



The Case for Small Modular Reactors

Why the U.S. Should Invest in the Future of Nuclear Energy

Miguel | COMM 601 | Spring 2026

⚠ The Grid Is Failing

100×

increase in blackouts
projected by 2030

U.S. Department of Energy, 2025

104 GW plant retirements by 2030

16% demand surge in 5 years

246 killed in Texas blackout (2021)

Renewables Alone Can't Fix This

What the Grid Needs

- 24/7 power — day and night
- Reliability in extreme weather
- 209 GW of new generation by 2030
- Only 22 GW is firm baseload

What Renewables Provide

- Power only when sun/wind available
- Output drops in winter peaks
- Intermittent — not baseload
- Spain blackout: 11 killed (Apr 2025)

We need renewables AND a clean baseload source.



What Are Small Modular Reactors?



Factory-Built

Ship to site in 1.5–2.5 yrs
vs. 10–15 for traditional nuclear



Passively Safe

Cools by natural physics
Meltdown physically impossible



24/7 Carbon-Free

Runs day and night, any weather
Zero emissions in operation



Scalable

Under 300 MW per module
Add units as demand grows

Tech Giants Are All In

Google

500 MW with Kairos Power by 2030

Amazon

\$500M+ for 12 SMRs with X-energy

Microsoft

Restarting Three Mile Island for data centers

Meta

8 Natrium reactors with TerraPower

NVIDIA

Invested in TerraPower via NVentures

\$6.5B+

global SMR market (2025) — projected \$10.7B by 2033

Addressing the Concerns

✗ “Nuclear is dangerous.”

✓ SMRs use passive safety — natural physics shuts them down. Meltdown is physically impossible. NRC confirmed.

✗ “Too expensive.”

✓ Factory production drives costs down like aerospace. Tech companies are funding the first wave.

✗ “What about waste?”

✓ 60 years of U.S. nuclear waste fits on one football field. SMRs produce less. Some reuse spent fuel.



The U.S. Should Invest in SMRs

Clean. Reliable. 24/7. Factory-built.

The essential missing piece of our energy future.

1. Get informed — modern nuclear ≠ 1980s nuclear
2. Support SMR funding & streamlined licensing
3. Change the conversation about nuclear energy

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