

Data Centers & Self-Supply: What They're Building and Why It Matters



Tom Graves

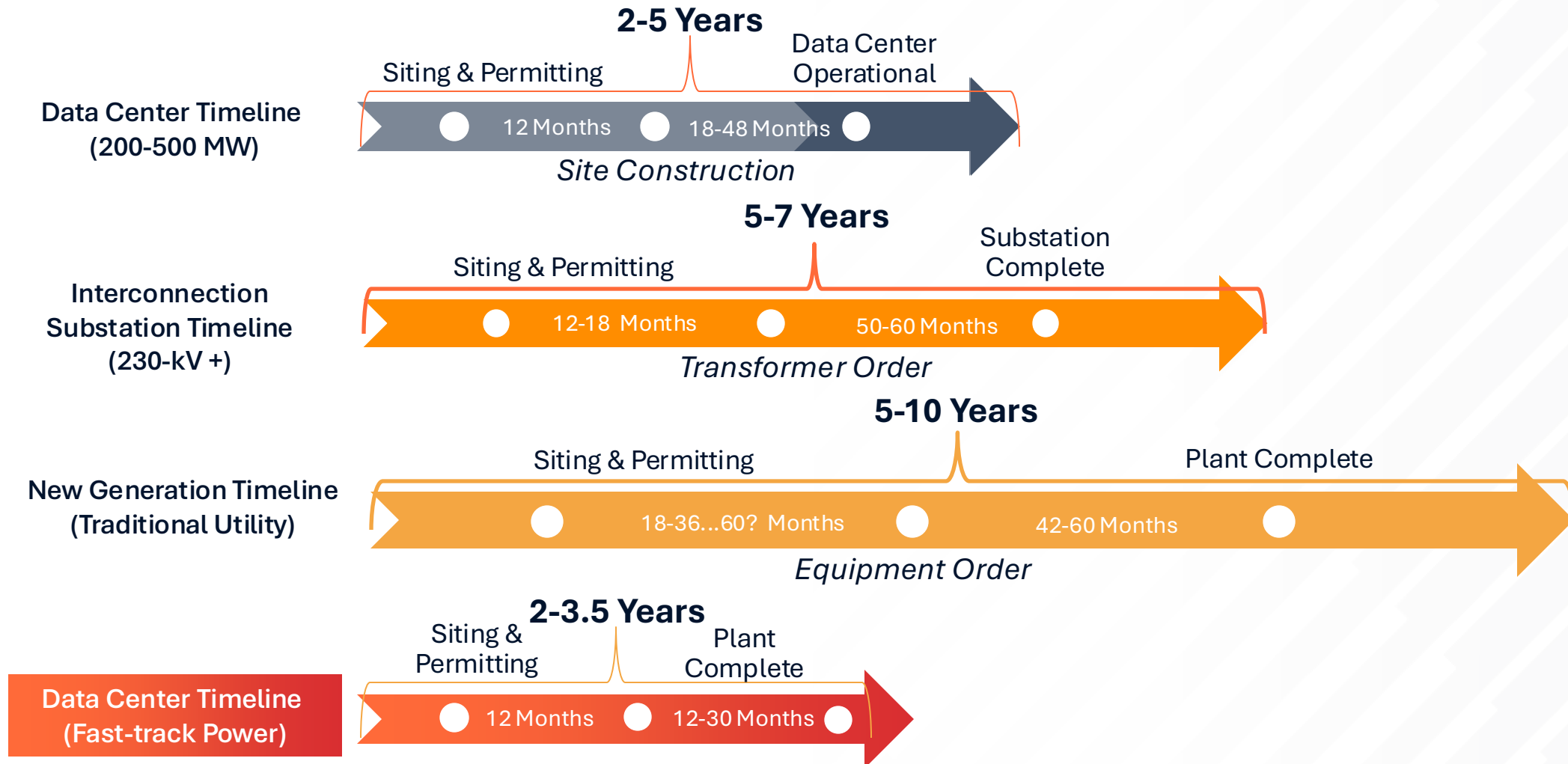
Business Line Director | Energy Advisory



2025 GENERATION SYMPOSIUM

UTILITY CONSULTING SESSION

Schedule Constraints for Power Supply



AI Gold Rush: Speed to Market vs. Optimization

Data center developers are deploying whatever they can get their hands on to accelerate operations.

Elevation	Total Units	4800	700	2700	4700	1050	1050
Sgt800(57)	12	0	0	0	0	4	8
SGT800(62)	6	0	0	0	0	2	4
SGT700	6	0	0	0	0	3	3
SGT400	10	0	0	4	2	0	0
SGT – A05	0	0	0	0	0	0	0
SGT – A35 (34 MW DLE)	3	0	0	0	3	0	0
Titan 250	0	0	0	0	0	0	0
PGM130	29	0	0	3	9	6	8
SMT60	17	0	0	5	3	0	0
Redacted Info	17	3	3	1	0	0	0
	32	6	4	3	0	0	0
G350	61	0	14	10	9	0	0
Total Units		9	21	26	26	15	23
Total Power Gen. Inst. (ISO Rating)		309	275	302	332	559	947

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Projected Data Center Driven Demand

600 - 800 TWh = 100 GW Demand

Approximate growth by 2030

Q: How much can the grid supply?

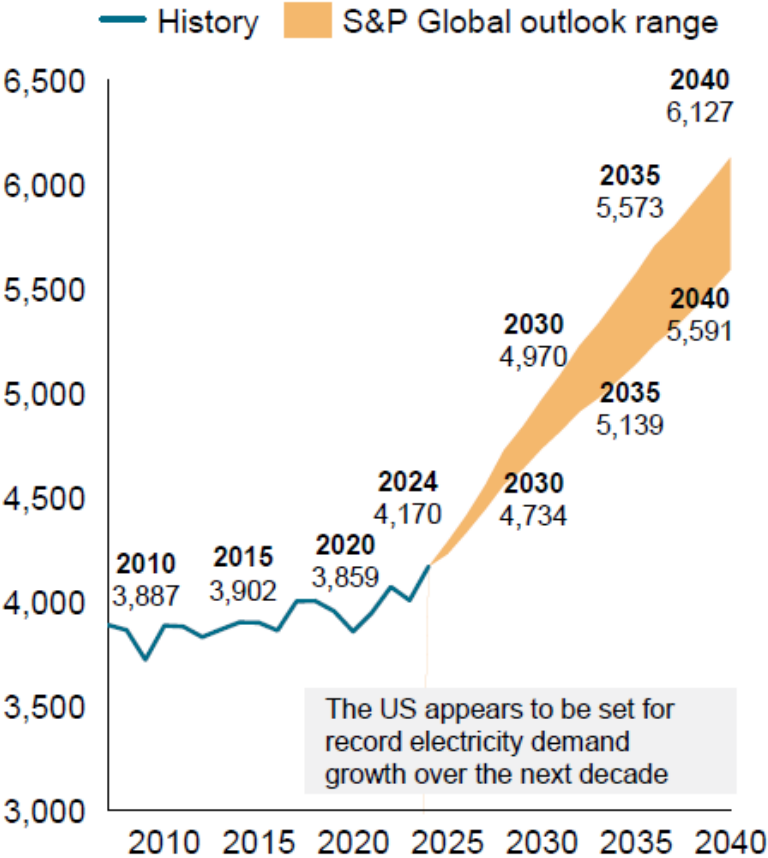
A: Not much. Generously...15%.

Q: How many generators will the data centers install?

A: All of them.

Generator Model	Output	# Units Required
SGT-800	62	930 - 1,250
Titan PGM-130	16	3,600 - 4,800
Wartsila 34SG	10	5,800 - 7,750
7FA	250	230 - 310

US Lower 48 net on-grid electricity demand
TWh



Racing to Beat the Bubble?

FORTUNE

It's not just Sam Altman warning about an AI bubble. Now Mark Zuckerberg says a 'collapse' is 'definitely a possibility'



Nvidia's \$100B OpenAI investment fuels AI bubble fears

"To him [Jay Goldberg @ Seaport Global Securities], the bigger risk is not riding the rally rather than realizing a little too late that it's over."

Future State of the Market

What if the bubble experiences a "rapid unschedule disassembly?"

- A significant quantum of generating equipment could be redeployed as grid-facing.
 - Current Installed GTs: 39,000 Globally
 - GTs Installed Since 1999: 2,363 US^[1]
- Result = Reduced Capacity & Peak Energy Values

Rate structure, your existing fleet and BYOG deals are important means of protecting your balance sheet & other rate classes.

- Consider CAIC arrangements requiring capital contributions by large loads.
- Keep your generating fleet operational & reliable.
- Proactively develop rate structures for large loads.
- What does the system need to support large loads connecting to the grid?

