

Introducing The New Ground Breaking Clean Energy - LowryCore!

LowryCore is *SAFE*, *CLEAN, AND VERSATILE*!

Versatile: LowryCore is small, modular, and easy to install!

Clean: LowryCore emits NO dangerous gases or toxic fumes

SAFE: LowryCore CANNOT meltdown

LowryCore is essential for us to meet our demanding energy needs.

LowryCore

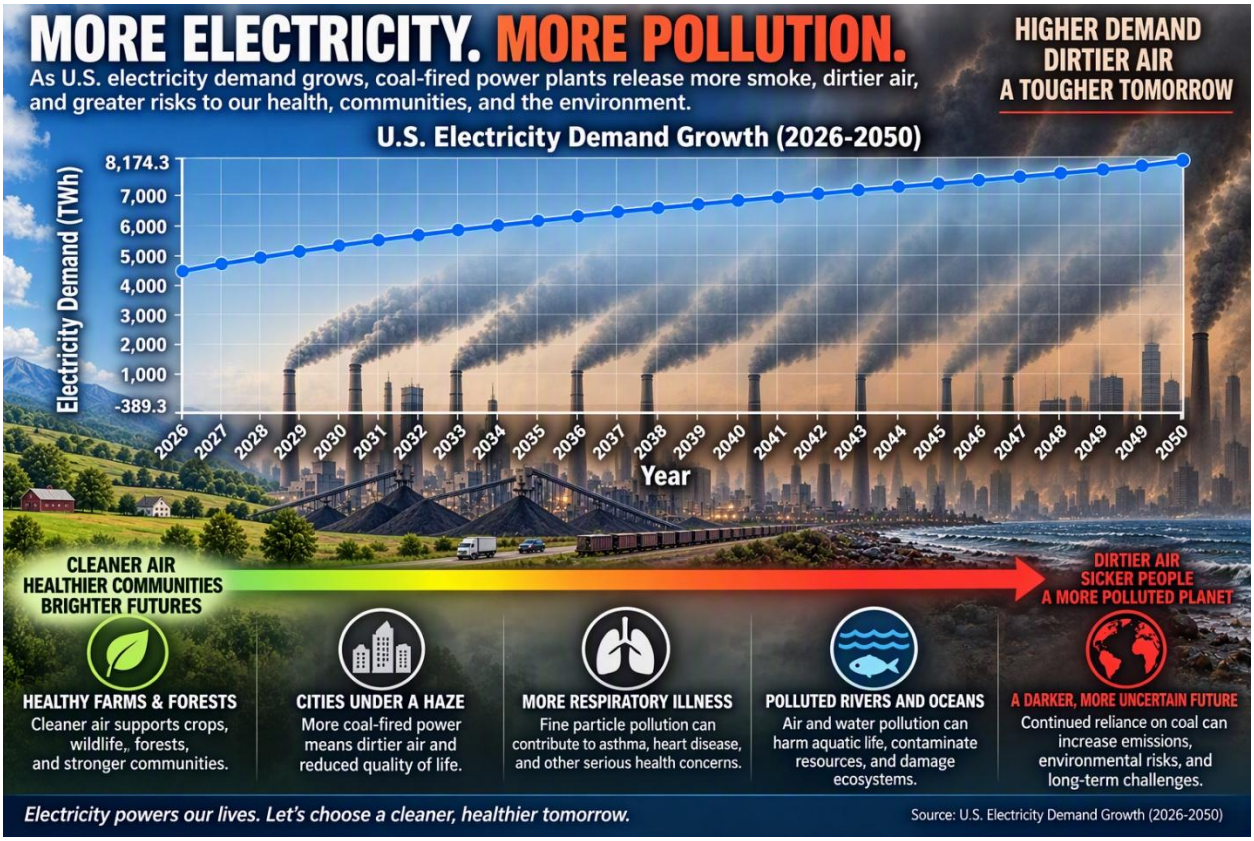
A pioneering a ***bold new era*** of clean energy!

Using an innovative next-generation Clean Energy designed to be safe, compact, affordable, and scalable. Through a clever combination of advanced energy technologies, LowryCore aims to deliver reliable, carbon-free power while eliminating many of the challenges associated with traditional energy production, including environmental risk and long-lived pollution. Built to meet the growing energy demands of homes, businesses, communities, and AI-driven industries, LowryCore envisions a future where abundant, affordable, and environmentally responsible energy is available to everyone. With its revolutionary approach to clean power, LowryCore will strengthen energy independence, support economic growth, and create a brighter, healthier planet for generations to come.

Read On!

Versatile:

⚠️ The United States faces a **structural mismatch between rapidly rising electricity demand and an aging, capacity-constrained power grid**, and this gap is widening fast. U.S. electricity demand is projected to **increase at least 78% by 2050**, driven by electrification, domestic manufacturing, and especially AI-driven data-center loads. Long-term emissions and energy-system projections also show surging demand colliding with a grid that has not expanded meaningfully in decades.



⚡ Why the U.S. MUST Upgrade the Grid

The current grid was built for a 20th-century load profile—steady, predictable, and dominated by fossil fuels. Today's load is increasingly **peaky, distributed, and high-intensity**, with large industrial and digital loads requiring "speed-to-power" capacity that the existing transmission system cannot reliably deliver. The EPA notes that renewed demand growth is already stressing the system, and future emissions will depend heavily on what types of power generation system will be built to fill the energy gap.

Over the next 50 years, continued electrification of transportation, heating, and industry suggests that total electricity demand could plausibly **double**, even under conservative growth assumptions. Current projections only extend to 2050, but even those show persistent upward pressure. Extending the same growth rates another 25 years implies a grid far beyond today's capacity.

☢️ How More Nuclear Power Helps

Nuclear energy offers three critical advantages:

- **High-capacity factor** (typically 90%+), meaning reliable, around-the-clock power.
- **Zero direct carbon emissions**, making it one of the lowest-impact technologies across its life cycle.
- **Grid-stabilizing baseload generation**, essential when demand spikes and intermittent sources cannot fill gaps.

Life-cycle assessments consistently show nuclear's environmental footprint—especially in terms of global warming potential—is far lower than fossil fuels and comparable to or better than renewables when considering land use and material intensity.

Given rising demand and the need for firm, dispatchable power, nuclear is one of the few scalable options that can expand without increasing emissions.

🌤️ Why Wind and Solar Alone Are Not Sufficient

Wind and solar are expanding rapidly, but they face structural limits:

- **Intermittency**: They cannot provide continuous baseload power without massive storage, which remains expensive and technologically constrained.
- **Land and transmission requirements**: Large renewable deployments require extensive land and long-distance transmission lines—both slow to permit and build.
- **Mismatch with demand growth**: Even in low-emissions scenarios, renewables surge only through the late 2020s; after that, natural gas competes for dominance because renewables alone cannot meet surging load growth.

Renewables are nice, but they cannot fully replace firm generation at the scale required for a doubling of U.S. electricity demand.

🏭 The "Only Other Option": More Coal and Natural Gas

If nuclear is not expanded and renewables cannot meet demand alone, the only remaining dispatchable options are **coal and natural gas**. This is already visible in high-emissions scenarios, where clean-energy additions slow and **large amounts of new natural gas capacity** fill the gap.

However, relying on fossil fuels has serious drawbacks:

- **Higher greenhouse gas emissions**, especially from coal.
- **Air pollutants** such as SO_2 and NO_x, though modern controls have reduced these significantly over the past decades.
- **Long-term climate impact**, as fossil generation remains one of the largest contributors to U.S. power-sector CO_2 emissions.

Even with pollution controls, hydrocarbon burning plants cannot match nuclear or renewables in environmental performance.

🧭 Bottom Line

The U.S. must upgrade its power grid to handle rapidly rising demand. Wind and solar will play a major role but cannot meet the full load alone. Without a major expansion of nuclear power, the country will be forced to rely on coal and natural gas—an outcome that is environmentally inferior and inconsistent with long-term emissions goals.

A modernized grid paired with expanded nuclear generation is the most realistic path to meeting 21st-century electricity needs while minimizing environmental harm.

What happened? Why is our power grid so obsolete?

📈 The Nuclear Debate Has Been Stuck for 50 Years.
The LowryCore Gen V Reactor Finally Moves It Forward.

For decades, nuclear power has lived in a strange paradox: it is simultaneously one of the cleanest, most reliable energy sources humanity has ever invented—and one of the most feared. The reasons are familiar. Images of meltdowns, radiation leaks, and mountains of spent fuel have shaped public perception far more than the quiet reality of nuclear plants that have operated safely for generations.

But fear has consequences. America's hesitation to embrace nuclear energy has left us dependent on fossil fuels, struggling to meet rising electricity demand, and falling short of our climate goals. We need nuclear power. What we don't need are the risks associated with yesterday's reactors.

That is why the emergence of the **LowryCore Gen V reactor** represents a turning point. It is not an incremental improvement. It is a fundamental rethinking of what nuclear energy can be.

💪 A Reactor You Can Hold in One Hand

Perhaps the most astonishing feature of the LowryCore Gen V is its size. This is not limited to a sprawling industrial complex. It is a compact, modular reactor small enough to hold in one hand—yet capable of scaling to deliver meaningful, usable power.

This changes everything.

A reactor this versatile can be deployed anywhere: remote communities, industrial sites, military bases, disaster-relief zones, and even individual commercial buildings as well as cities and states. It democratizes nuclear energy, making it accessible, scalable, and flexible in ways traditional reactors never could be.

Small size also means small risk. A reactor that fits in your hand simply does not carry the catastrophic potential of a gigawatt-scale facility.


LOWRYCORE
POWERING THE NEXT GENERATION CORE OF CLEAN ENERGY
A STRONGER, CLEANER AMERICA
Reliable Power Closer to Home, Businesses and AI
1 U.S. POWER GRID OVERVIEW
Electricity is generated at large power plants, transmitted across high-voltage lines, stepped down at substations, and delivered to homes, businesses, and data centers across the country.
THE U.S. POWER GRID
A NATION CONNECTED
Generation Plants
Transmission Network
Substations (throughout U.S.)
Power Plant (Traditional Generation)
High-Voltage Transmission Line
Substation
Major Demand Center
Powering Homes Businesses AI Data Centers and a Stronger Tomorrow
2 TRADITIONAL GRID
CENTRALIZED GENERATION — LONG DISTANCE DELIVERY
Large Power Plants (coal, natural gas, nuclear, hydro, renewables)
High demand puts stress on transmission lines and increases losses and outage risk.
CHALLENGES
High transmission losses
Congestion and grid stress
Expensive infrastructure
Greater outage risk
Difficulty meeting growing demand (especially AI data centers)
Homes
Businesses
AI Data Centers
Generation (Plant)
Transmission (High-Voltage Lines)
Substation (Steps down voltage)
Distribution (To local areas)
3 LOWER GRID LOAD WITH LOWRYCORE
DISTRIBUTED FUSION POWER — CLOSER TO WHERE IT'S NEEDED
LowryCore systems generate clean, abundant electricity near substations, businesses and AI data centers, reducing demand on large power plants and transmission lines.
Reduced load on transmission lines
LowryCore at Substations
LowryCore for Businesses
LowryCore for AI Data Centers
AI
4 SUBSTATIONS
STABLE, RELIABLE LOCAL POWER
LowryCore systems can be installed at or near substations to supply clean power directly to local distribution networks, reducing the load on long-distance transmission lines.
Stronger Local Grids Greater Reliability
5 HOMES
CLEAN POWER FOR COMMUNITIES
Reliable, affordable clean electricity for families and communities.
Powering a Brighter Future
6 BUSINESSES
ENERGY FOR GROWTH
LowryCore provides stable, low-cost power to businesses, fueling jobs, innovation and economic growth.
Stronger Businesses Stronger Communities
7 AI DATA CENTERS
POWERING THE AI REVOLUTION
AI
LowryCore delivers the clean, high-capacity, always-on power AI data centers need to keep America competitive.
Fueling Innovation Without Limits
CLEAN
Zero emissions
RELIABLE
24/7 power
AFFORDABLE
Lower energy costs
SCALABLE
From homes to AI
RESILIENT
Stronger, more secure grid
LOWRYCORE — CLEAN ENERGY WHERE IT MATTERS MOST
A MORE RELIABLE GRID. A STRONGER ECONOMY. A BRIGHTER TOMORROW.
CLEAN AMERICAN ENERGY INDEPENDENCE

A Reactor Small Enough to Hold—Yet Powerful Enough to Matter

The LowryCore Gen V is not a megaproject. It is a **modular reactor small enough to hold in one hand yet capable of delivering meaningful, usable power.**

This scale unlocks deployment models that traditional nuclear could never reach:

- Industrial campuses
- Remote communities
- Military installations
- Disaster-response infrastructure
- Commercial buildings
- Distributed grid-support nodes

Small reactors mean short construction timelines, low capital expenditure, and rapid scaling. They also mean a diversified nuclear portfolio rather than single-point megaproject risk.

For policymakers, this enables targeted energy resilience. For investors, it creates a product that can be manufactured, sold, and deployed at scale—rather than custom-built over a decade.

A Technology Aligned With National Priorities

The LowryCore Gen V directly supports the core priorities of U.S. energy policy and private-sector investment:

- **Grid reliability** in the face of rising demand
- **Decarbonization** without sacrificing firm power
- **Domestic energy independence**
- **Resilient infrastructure** for defense and critical industries
- **Scalable, modular deployment** that fits both public and private budgets

This is not speculative. It is a practical response to the structural challenges facing the U.S. energy system.

The Opportunity

Policymakers need technologies that reduce regulatory friction, accelerate deployment, and strengthen national energy security. Investors need technologies that minimize risk, shorten development cycles, and offer scalable returns.

The LowryCore Gen V reactor meets both needs.

It **eliminates meltdown risk**. It **solves the waste problem**. It **delivers real power** in a compact, modular form. And it runs on a fuel that is abundant, stable, and easily sourced.

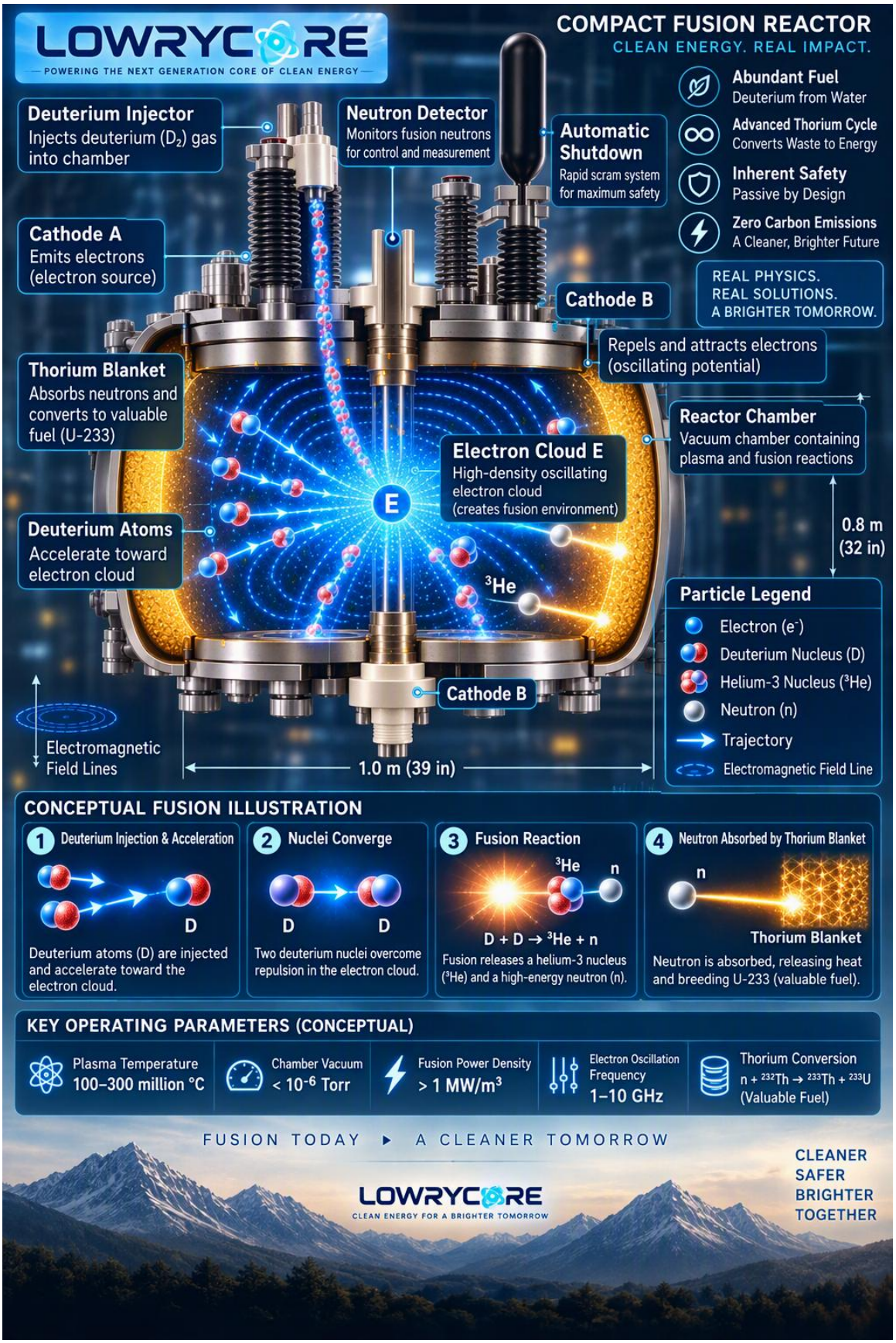
For the first time, nuclear energy is not just viable—it is **preferable**.

👍 The Safety Debate Is Over

Traditional reactors rely on complex cooling systems and active safety mechanisms to prevent an accident. The LowryCore Gen V **eliminates this this risk entirely**. Its reactor core design makes a meltdown physically impossible—not just unlikely, not just statistically improbable, but structurally excluded by the way the reactor operates.

The LowryCore reactor operates only when the included neutron generator initiates and sustain fission within the reactor core. This neutron generation process **requires electricity to function. In the event of an earthquake, tsunami, or any other significant disruption, the electrical supply is automatically cut off, causing the fission process to cease** and the reactor to shut down automatically. Even if this system were to experience an issue, the LowryCore incorporates a **fully mechanical shutdown mechanism that operates independently of electronics, sensors, and software**. This simple, elegant, and **fail-safe device immediately stops the reaction**, preventing any sustained chain reaction, heat buildup, or risk of meltdown.

This is the kind of safety architecture nuclear critics have demanded for decades. Now it exists.


LOWRYCORE
POWERING THE NEXT GENERATION CORE OF CLEAN ENERGY
COMPACT FUSION REACTOR
CLEAN ENERGY. REAL IMPACT.
Abundant Fuel
Deuterium from Water
Advanced Thorium Cycle
Converts Waste to Energy
Inherent Safety
Passive by Design
Zero Carbon Emissions
A Cleaner, Brighter Future
REAL PHYSICS.
REAL SOLUTIONS.
A BRIGHTER TOMORROW.
Deuterium Injector
Injects deuterium (D_2) gas into chamber
Neutron Detector
Monitors fusion neutrons for control and measurement
Automatic Shutdown
Rapid scram system for maximum safety
Cathode A
Emits electrons (electron source)
Cathode B
Repels and attracts electrons (oscillating potential)
Thorium Blanket
Absorbs neutrons and converts to valuable fuel (U-233)
Reactor Chamber
Vacuum chamber containing plasma and fusion reactions
Electron Cloud E
High-density oscillating electron cloud (creates fusion environment)
E
Deuterium Atoms
Accelerate toward electron cloud
^{3}He
0.8 m (32 in)
Particle Legend
Electron (e^-)
Deuterium Nucleus (D)
Helium-3 Nucleus (^{3}He)
Neutron (n)
Trajectory
Electromagnetic Field Line
Cathode B
Electromagnetic Field Lines
1.0 m (39 in)
CONCEPTUAL FUSION ILLUSTRATION
1 Deuterium Injection & Acceleration
D
Deuterium atoms (D) are injected and accelerate toward the electron cloud.
2 Nuclei Converge
D D
Two deuterium nuclei overcome repulsion in the electron cloud.
3 Fusion Reaction
^{3}He n
D + D → ^{3}He + n
Fusion releases a helium-3 nucleus (^{3}He) and a high-energy neutron (n).
4 Neutron Absorbed by Thorium Blanket
n
Thorium Blanket
Neutron is absorbed, releasing heat and breeding U-233 (valuable fuel).
KEY OPERATING PARAMETERS (CONCEPTUAL)
Plasma Temperature
100–300 million °C
Chamber Vacuum
< 10^{-6} Torr
Fusion Power Density
> 1 MW/m^3
Electron Oscillation Frequency
1–10 GHz
Thorium Conversion
n + ^{232}Th → ^{233}Th + ^{233}U
(Valuable Fuel)
FUSION TODAY ▸ A CLEANER TOMORROW
LOWRYCORE
CLEAN ENERGY FOR A BRIGHTER TOMORROW
CLEANER
SAFER
BRIGHTER
TOGETHER

⚛Thorium: The Fuel We Should Have Chosen All Along

The LowryCore Gen V runs on **thorium**, a nuclear fuel with enormous advantages:

- **Abundant:** Thorium is far more plentiful than uranium, found widely in the United States and around the world.
- **Stable:** It is not prone to the runaway reactions that make traditional uranium-based reactors more complex to manage.
- **Proliferation-resistant:** Thorium fuel cycles do not produce weapons-grade byproducts, reducing geopolitical risk.
- **Efficient:** Thorium can generate more energy per unit mass, enabling smaller reactors with higher output.

For decades, scientists have argued that thorium should be the backbone of nuclear energy. The **LowryCore Gen V finally makes that vision practical.**

♻ The LowryCore Gen V Reactor: A Practical Path to Safe, Scalable, Next-Generation Nuclear Power

For more than half a century, nuclear energy has been trapped between promise and paralysis. Policymakers recognize its unmatched reliability and carbon-free output. Investors see its potential to stabilize long-term energy markets. Yet deployment has stalled because traditional reactors carry three persistent liabilities: **meltdown risk, waste management, and scale**.

The **LowryCore Gen V reactor** directly addresses all three—transforming nuclear power from a politically difficult option into a commercially compelling one.

Eliminating the Safety Barriers That Stall Nuclear Projects

Every stalled nuclear project, every delayed permit, and every cost overrun ultimately traces back to one issue: safety systems designed to prevent meltdowns are expensive, complex, and politically contentious.

The LowryCore Gen V removes this barrier entirely.

Its core physics **makes a meltdown structurally impossible**. The reaction cannot accelerate beyond safe limits, even under extreme fault conditions. And unlike conventional reactors that rely on electronic sensors and active cooling, the

LowryCore includes a **100% effective mechanical shutdown mechanism**—a passive, physical failsafe that halts the reaction instantly. This means fewer regulatory chokepoints and dramatically simpler safety reviews allowing for a clear path to clean energy.

🌎 The Waste Problem, Solved

Nuclear waste has long been the Achilles' heel of the industry. Even though modern reactors produce far less waste than most people believe, the challenge of long-term storage remains politically and logistically difficult.

The LowryCore Gen V changes the equation entirely. Its reaction pathway produces **virtually no long-lived waste**, and what remains is minimal in volume and manageable with existing containment methods. Instead of requiring massive geological repositories, LowryCore waste can be stored in compact, secure facilities with far lower environmental impact.

For the first time, nuclear energy can be both powerful and nearly waste-free.

Solving the Waste Problem That Drives Public Opposition

Nuclear waste is not just an engineering challenge—it is a political one. Long-term storage sites face decades of litigation, community resistance, and federal-state conflict.

The LowryCore Gen V's reaction pathway produces **virtually no long-lived waste**. What remains is compact, stable, and highly manageable with existing containment technologies. This eliminates the need for large geological repositories and removes one of the most persistent obstacles to nuclear expansion.

For policymakers, this means fewer siting battles and faster deployment. For everyone, it means a technology that avoids the political volatility that has historically undermined nuclear projects.

TH-232 → U-233 BREEDING CHAIN

CLEAN FUEL
BRIGHTER TOMORROW

1 Thorium-232
Fertile Isotope + Neutron Capture (n, γ)
Absorbs a neutron to form Thorium-233.
14.05 billion years (14.05B years)

2 Thorium-233
Unstable Intermediate β⁻ Decay
Decays by beta emission to Protactinium-233.
21.8 minutes

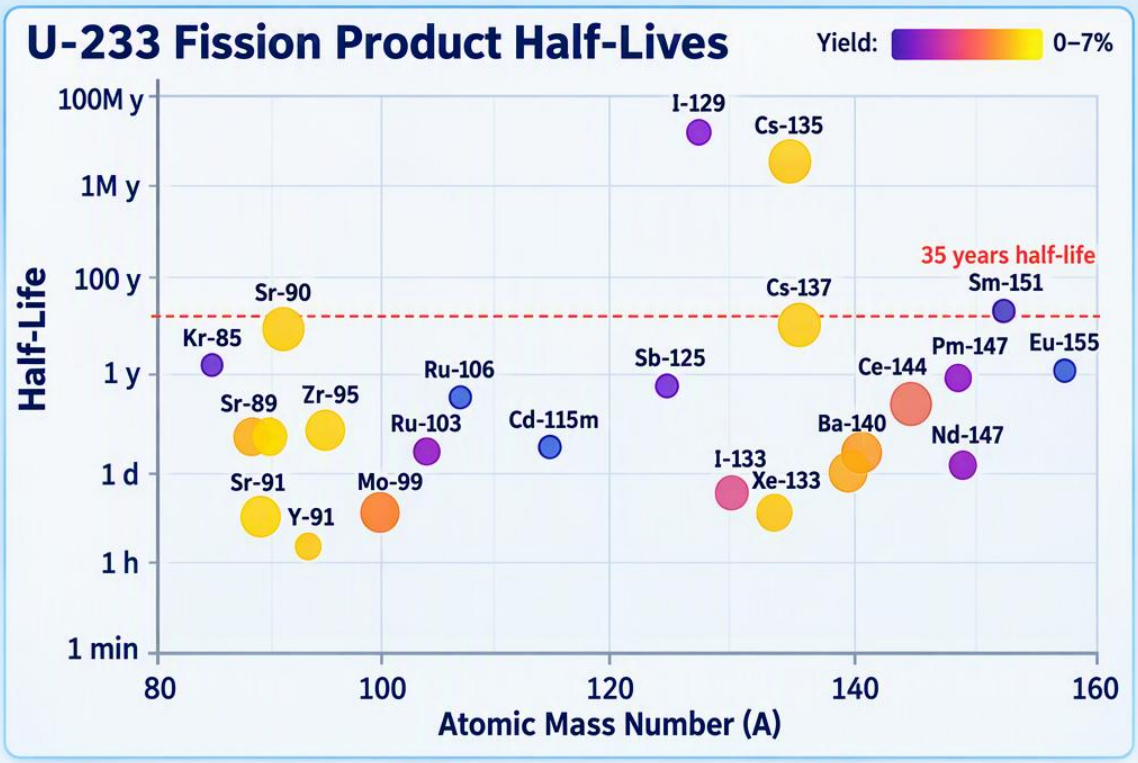
3 Protactinium-233
Intermediate Reservoir β⁻ Decay
Decays by beta emission to Uranium-233.
26.97 days

4 Uranium-233
Fissile Fuel Thermal Fission
Excellent high-efficiency fissile nucleus.
159,200 years (1.592×10^5 years)

Stage 4 Focus: Uranium-233

Excellent high-efficiency fissile nucleus. Splits upon neutron interaction to yield the fission products mapped on the right.

U-233 Fission Product Half-Lives



THORIUM TODAY
CLEANER ENERGY

NUCLEAR SCIENCE
A BRIGHTER TOMORROW

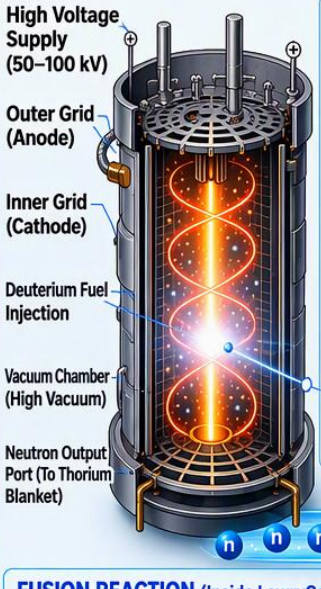
SUSTAINABLE ENERGY
FOR GENERATIONS

The Thorium Power Cycle is very environmentally friendly. ALL the fission byproducts have a half-life of less than 40 years with the exception of Cesium-135 and iodine 129. Cesium-135 only gives off weak low-energy electrons and Iodine-129 also gives off weak electrons and low power gamma rays, which can be blocked by placing the remaining Iodine in a drop of lead. For every 1 gram of Thorium 232 consumed, only 0.031 grams of Cesium-135 is produced and 0.0076 grams of Iodine-129 is produced.

LOWRYCORE: A POWERFUL PARTNERSHIP

LowryCore fusion neutrons drive the thorium fuel cycle—producing clean, abundant energy.

1 LOWRYCORE
Compact Fusion / Fission Device



HOW LOWRYCORE WORKS

1. Deuterium gas is ionized in the chamber.
2. Ions accelerate inward between grids.
3. Ions spiral inward due to electric and magnetic fields.
4. Fusion reactions occur in the center (plasma), producing neutrons and energy.
5. Neutrons exit the chamber and are directed into the thorium blanket.

FUSION REACTION (Inside LowryCore)

$^{2}H + {}^{2}H \rightarrow {}^{3}He + n$ (2.45 MeV)

Deuterium–Deuterium Fusion

NEUTRON COUPLING

LowryCore neutrons are moderated and delivered to the thorium blanket to drive the fuel cycle.

LOWRYCORE NEUTRON OUTPUT (Typical)

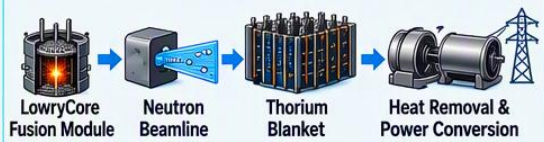
Neutron Energy	2.45 MeV (average)
Neutron Yield	10^{10} – 10^{14} neutrons/second
Output Power	1 kW – 100+ kW (thermal equivalent)
Operation	Steady-state, continuous

SHIELDING & SAFETY

- Neutron moderator slows fast neutrons
- Reflector returns escaping neutrons
- Shielding protects components and personnel

LOWRYCORE SYSTEM INTEGRATION

Designed to operate continuously and feed neutrons to the thorium blanket.



High Neutron Efficiency · Modular & Scalable · Advanced Shielding · Remote Operation · High Reliability · Low Waste Footprint

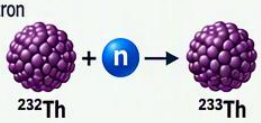
2 THORIUM FUEL CYCLE (NEUTRON UTILIZATION)

LowryCore neutrons drive the thorium-232 → uranium-233 fuel cycle.

1 NEUTRON CAPTURE (Breeding Start)

Thorium-232 captures a neutron to become Thorium-233.

$^{232}Th + n \rightarrow {}^{233}Th$



2 BETA DECAY (β^-)

Thorium-233 decays to Protactinium-233 (half-life 22.3 min).

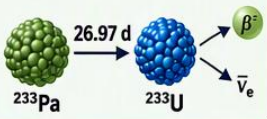
$^{233}Th \rightarrow {}^{233}Pa + \beta^- + \bar{\nu}_e$



3 BETA DECAY (β^-)

Protactinium-233 decays to Uranium-233 (half-life 26.97 days).

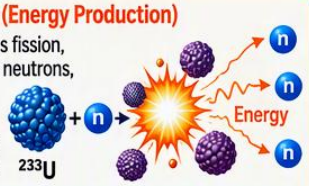
$^{233}Pa \rightarrow {}^{233}U + \beta^- + \bar{\nu}_e$



4 FISSION OF U-233 (Energy Production)

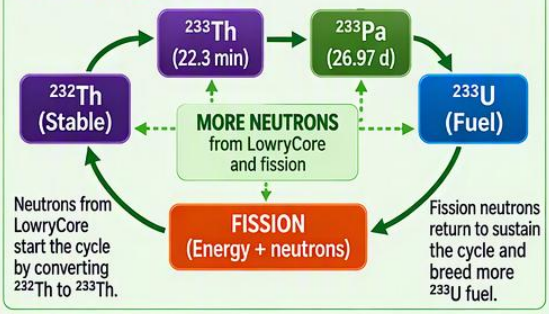
Uranium-233 undergoes fission, releasing energy, more neutrons, and fission products.

$^{233}U + n \rightarrow$ Fission Products + 2-3 n + ~ 200 MeV



Fission neutrons sustain the cycle and convert more thorium.

THORIUM CYCLE SUMMARY



WHY THIS MATTERS

Abundant Fuel (Thorium) · Enhanced Safety (No meltdown risk from LowryCore) · Low Long-Lived Waste · High Energy Density · Sustainable & Scalable

THE RESULT

A clean, efficient, and sustainable energy system powered by the synergy of LowryCore fusion neutrons and the thorium fuel cycle.

How LowryCore works

LowryCore: Reinventing the Fusor for Practical Power

The Idea

Rather than inventing a completely new reactor, LowryCore builds upon the proven Farnsworth-Hirsch Fusor.

Goals:

- Eliminate the fusor's primary weakness: grid erosion
- Use fusion as a neutron source instead of a direct power source
- Harness fusion-generated neutrons to drive a thorium energy cycle

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What is a Farnsworth-Hirsch Fusor?

A Farnsworth-Hirsch Fusor is a simple fusion device that:

- Uses a vacuum chamber and high voltage
- Accelerates deuterium ions toward the center
- Produces fusion reactions
- Generates large numbers of neutrons

Key Benefits

✅ Compact
✅ Low cost
✅ Simple design
✅ Powerful neutron source

The Main Problem

Grid Erosion

Traditional fusors use a metal cage (grid) at the center.

High-speed deuterium ions continually strike this grid, causing:

- Heating
- Material loss (sputtering)
- Structural weakening
- Reduced lifespan

The grid eventually fails.

The LowryCore Solution

No Central Grid

LowryCore replaces the central cage with a carefully controlled **electron cloud**.

Instead of accelerating ions toward a metal target:

- Deuterium ions accelerate toward the electron cloud
- No central structure is present to be struck
- Grid erosion is entirely eliminated

Benefits

✅ Longer operating life
✅ Reduced maintenance
✅ Improved efficiency
✅ Fewer neutron impacts on critical components

A Different Approach to Fusion

Most fusion projects focus on producing more energy than they consume.

LowryCore takes a different approach:

Fusion's greatest value is not electricity.

Fusion's greatest value is neutrons.

These neutrons can be used to initiate and sustain a thorium-based power cycle.

The Thorium Power Cycle.

The fusion system acts as a neutron generator.

The thin thorium blanket absorbs those neutrons and becomes the primary energy-producing system.

Result

Deuterium Fusion ➜ Neutrons ➜ Thorium Power Cycle ➜ Electricity

Inherent Safety

The thorium cycle **depends on fusion-generated neutrons**.

If reactor power is removed:

1. Fusion stops
2. Neutron production stops
3. Thorium cycle shuts down
4. Power generation ends

Simple Principle

No Fusion → No Neutrons → No Fission

Passive Emergency Shutdown

LowryCore includes a mechanical backup safety system.

If reactor temperature rises excessively:

- A meltable safety disk opens
- Pressurized CO_2 is released into the chamber
- Neutrons are absorbed

- Reactor activity is terminated

No electronics required.

LowryCore Combines the Best of Both Worlds

From Fusion

- Compact size
- Simplicity
- Reliable neutron generation

From Thorium

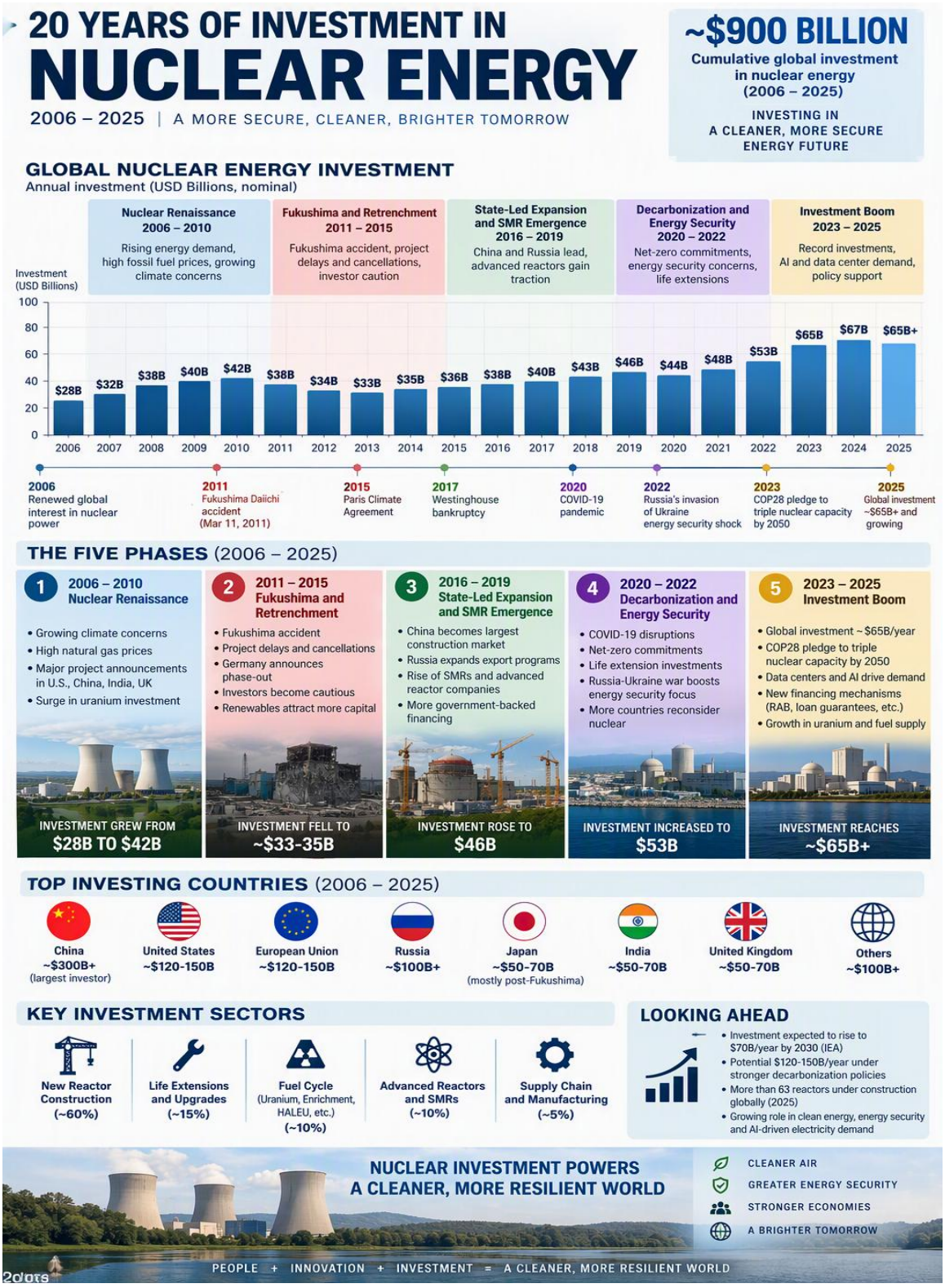
- Energy production
- Long fuel life
- Efficient use of neutrons

The Vision

A compact, efficient, and inherently safe power source built on proven fusor principles and advanced neutron-driven energy production.

Market, Grants, and Financial Projections

Investments into the nuclear industry in the last 20 years, by year and country.



Nuclear energy is now recognized as being essential to the growth of modern society, with investments and legislation taking note.

- **2023 nuclear investment: about US$65 billion globally**. [iea.org], [iea.org]
- IEA states this was**"nearly double the level a decade ago"**, implying global nuclear investment around **US$33-35 billion in 2013**. [iea.org]
- IEA projected **US$63 billion in 2023**, up roughly **US$10 billion from 2022**, implying about **US$53 billion in 2022**. [world-nucl...r-news.org]

Using those anchors and known industry events, the following timeline provides the best available estimate of global annual nuclear-sector investment (new reactors, life extensions, fuel cycle investments, and major upgrades).

Nuclear Industry Investment Timeline (2006-2025)

Year	Estimated Global Nuclear Investment (USD)	Major Investment Drivers
2006	~$28B	Beginning of Nuclear Renaissance
2007	~$32B	Uranium boom, new reactor planning
2008	~$38B	China expansion accelerates
2009	~$40B	U.S. loan guarantees, global build-out
2010	~$42B	Peak Renaissance-era commitments
2011	~$38B	Fukushima shock begins
2012	~$34B	Western project cancellations
2013	~$33-35B	Approximate IEA decade-ago baseline [iea.org]
2014	~$35B	China resumes approvals
2015	~$36B	Paris climate agreement
2016	~$38B	State-backed construction dominates

2017	~$40B	China, Russia expansion offsets Western losses
2018	~$43B	Advanced-reactor investment grows
2019	~$46B	SMR and Gen IV funding expands
2020	~$44B	COVID-related slowdown
2021	~$48B	Net-zero policies boost investment
2022	~$53B	IEA implied value from 2023 increase [world-nucl…r-news.org]
2023	~$65B	Highest level in more than a decade [iea.org], [iea.org]
2024	~$65-70B	AI, data centers, energy security
2025	~$65B+	IEA current annual level estimate [iea.org]

The Federal Government is fast tracking nuclear energy.

President Trump's nuclear energy executive orders, issued as part of his "Unleashing American Energy Dominance" agenda, aim to rapidly expand the U.S. nuclear power industry by accelerating reactor approvals, increasing domestic fuel production, strengthening nuclear supply chains, and restoring America's leadership in nuclear technology. [energy.gov], [whitehouse.gov]

Key Nuclear Priorities

- **Accelerate nuclear reactor licensing** by directing reforms at the Nuclear Regulatory Commission (NRC) and establishing faster approval timelines for new reactors. [energy.gov], [nuclearinn…liance.org]
- **Expand U.S. nuclear generating capacity**, with a goal of growing from roughly 100 gigawatts today to 400 gigawatts by 2050. [energy.gov], [world-nucl…r-news.org]

- **Support advanced nuclear technologies**, including small modular reactors (SMRs), microreactors, and next-generation reactor designs. [govinfo.gov], [energy.gov]
- **Revitalize the domestic nuclear fuel cycle** by increasing uranium production, enrichment capacity, fuel processing, and related supply chains to reduce dependence on foreign sources. [govinfo.gov], [whitehouse.gov]
- **Deploy nuclear power for national security**, including powering military installations, critical infrastructure, AI-related computing facilities, and other strategic assets. [govinfo.gov]
- **Streamline reactor testing and demonstration projects** through the Department of Energy to bring new reactor technologies to market more quickly.

Utah is also heavily fast-tracking nuclear development.

Governor Cox launched **Operation Gigawatt** in 2024, calling for Utah to significantly expand power generation to meet growing demand from population growth, electrification, artificial intelligence, data centers, and retiring baseload power plants. Advanced nuclear energy is one of the initiative's primary pillars. [energy.utah.gov], [utahdata.org]

Utah has also:

- Signed a **tri-state agreement with Idaho and Wyoming** to collaborate on advanced nuclear development in the Mountain West. [nucleus-in...espace.com], [nucleusutah.org]
- Partnered with **Idaho National Laboratory** to support nuclear research and workforce development. [le.utah.gov], [nucleus-in...espace.com]
- Sought expanded authority from the Nuclear Regulatory Commission through the Utah Department of Environmental Quality to strengthen the state's role in nuclear oversight and development. [nucleus-in...espace.com], [nucleusutah.org]

Major Nuclear Projects and Investments

Utah is actively pursuing several advanced nuclear projects:

- A memorandum of understanding between the Utah Office of Energy Development, **TerraPower**, and Flagship Companies to evaluate sites for a **Natrium advanced reactor and energy storage facility** in Utah. [energy.utah.gov], [terrapower.com]
- Nuclear test reactor projects at the **Utah San Rafael Energy Lab (USREL)**, including partnerships with **Valar Atomics** and **Natura Resources**. [le.utah.gov]
- Development of nuclear fuel manufacturing capabilities, including TRISO fuel production and broader nuclear supply chain investments. [le.utah.gov]
- State funding for nuclear program staff, public education, outreach, and seed funding for nuclear supply chain projects. [le.utah.gov]
- Exploration of small modular reactor (SMR) deployment and manufacturing facilities tied to future reactor construction and workforce training. [le.utah.gov], [energy.utah.gov]

Where is nuclear power heading?

Small Modular Reactors such as LowryCore are emerging as one of the fastest-growing segments of the nuclear energy industry because many countries need reliable, carbon-free electricity that can be deployed more quickly and with lower upfront capital than traditional large nuclear plants. The International Atomic Energy Agency (IAEA) reports growing interest from more than 40 member states due to SMRs' lower capital requirements, shorter construction timelines, flexibility in siting, and ability to provide both electricity and industrial heat. [nucleus.iaea.org], [nucleus.iaea.org]

Key drivers of worldwide demand include:

- **Energy security:** Nations are seeking domestic, dependable energy sources that reduce dependence on imported fossil fuels. [iaea.org]
- **Decarbonization goals:** Governments pursuing net-zero emissions need firm, carbon-free power to complement intermittent wind and solar generation. [nucleus.iaea.org], [emergenresearch.com]

- **Growing electricity demand:** Electrification, AI computing, and data centers are rapidly increasing power demand. The IAEA specifically notes SMRs as a potential solution for powering and cooling data centers. [iaea.org], [marketsand...arkets.com]
- **Remote and industrial applications:** SMRs can serve mining operations, military installations, islands, hydrogen production facilities, desalination plants, and regions with smaller electrical grids. [inis.iaea.org], [coherentma...sights.com]
- **Replacement of aging power plants:** Many countries face retirement of coal plants and aging nuclear fleets, creating opportunities for SMR deployment. [iaea.org]

Market Potential

Market forecasts vary depending on assumptions about deployment rates and licensing success:

Source	Current Market Estimate	Future Estimate
Markets & Markets	$6.0B in 2024	$7.1B by 2030 [marketsand...arkets.com]
Market Research Future	$5.6B in 2025	$18.8B by 2035 [marketrese...future.com]
Emergen Research	$8.2B in 2025	$22.2B by 2035 [emergenresearch.com]
Global Market Insights	$3.6B in 2025	$15.6B by 2035 [gminsights.com]

A reasonable consensus suggests the global SMR market could grow into the **$15 billion to $25 billion annual industry range by the mid-2030s**, assuming current development programs continue successfully. [marketrese...future.com], [emergenresearch.com], [gminsights.com]

Long-Term Opportunity

The opportunity becomes much larger when considering reactor construction rather than annual market revenue. The IAEA projects that SMRs could account for approximately **23% to 28% of all new nuclear capacity additions worldwide through 2060**. [iaea.org]

Given that individual commercial SMR projects can cost from hundreds of millions to several billion dollars, widespread deployment across North America, Europe, Asia, Africa, and the Middle East could create a cumulative market measured in the **hundreds of billions of dollars over the coming decades**. This would include reactor construction, fuel supply, operations, maintenance, grid integration, and decommissioning services. This cumulative figure is an industry estimate based on projected nuclear capacity growth rather than a specific cited forecast.

A Future Worth Choosing

Nuclear power has stalled for half a century, dominated by fears rooted in old technology. But the world has changed. Our energy needs have exploded. Our climate goals are urgent. And our grid is straining under the weight of electrification, data centers, and industrial growth.

We **cannot meet these challenges with fossil fuels.** We **cannot meet them with renewables** alone. And we **cannot meet them with yesterday's nuclear reactors**.

But we ***can*** meet them with the **LowryCore Gen V**.

It is safe. It is clean. It is compact. It is nearly waste-free. And it uses a fuel source that is abundant, stable, and geopolitically secure.

If America is serious about building an energy future that is reliable, sustainable, and technologically advanced, then the path forward is clear.

The nuclear revolution we have been waiting for has finally arrived—and it fits in the palm of your hand.



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