



Planet Pulse

**A rhythmic check-in on
climate issues**





Groundbreaking

- Regular readers know I'm pro nuclear. It's not that I'm certain that nuclear can overcome its shortcomings. It's that I consider it essential to find out.
- To that end, Okla has become the third company participating in the Department of Energy's Nuclear Reactor Pilot Program to break ground.
- The Idaho project deploys Olka's liquid-metal cooled and fueled 75 MWe Aurora Powerhouse reactor.
- By nuclear standards it's a small pilot, but it, along with the projects from Aalo Atomic and Valar Atomic, should provide valuable insight into the viability of the new generation of nuclear technology.

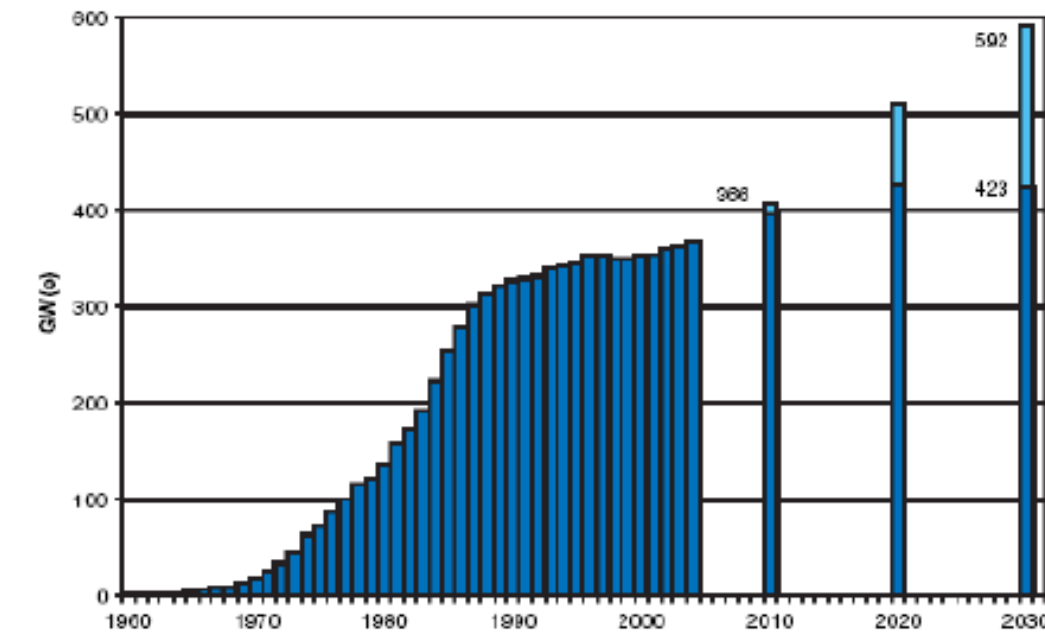
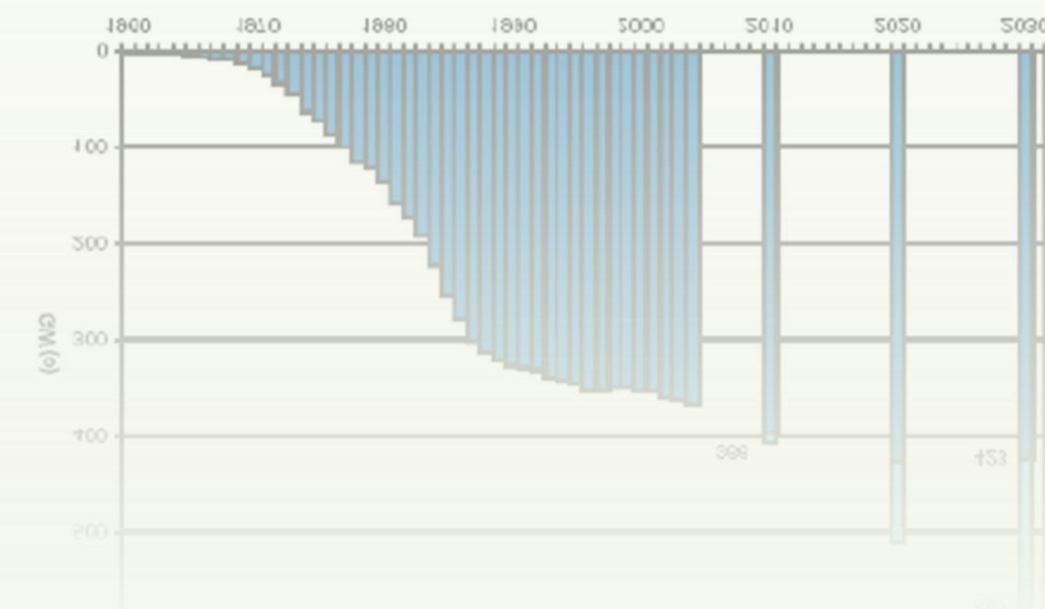


FIG.1. Historical growth in worldwide installed nuclear power capacity, 1960–2004, and the Agency's latest low and high projections through 2030 (low projections: dark blue bars; high projections: light blue bars). (Source: Energy, Electricity and Nuclear Power Estimates for the Period up to 2030, July 2004, Reference Data Series No. 1, IAEA, Vienna (2004)).

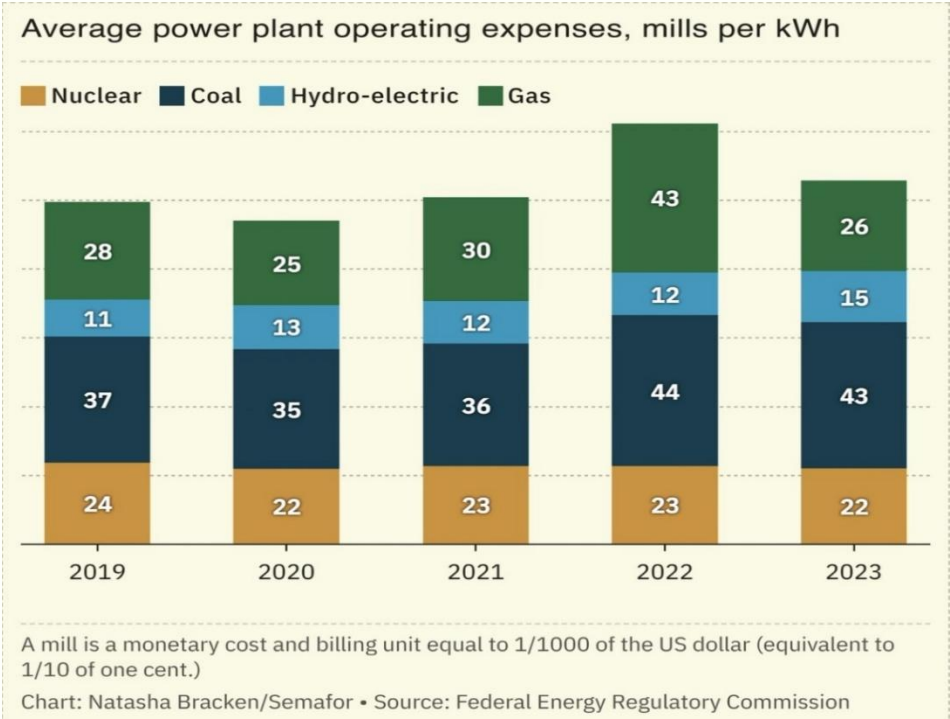
and Nuclear Power Estimates for the Period up to 2030, July 2004, Reference Data Series No. 1, IAEA, Vienna (2004), projections through 2030 (low projections: dark blue bars; high projections: light blue bars). (Source: Energy, Electricity and Nuclear Power Estimates for the Period up to 2030, July 2004, Reference Data Series No. 1, IAEA, Vienna (2004)).



NEXT PAGE



The Freddie Kruger of fossil fuels



The Bad News: Last July new coal electricity generation exceeded that of wind - 18 MW for coal versus 16 MW for wind.

The Good News: Through July, coal generation was still in the negative - down 40 MW.

The Bottom Line: This probably says more about the state of wind, but the persistent reliance on coal is worrisome.



The Trump administration has allocated \$625 million to retrofit and recommission coal plants.



The Interior Department plans to open up 13.1 million acres of federal land for new coal mines.



But there's one problem with the President's plan: coal doesn't pencil.
Such a shame. NOT!



Cold storage

- It's a simple idea, or is it? Pair batteries with central air conditioners.
- Carrier is about to find out as it pilots the concept in 15 homes.
- The AC-battery combo being tested acts like a nano-grid, independent from everything else in the house.
- Carrier's software tracks when the power on the grid is the cleanest, charging the battery to allow it to offset demand during more carbon intensive hours.
- Two-thirds of U.S. households either use central air or heat pumps. These systems need to be replaced every 10 to 15 years.
- That translates to about 7 million HVAC installs annually.
- Carrier sells around 2.5 million of those units.
- If Carrier is able to pair just 16% of systems with batteries it would match the current rate of national residential battery deployment.



NEXT PAGE





Did you know that windows significantly impact the efficiency of jets?

Otto Aerospace believes it has the answer:

The Phantom 3500



We don't need no stinkin windows

- The sleek Phantom 3500 replaces windows with a series of external cameras.
- It's projected to have a 60% lower fuel burn versus traditional business jets.
- When powered by sustainable aviation fuel (SAF) it's expected to cut carbon emissions by 90%.
- Private jet company FlexJet is betting almost \$6 billion that the Phantom 3500 is the business jet of the future.
- That's the projected value of the company's plan to buy 300 Phantoms over the next 6 to 8 years.



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