THE MESOCRATIC PARTY | POLICY WHITE PAPER

The Energy Race

A National Innovation Strategy for Next-Generation Energy Dominance

The country that invents what's next leads the world for a century.

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Executive Summary

The United States invented nuclear fission. It invented the solar photovoltaic cell. Its national laboratories pioneered the drilling technologies that made hydraulic fracturing possible. American engineers designed the first commercial nuclear power plants, the first large-scale wind turbines, and the lithium-ion battery architecture that powers the modern world.

Then it stopped investing.

Federal energy R&D spending as a share of GDP peaked in the late 1970s and has collapsed since — declining to levels not seen since the pre-Sputnik era. Federal R&D spending across all domains has fallen to approximately 0.55% of GDP, the lowest since the 1950s. Meanwhile, China's total R&D spending reached $786 billion in 2024, effectively matching or exceeding U.S. spending of $782 billion. China's R&D intensity has risen from 1% to 2.6% of GDP since 2000. In energy specifically, China outspends the United States on clean energy manufacturing, deployment, and supply chain investment by roughly 4:1.

The consequences are visible everywhere. The United States invented solar PV technology — China manufactures 80%+ of the world's solar panels. The United States developed the fundamental battery chemistry — China dominates global battery production. The United States built the world's first commercial nuclear fleet — and has not completed a new reactor in years while China commissions several per year.

This is not an environmental failure. It is a national security failure and an economic failure. The country that dominates energy technology in the 21st century will dominate the global economy. Right now, that country is not the United States.

The Mesocratic Party proposes:

- **Produce more energy from every source available today.** Oil, gas, nuclear, wind, solar, geothermal, hydro — all of it. Energy abundance is an industrial strategy, not just an energy strategy. Cheap, abundant energy is the foundation of manufacturing competitiveness.
- **Launch a national energy innovation initiative** — a modern Apollo program targeting fusion, advanced nuclear, next-generation energy storage, engineered geothermal systems, and advanced hydrogen. Budget: 0.1% of GDP annually (~$28 billion/year) in federal energy R&D, roughly triple the current DOE R&D budget.
- **Fix permitting.** The average timeline for permitting a major energy project in the United States exceeds 4.5 years. France built 56 nuclear reactors in 15 years. Establish a one-year shot-clock for energy project permits with concurrent federal and state reviews.
- **Re-industrialize through energy.** The link between energy cost and manufacturing competitiveness is direct. Abundant, cheap energy is how the United States built its industrial base in the first place — and it is how the United States rebuilds it.

The debate in American politics is "drill" versus "don't drill." Both sides are wrong — not because drilling is wrong, but because the debate is absurdly narrow. The question is not whether to produce oil and gas today. The question is who invents the energy technologies that power the world for the next hundred years. If the answer is China, the United States loses the 21st century. It's that simple.

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1. The Problem: A National Security Failure

1.1 The Innovation Decline

Federal R&D spending as a share of GDP peaked at approximately 2.25% in 1965, during the Apollo era. It has declined steadily since and now stands at roughly 0.55% — a third of its historical peak. Federal energy R&D specifically has declined even more sharply from its late-1970s peak following the oil crises.

The private sector has partially compensated — business R&D spending has grown substantially, and now funds nearly as much basic research (36%) as the federal government (40%). But private R&D naturally focuses on near-term commercial applications. The fundamental, high-risk, long-horizon research that produces breakthrough technologies — nuclear fission, the internet, GPS, fracking — has historically been funded by the federal government. When the government stops funding that research, the pipeline of transformative technologies dries up.

1.2 The Manufacturing Retreat

The United States offshored its emissions along with its manufacturing. Global CO_2 emissions did not decrease — they moved from American factories operating under strict environmental standards to Chinese factories operating under looser ones.

Manufacturing's share of U.S. GDP has declined from approximately 25% in the 1960s to approximately 11% today. Manufacturing employment has declined from a peak of roughly 19 million to approximately 13 million. The U.S. share of global manufacturing output has fallen from over 25% to approximately 17%.

This is not primarily a story about labor costs. It is a story about energy costs, supply chain integration, and industrial policy. Countries that invest in cheap, abundant energy and strategic manufacturing capacity gain competitive advantages. Countries that don't lose them.

1.3 The Supply Chain Surrender

The United States is dependent on foreign sources — many of them adversarial — for critical materials and manufactured components:

- **Rare earth elements:** China controls approximately 60% of global mining and 90% of processing.
- **Solar panels:** China produces approximately 80% of the world's solar panels.
- **Batteries:** China dominates lithium-ion battery manufacturing and controls significant portions of the lithium, cobalt, and nickel supply chains.
- **Advanced nuclear fuel:** Russia remains a significant supplier of enriched uranium fuel.
- **Semiconductors:** Taiwan manufactures the vast majority of the world's advanced chips.

Each of these dependencies represents a strategic vulnerability. An energy transition built on Chinese supply chains is not energy independence — it is a different kind of dependence.

1.4 The False Binary

The American energy debate has been captured by a false binary: fossil fuels versus renewables. Republicans want to drill. Democrats want to install solar panels. Neither side has a coherent strategy for energy innovation, supply chain independence, or industrial competitiveness.

The Mesocratic position rejects the binary entirely. The answer is not oil or solar. It is both — and nuclear, and geothermal, and fusion, and advanced storage, and hydrogen, and whatever the next generation of American scientists and engineers can invent if the government funds their work the way it funded the space race, the Manhattan Project, and the original nuclear power program.

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2. The Data: An Innovation Deficit

2.1 Federal Energy R&D: The Collapse

In the late 1970s, following the oil crises, the Department of Energy's R&D spending reached its highest levels as a share of GDP. Since then, it has declined by roughly half in real terms and far more as a share of the economy.

The global public energy R&D budget reached approximately $54.4 billion in 2024, according to the IEA. The U.S. share remains significant but has declined relative to competitors, particularly China.

2.2 China's Investment vs. Ours

Metric	United States	China
Total R&D spending (2024)	~$782 billion	~$786 billion
R&D as % of GDP	~3.45%	~2.6%
R&D growth rate (2019-2023 avg)	~2.3%/year	~4%/year
Clean energy manufacturing investment	Significantly lower	Dominant globally
Solar panel manufacturing share	<5%	~80%
Battery manufacturing share	~10%	~75%
New nuclear reactors under construction	1-2	~25

Sources: OECD MSTI; ITIF; IEA; Visual Capitalist; various.

The headline numbers are stark: China has likely already surpassed the United States in total R&D spending. When adjusted for cost-efficiency (researchers in China cost less), China's effective R&D capacity is estimated at roughly 2.3 times its nominal spending — putting its effective investment far above America's.

China has also surpassed the U.S. in STEM doctorate production, research publications, and patent filings.

2.3 Technologies We Invented — Then Lost

The pattern is repeated across energy technologies:

Nuclear fission: The U.S. developed the first commercial nuclear reactor (Shippingport, 1958). Today, the U.S. has not completed a new conventional reactor in years, while China commissions multiple reactors annually and is developing advanced designs based in part on American research.

Solar photovoltaics: Bell Labs invented the modern solar cell in 1954. NREL drove efficiency improvements for decades. Today, China manufactures the vast majority of the world's solar panels. U.S. domestic manufacturing is negligible.

Hydraulic fracturing: DOE-funded research in the Eastern Gas Shales Project (1976) and subsequent programs developed the drilling technologies that made modern fracking possible. The technology was commercialized by American companies — but the broader lesson (federal R&D produces transformative commercial technologies) has been forgotten.

Lithium-ion batteries: The fundamental chemistry was developed largely by American researchers (John Goodenough at UT Austin). China dominates global battery manufacturing.

2.4 The ROI on Federal Energy R&D

Independent analyses commissioned by DOE's Office of Energy Efficiency and Renewable Energy found that taxpayer investments of $12 billion made by that office have generated more than $388 billion in total net economic benefits — a return of more than 30:1.

Federal energy R&D is not a cost. It is the highest-return investment the government makes.

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3. The Case for Domestic Production from Every Source

3.1 Oil and Gas

The United States is the world's largest producer of both oil and natural gas. Domestic production supports millions of jobs, contributes significantly to GDP, and has made the U.S. largely energy independent in terms of total energy production.

The Mesocratic Party supports continued and expanded domestic oil and gas production. American oil and gas is produced under stricter environmental regulations than production in Russia, Saudi Arabia, Nigeria, or Venezuela. Reducing American production does not reduce global consumption — it shifts production to countries with worse environmental standards.

Natural gas in particular plays a critical bridging role: it is the lowest-emission fossil fuel, enables reliable electricity generation when renewables are intermittent, and provides feedstock for petrochemical manufacturing.

3.2 Nuclear

Nuclear power provides approximately 20% of U.S. electricity from 93 operating reactors. Nuclear has the highest capacity factor of any energy source (~93%) and produces zero carbon emissions during operation.

Nuclear's safety record, measured in deaths per terawatt-hour of electricity generated, is the best of any energy source — lower than wind, solar, hydro, and dramatically lower than fossil fuels. The Mesocratic Party supports extending the licenses of existing reactors, completing advanced reactor designs, and streamlining the NRC licensing process.

3.3 Renewables

Wind and solar are the fastest-growing energy sources globally. Costs have declined dramatically — solar PV costs have fallen approximately 90% since 2010. The Mesocratic Party supports continued renewable deployment.

However, renewables face inherent limitations: intermittency (the wind doesn't always blow; the sun doesn't always shine) and the current absence of cost-effective long-duration storage. A grid relying entirely on renewables without breakthrough storage technology faces reliability challenges. Renewables are an essential part of the energy portfolio — but they are not the entire portfolio.

3.4 Why Every Source Matters

Energy abundance is the foundation of economic competitiveness. Every major period of American industrial growth was powered by cheap, abundant energy. The original industrial revolution ran on coal. The 20th-century manufacturing boom ran on oil and natural gas. The digital economy runs on electricity.

The countries that will lead 21st-century manufacturing are the countries with the cheapest, most abundant, most reliable energy. Restricting any source reduces abundance and raises costs. The Mesocratic position is simple: produce from every source, innovate toward the next generation, and let the best technologies win.

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4. The Energy Race: What a Moon Shot Looks Like

4.1 Targeted Technologies

The national energy innovation initiative focuses federal investment on five frontier technologies:

Fusion energy. The physics of fusion has been demonstrated. The engineering remains unsolved — largely because funding has been chronically insufficient. The famous "Fusion Never" chart shows that actual fusion funding has consistently fallen below every projected timeline for success. The Mesocratic Party proposes funding fusion at the levels scientists have said are needed for decades.

Advanced nuclear. Generation IV designs — molten salt reactors, fast reactors, high-temperature gas reactors — offer passive safety, reduced waste, and the potential for factory-fabricated modular deployment. These are American designs, many originating in American national laboratories. Federal investment should accelerate licensing, demonstration, and commercial deployment.

Next-generation energy storage. The transition from fossil fuels to clean energy is gated by storage. Solid-state batteries, flow batteries, gravity storage, compressed air, and other technologies are in various stages of development. Federal R&D and demonstration funding can accelerate the timeline to commercial viability.

Engineered geothermal systems (EGS). The DOE's Enhanced Geothermal Shot aims to make geothermal energy available anywhere — not just in volcanic regions — by drilling deep and creating engineered heat exchange systems. Geothermal provides baseload power (24/7, no intermittency) with near-zero emissions.

Advanced hydrogen. Hydrogen produced from nuclear (pink), renewables (green), or natural gas with carbon capture (blue) can decarbonize heavy industry, shipping, aviation, and steel production — sectors that cannot be electrified easily.

4.2 The Budget

The Apollo program, at its peak, consumed approximately 4% of the federal budget and roughly 0.5% of GDP.

The Mesocratic proposal: increase federal energy R&D funding to 0.1% of GDP — approximately $28 billion per year. This is roughly triple the current DOE R&D budget. It is a fraction of what the Apollo program cost. And the potential return — based on the historical 30:1 return on DOE energy R&D investments — is enormous.

Comparison	Annual Cost
Proposed energy R&D initiative	~$28 billion
Current DOE R&D budget	~$9-10 billion
Apollo program (peak, inflation-adjusted)	~$30+ billion
Annual U.S. defense R&D spending	~$100+ billion
Student loan forgiveness (2020-2025)	~$32 billion/year avg

4.3 The Institutional Framework

- **ARPA-E expansion:** The Advanced Research Projects Agency-Energy has a strong track record of funding high-risk, high-reward energy research. Expand its budget and mandate.
- **National laboratories:** The 17 DOE national labs are a unique American asset. Increase their research budgets and reduce administrative burden.
- **University partnerships:** Fund competitive research grants to universities working on frontier energy technologies.
- **Public-private collaboration:** Match federal funding with private capital for demonstration projects. De-risk the technologies, then let the market deploy them.
- **Prizes and competitions:** Offer large prizes for specific technological milestones — commercial fusion power, long-duration storage at grid scale, etc.

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5. Nuclear: An Honest Assessment

5.1 The Safety Record

Deaths per terawatt-hour of electricity generated, by source:

Source	Deaths per TWh
Coal	~24.6
Oil	~18.4
Natural gas	~2.8
Hydropower	~1.3
Wind	~0.04
Nuclear	~0.03
Solar	~0.02

Sources: Our World in Data; Lancet; WHO.

Nuclear power has the lowest or second-lowest death rate per unit of energy produced of any major source. The data are not close.

5.2 The Risk Distribution Problem

The statistics above are accurate but incomplete. People are not irrational for fearing nuclear power more than wind or solar.

Wind and solar deaths are distributed across thousands of small incidents — falls during installation, manufacturing accidents, transportation events. Nuclear risk is concentrated in low-probability, high-consequence events. A wind turbine accident kills one person. A nuclear disaster can contaminate an entire region and displace hundreds of thousands.

The Mesocratic Party takes this asymmetry seriously. The correct response is not to dismiss public concern — it is to design systems that address it. Modern reactor designs with passive safety systems, defense-in-depth architecture, hardened containment structures, and independent regulatory oversight are the answer.

5.3 Modern Safety Design

The reactors involved in the major nuclear accidents — Chernobyl (1986) and Fukushima (2011) — used designs that are fundamentally different from modern reactor architecture.

Modern designs incorporate passive safety: systems that shut down the reactor without human intervention or external power in the event of an emergency. Gen III+ designs (like the AP1000) and Gen IV concepts go further with features like negative temperature coefficients, gravity-fed cooling, and walk-away-safe geometry.

The correct framing is not "it can't happen again." It is: "modern designs make the failure modes of previous accidents physically impossible."

5.4 Waste and Storage

Nuclear waste is a real issue — but its scale is often overstated. The total volume of high-level nuclear waste produced by the entire U.S. nuclear fleet over six decades would fit on a single football field stacked less than 30 feet high. It is the most compact waste stream of any major energy source.

Current storage is in dry casks at reactor sites — a safe interim solution but not a permanent one. The Yucca Mountain repository was authorized by Congress but has been politically blocked for decades. Advanced fuel cycles — including breeder reactors and nuclear recycling — can reduce waste volumes by 90%+ and extract additional energy from spent fuel.

The Mesocratic position: pursue both interim centralized storage and advanced fuel cycle R&D. The waste problem is solvable with existing technology and political will.

5.5 Small Modular Reactors

SMRs — smaller, factory-fabricated nuclear reactors — represent the most promising near-term pathway for new nuclear deployment. The technology originates with the U.S. Navy, which has operated small nuclear reactors on submarines and aircraft carriers for decades with an extraordinary safety record.

NuScale Power's SMR design received NRC certification — a first for an SMR. Deployment has faced delays and cost challenges, but the technology remains viable and is being pursued by multiple companies. Federal support for SMR demonstration projects can accelerate deployment.

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6. Permitting: The 4.5-Year Problem

The average time to permit a major energy project in the United States exceeds 4.5 years for the environmental review process alone. Total project timelines from conception to operation often exceed a decade.

For context: France built 56 nuclear reactors in approximately 15 years (1975-1990). China currently builds a new reactor in approximately 5-6 years from groundbreaking to grid connection. The United States takes longer to permit a project than many countries take to build one.

The economic cost of delay is enormous. Every year of permitting delay adds financing costs, increases material costs, and defers the economic and environmental benefits of the project.

The Mesocratic proposal: a one-year shot-clock for federal energy project permits. Concurrent (not sequential) federal and state reviews. Automatic approval if the reviewing agency fails to act within the deadline. Categorical exclusions for projects on previously developed sites or within existing energy corridors.

This is not deregulation. It is faster regulation. The same environmental reviews apply — they simply happen on a timeline that allows projects to actually get built.

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7. Re-Industrialization Through Energy

The link between energy cost and manufacturing competitiveness is direct and measurable. Every energy-intensive manufactured product — steel, aluminum, cement, glass, chemicals, semiconductors — has an energy cost component. Countries with cheaper energy produce those goods more cheaply.

The United States built its industrial base on cheap energy. The original industrial boom was powered by abundant coal and oil. The shale revolution, which dramatically reduced natural gas prices, triggered a modest manufacturing renaissance in petrochemicals and related industries.

Re-industrialization at scale requires energy abundance across all sources: cheap natural gas for heat-intensive processes, reliable nuclear baseload for continuous operations, renewables for cost reduction where intermittency is manageable, and next-generation technologies as they mature.

The Mesocratic vision connects energy policy to industrial policy: abundant domestic energy production today + breakthrough energy innovation for tomorrow = a manufacturing base that can compete with any country on earth.

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8. How the Parties Compare on Energy

	Republican	Mesocratic	Democrat
Oil and gas	Expand aggressively	Expand + innovate beyond	Restrict/transition away
Nuclear	Generally supportive	Aggressive expansion + advanced R&D	Historically skeptical (shifting)
Renewables	Skeptical/reduce subsidies	Deploy + address intermittency	Primary focus
Federal energy R&D	Cut (recent proposals)	Triple to 0.1% GDP	Increase (IRA)
Permitting	Streamline	1-year shot-clock	Protect review processes
Industrial strategy	None (market-based)	Energy-linked re-industrialization	Green industrial policy
Climate framing	Skepticism/denial	National security + competitiveness	Existential crisis
Supply chains	No strategy	Rebuild domestic capacity	Friendshoring
Fusion	Minimal investment	Major national initiative	Some support

The Mesocratic position is distinct because it treats energy as an integrated national strategy rather than an ideological battleground. Produce everything available today.

Invest massively in what comes next. Fix the permitting system that blocks both. Link energy policy to industrial competitiveness. Frame the challenge as a race against China, not a fight between parties.

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9. Conclusion

The United States invented most of the energy technologies that power the modern world. It invented nuclear fission, solar photovoltaics, the lithium-ion battery, and the drilling technologies behind the shale revolution. Every one of those technologies originated in federal research programs — funded by taxpayers, developed in national laboratories, and commercialized by American industry.

Then the funding dried up. Federal energy R&D collapsed. The manufacturing moved overseas. The supply chains followed. China now matches or exceeds U.S. R&D spending, dominates clean energy manufacturing, builds nuclear reactors faster than the U.S. can permit them, and controls critical mineral supply chains.

The American energy debate, meanwhile, is stuck in the 1970s: drill versus don't drill. One party wants to produce fossil fuels and ignore the future. The other wants to install solar panels and pretend the sun always shines. Neither has a strategy for who invents the next generation of energy technology. Neither has a plan to rebuild the manufacturing base. Neither has a serious proposal for the kind of national investment that produced the technologies both parties are now arguing about.

The country that invents what's next leads the world for a century. That is what the space race was about. That is what the Manhattan Project was about. That is what the original nuclear power program was about. And that is what the energy race is about.

The United States can win this race. It has the scientists, the engineers, the national laboratories, and the universities. What it needs is a government willing to fund the work, fix the permitting, and get out of the way. That is what the Mesocratic Party proposes. The race is on. The only question is whether America shows up.

Sources and References

R&D Spending and Comparisons

- OECD. Main Science and Technology Indicators. Various years.
- ITIF. "China Is Catching Up in R&D—and May Have Already Pulled Ahead." April 2025.
- ITIF. "How Reducing Federal R&D Reduces GDP Growth." September 2025.
- Atlantic Council. "The IRA Supercharged US R&D. But Does It Go Far Enough?" August 2023.
- Visual Capitalist. "The Innovation Race: R&D Spending by Country." 2025.

- R&D World. China R&D spending projections. May 2025.
- NSF. “Discovery: R&D Activity and Research Publications.” National Science Board, 2025.

Energy R&D Specifically

- IEA. “Energy Technology RD&D Budgets Data Explorer.” 2024.
- DOE Office of Energy Efficiency and Renewable Energy. ROI analysis of federal energy R&D investments.
- Belfer Center, Harvard. Historical DOE R&D spending analysis.

Domestic Production

- EIA. U.S. energy production data. Various.
- Our World in Data. Deaths per TWh by energy source. (Lancet/WHO data).
- NRC. Nuclear reactor fleet data. NRC.gov.

Nuclear

- World Nuclear Association. Various country-level nuclear data.
- NRC. AP1000 and SMR licensing documentation.
- NuScale Power. SMR design and deployment updates.

Permitting

- Brookings Institution. Permitting timeline and economic cost analyses.
- CEQ (Council on Environmental Quality). NEPA review timeline data.

Manufacturing and Supply Chains

- Census Bureau. Manufacturing sector data.
- BLS. Manufacturing employment data.
- USGS. Critical minerals and rare earth supply chain data.
- Commerce Department. Supply chain dependency analyses.

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