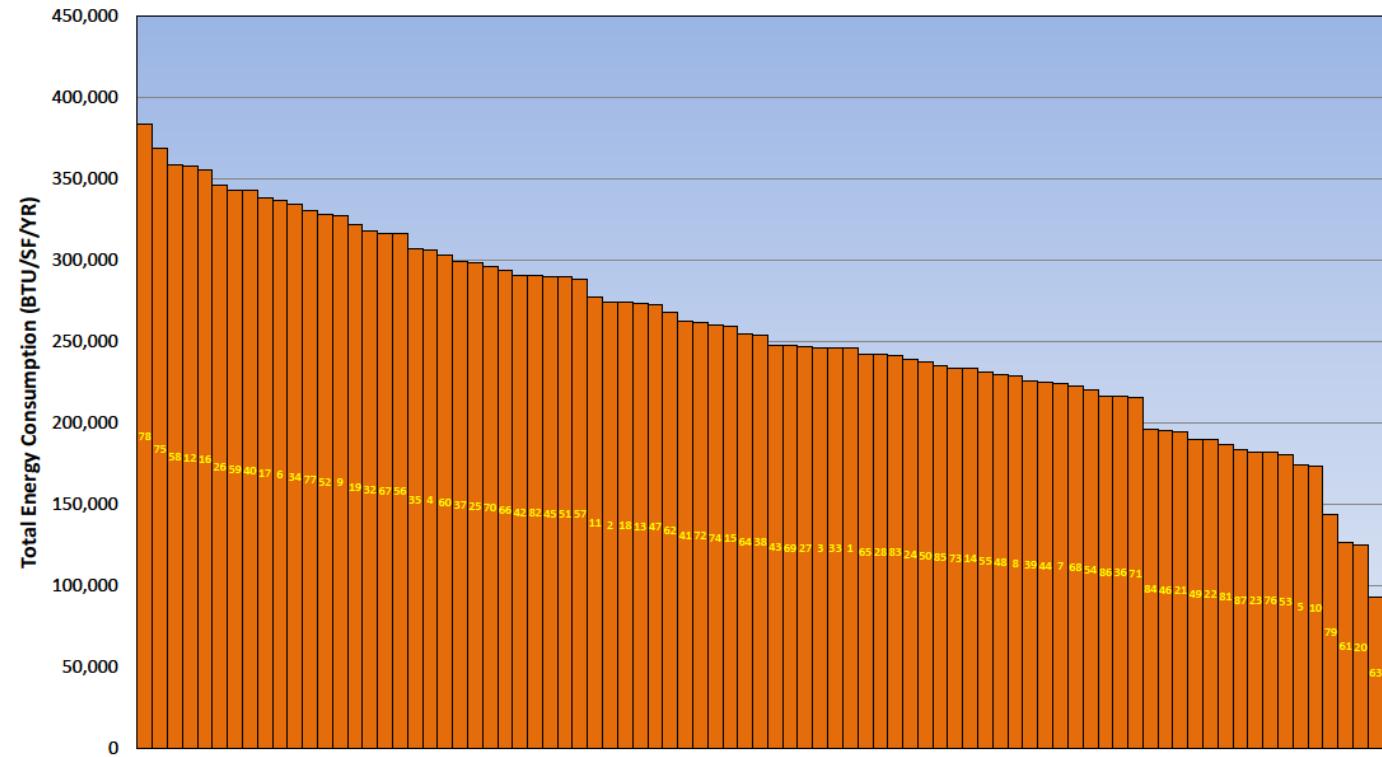


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For 2008 Total Energy Consumption

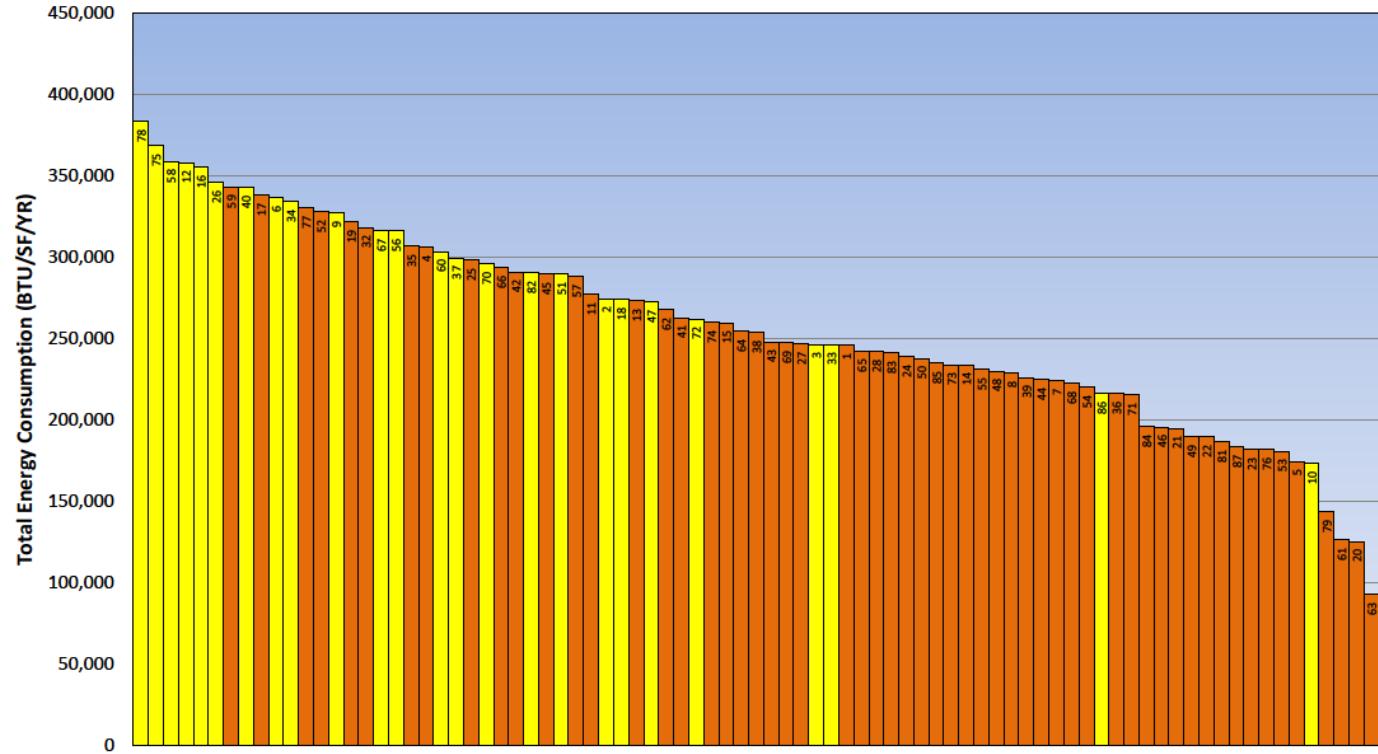


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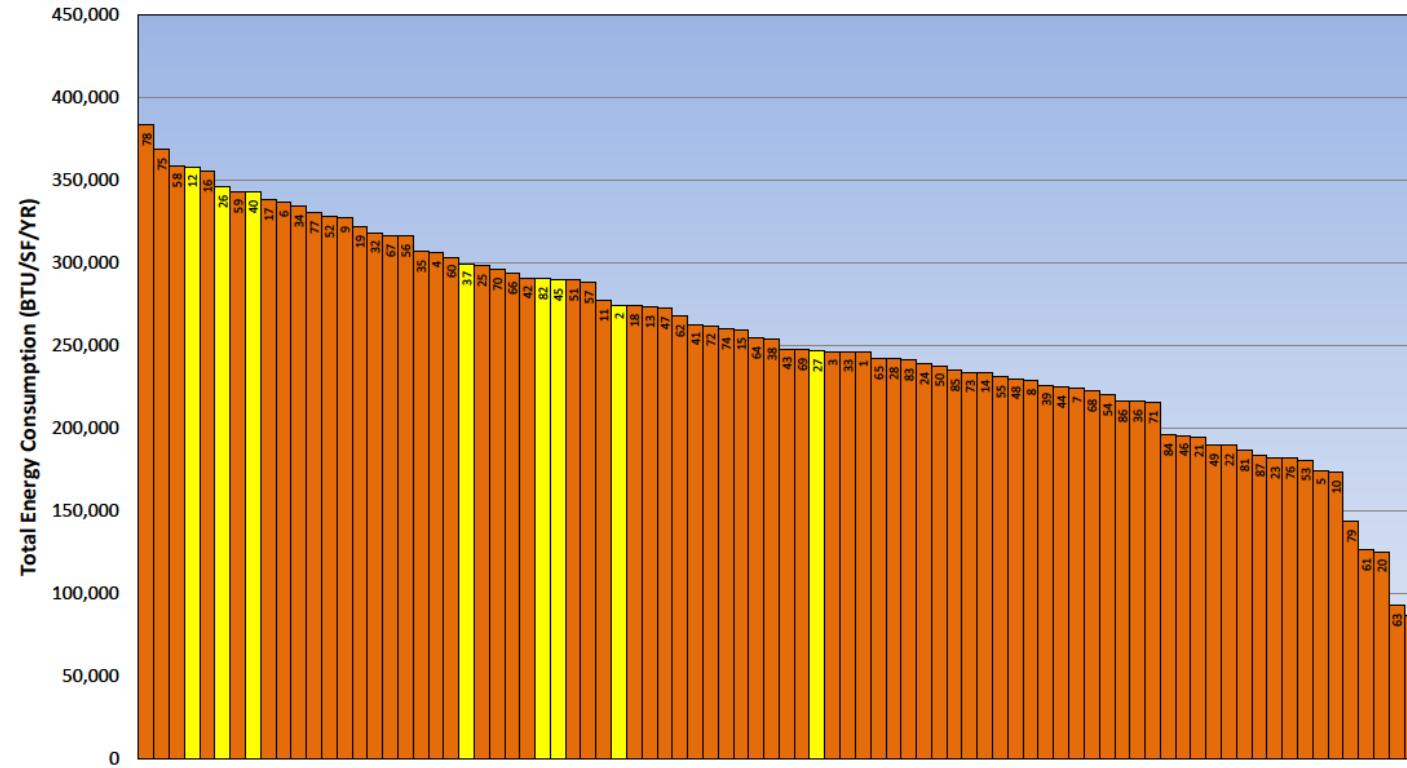


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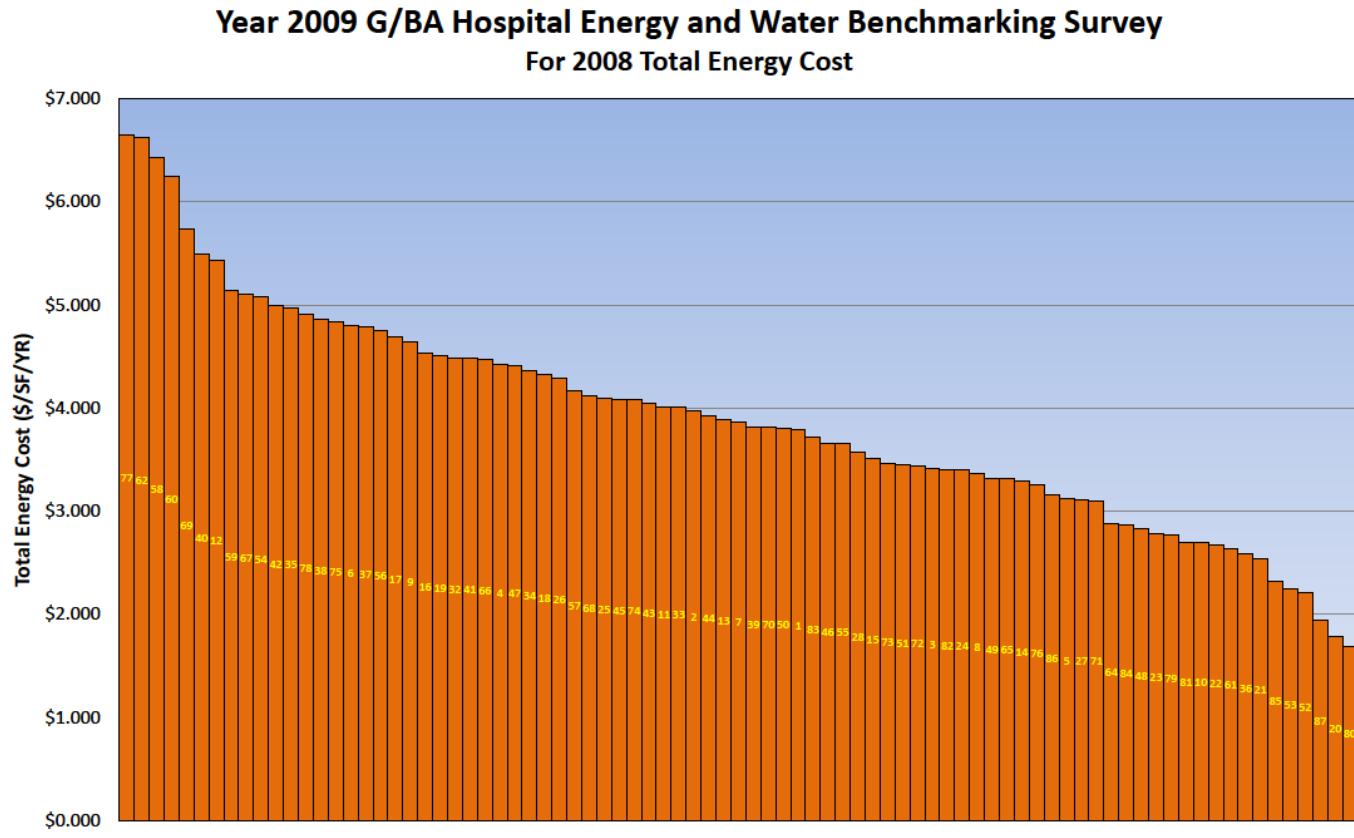
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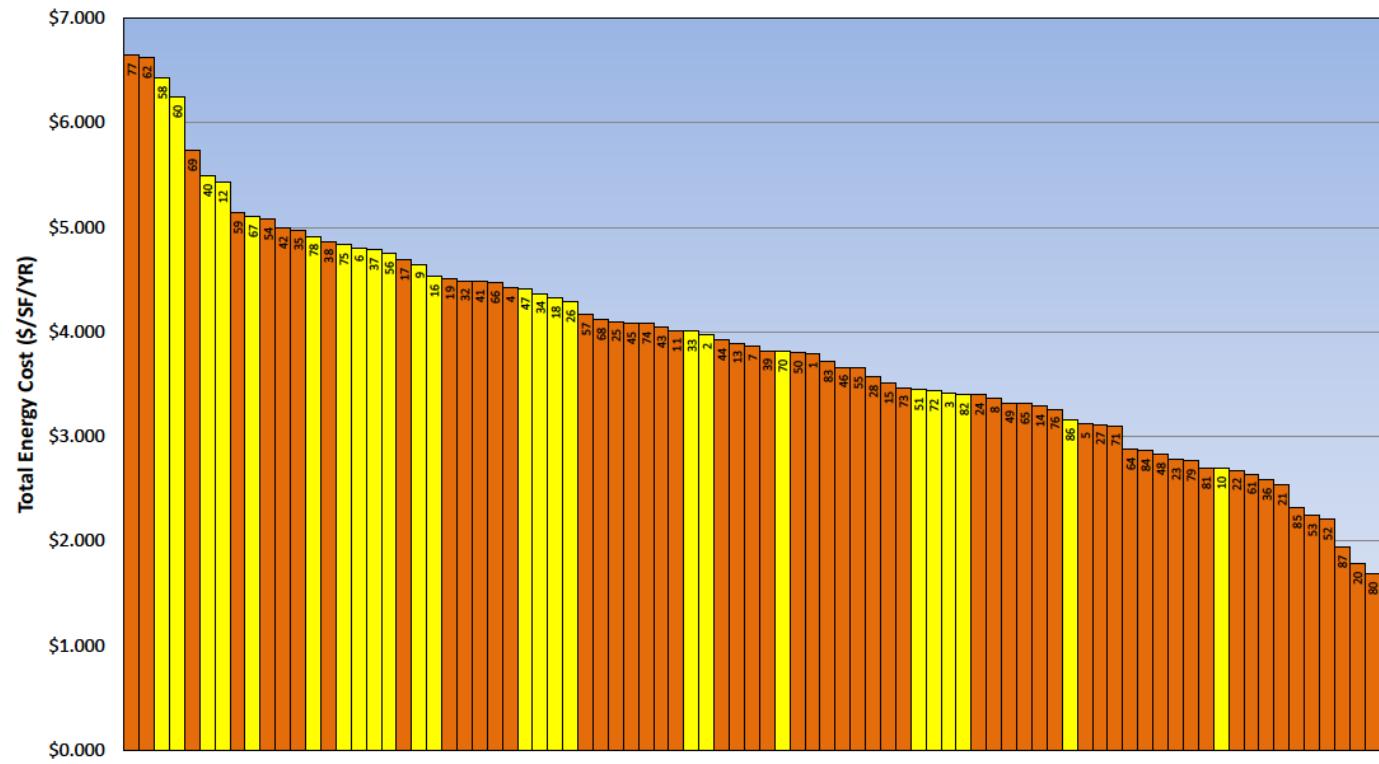


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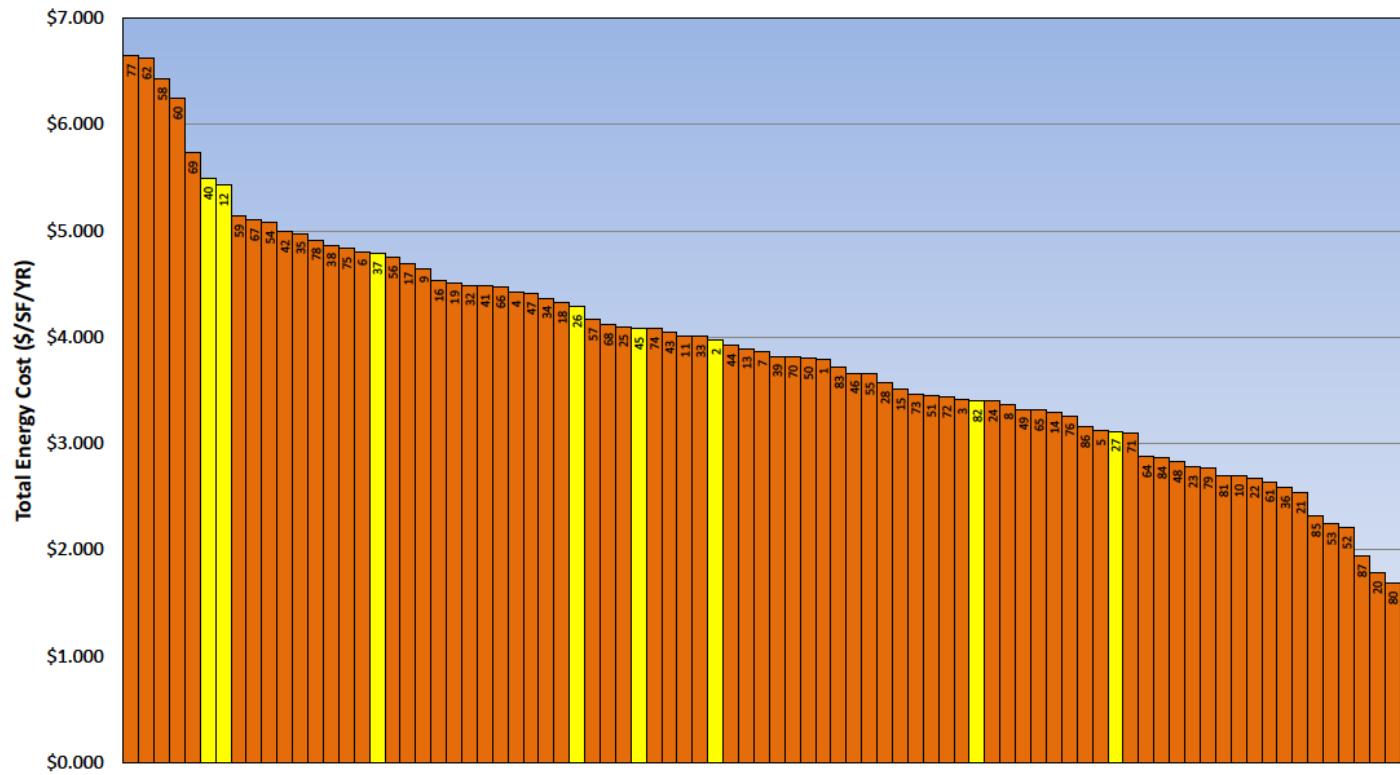


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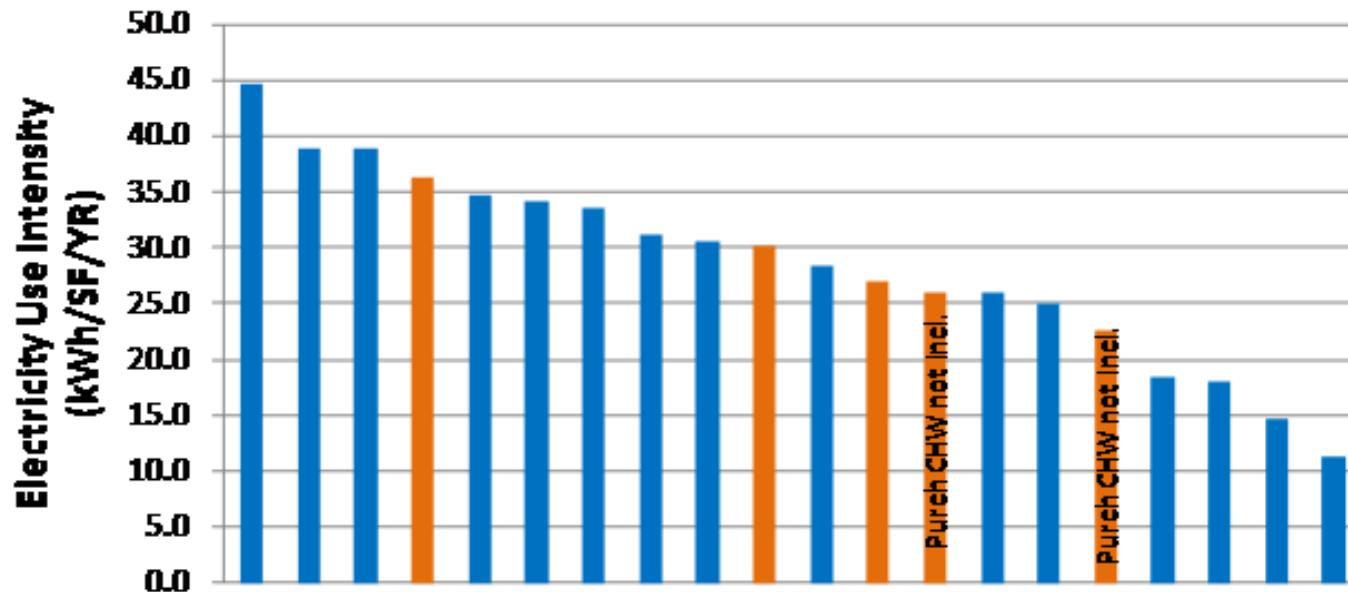


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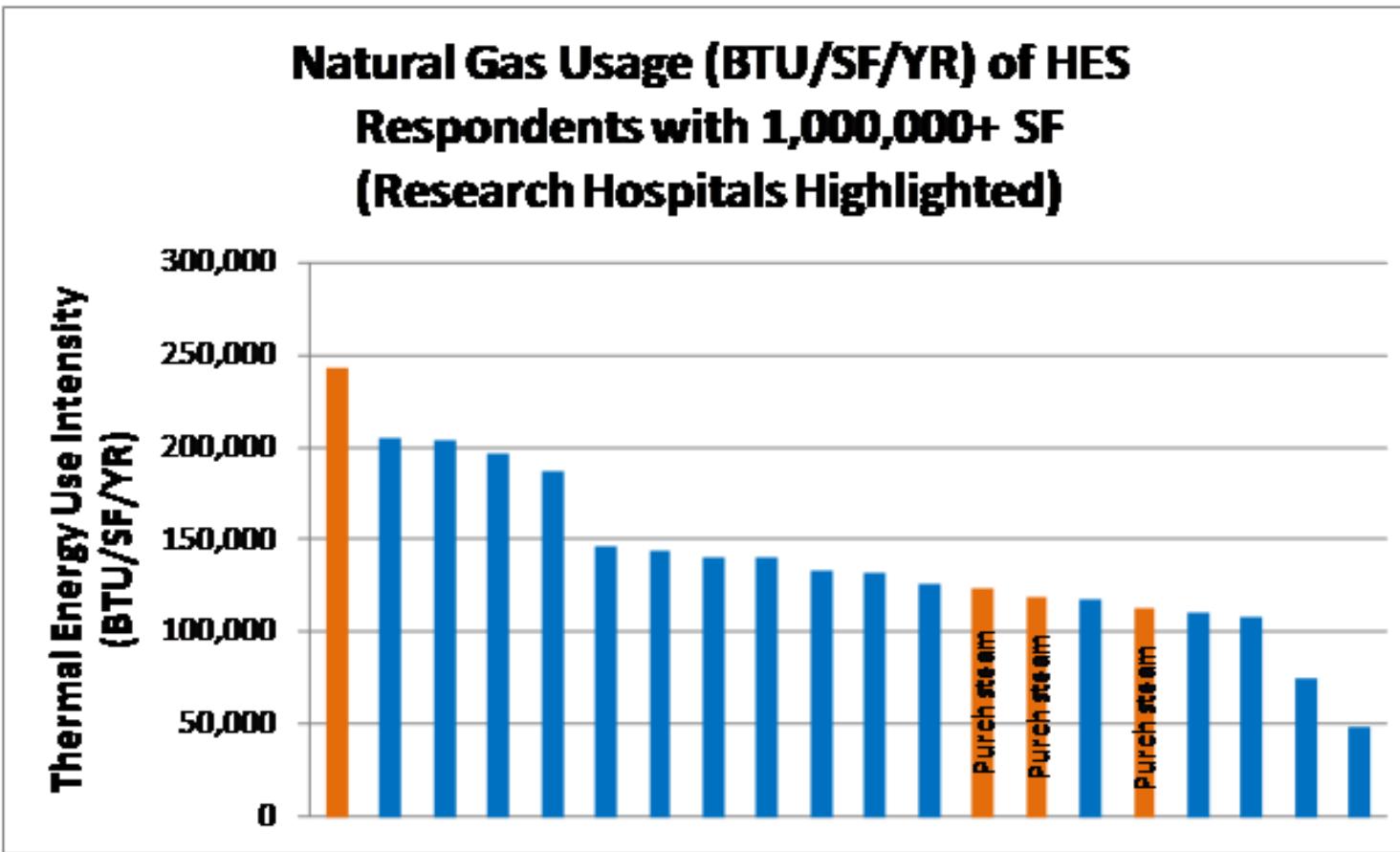
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**Electricity Usage (kWh/SF/YR) of HES Respondents  
with 1,000,000+ SF  
(Research Hospitals Highlighted)**



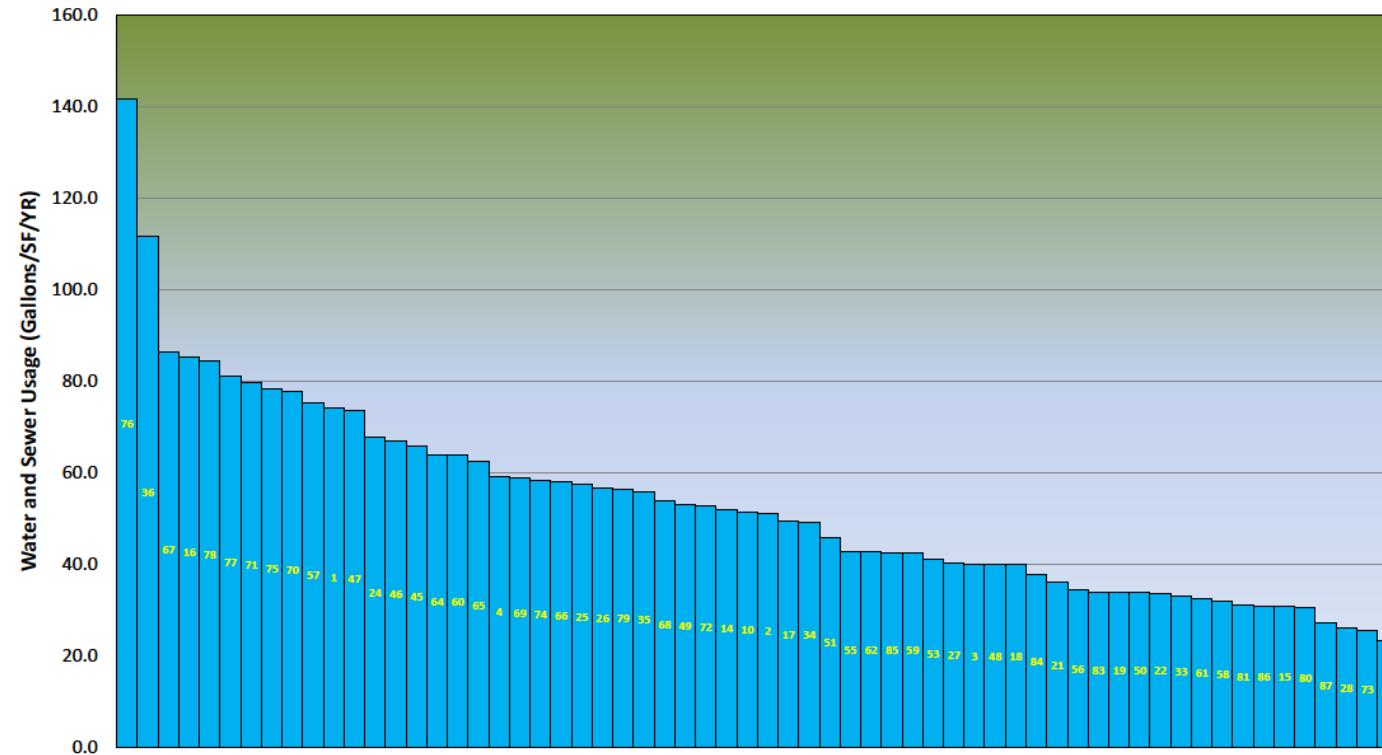
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For 2008 Water and Sewer Consumption

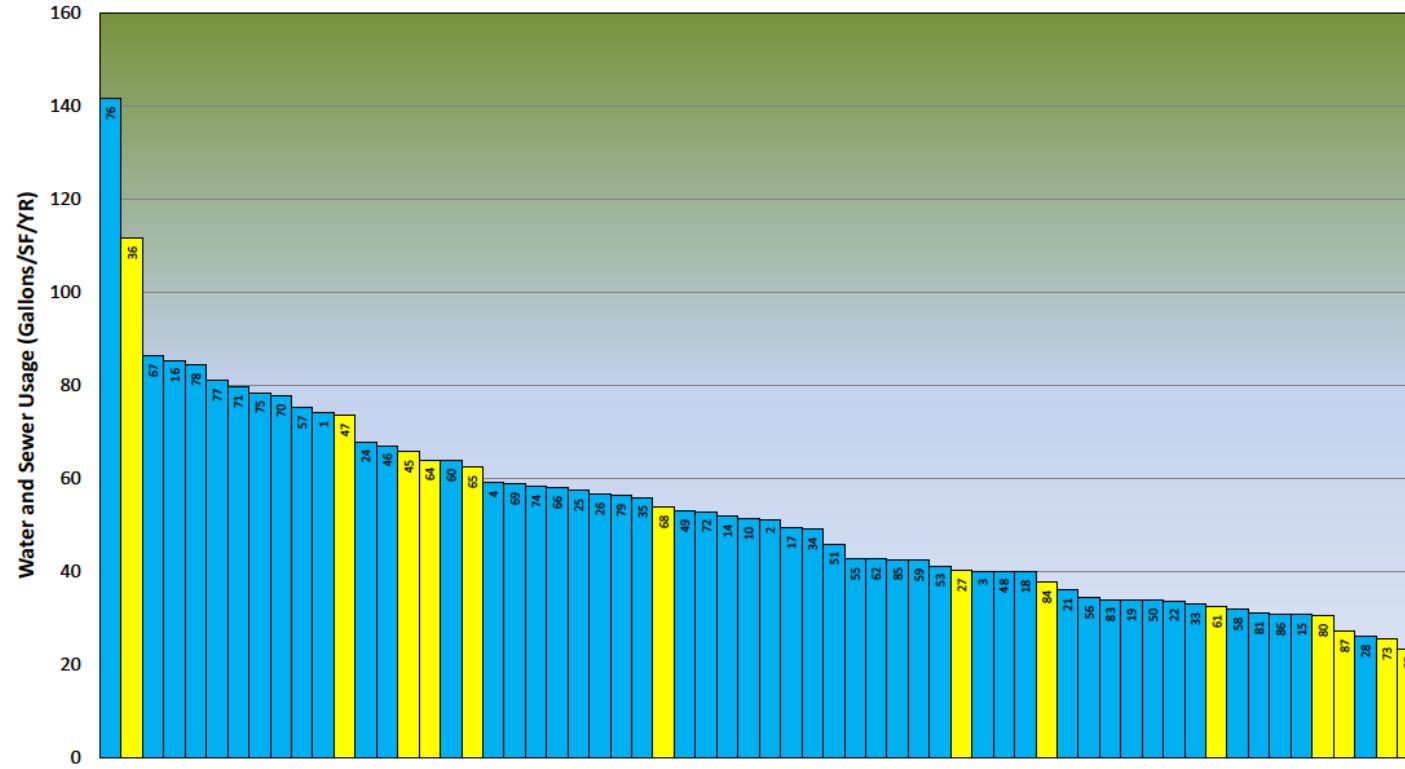


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For 2008 Water Usage Cost

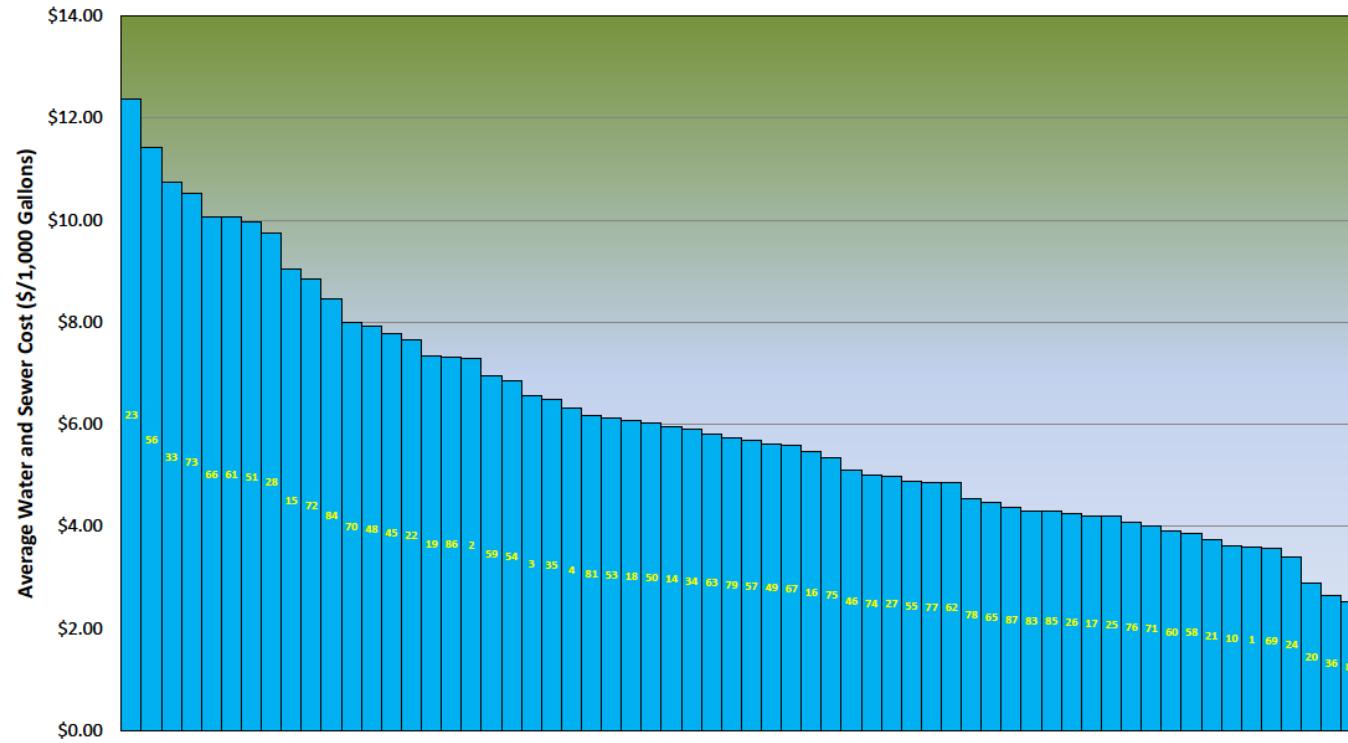


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For Average 2008 Water and Sewer Cost

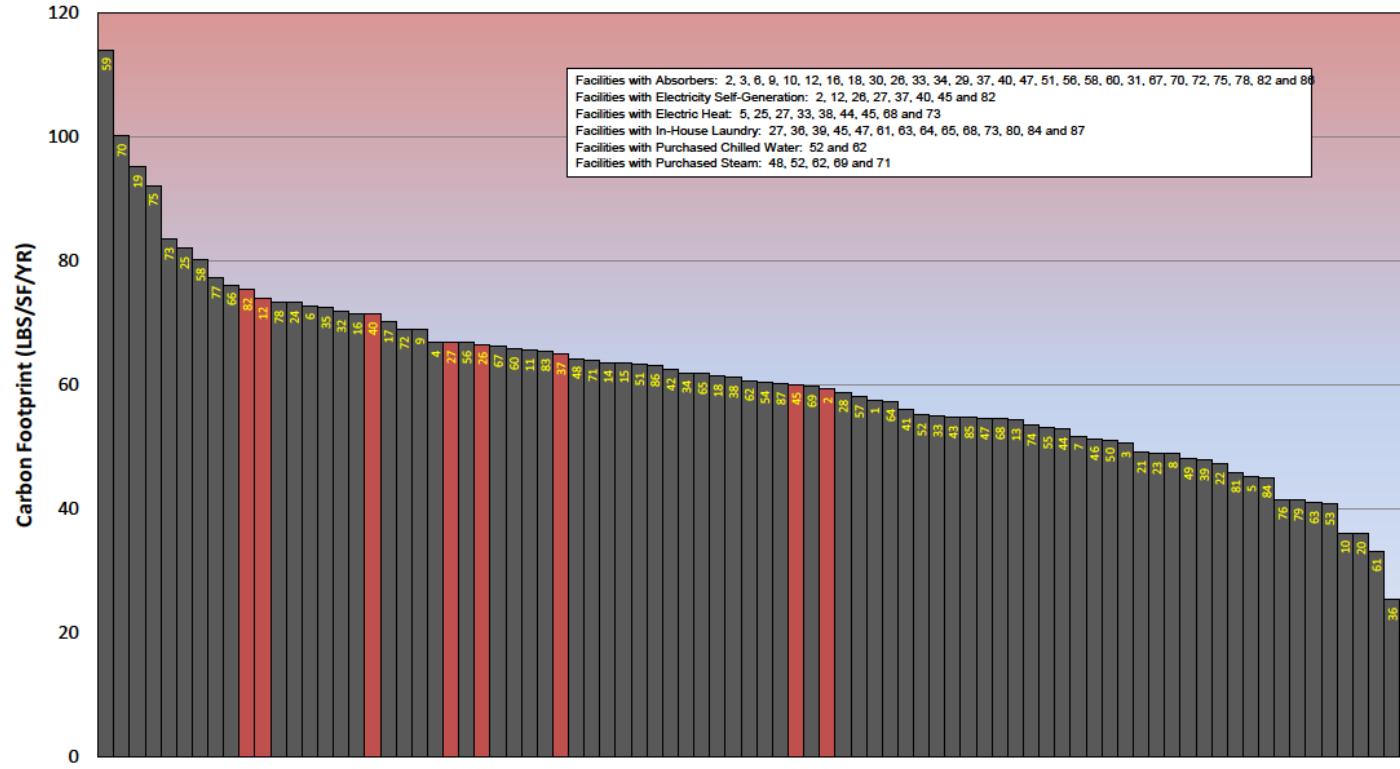


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For 2008 Carbon Footprint (LBS/SF/YR)



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# Questions

- If you would like to participate in this year's survey, give Dan your business card or e-mail him at:

[dld@grummanbutkus.com](mailto:dld@grummanbutkus.com)