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Small Modular Reactor Market Outlook 2025-2034: Market Share, and Growth Analysis By Reactor Type (Light Water Reactor (LWR), Fast Neutron Reactor (FNR), Heavy Water Reactor (HWR), Other Reactor Types), By Power Rating (Up To 100 MW, 101 To 200 MW, 201 To 300 MW), By Deployment, By Application

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Abstracts

The Small Modular Reactor Market is valued at USD 8.9 billion in 2025 and is projected to grow at a CAGR of 3.9% to reach USD 12.5 billion by 2034.The small modular reactor (SMR) market is emerging as a transformative force within the global energy landscape, offering an alternative to conventional large-scale nuclear power plants. Designed to be compact, scalable, and factory-fabricated, SMRs present a compelling solution for countries and regions seeking reliable, low-carbon power generation with reduced financial and logistical burdens. Their modularity allows for phased deployment, shorter construction timelines, and flexibility in siting—making them ideal for remote regions, industrial sites, and power grids with fluctuating demand. As global efforts to transition away from fossil fuels accelerate, SMRs are gaining attention for their ability to provide consistent baseload power while emitting zero carbon during operation. In addition to energy generation, SMRs are also being explored for non-electric applications such as hydrogen production, water desalination, and district heating. Governments, investors, and utilities are increasingly showing interest in this technology as part of broader clean energy strategies, making the SMR market one of the most closely watched segments in nuclear innovation today. The small modular reactor market entered a phase of accelerated policy support and prototype advancement. Several countries unveiled national strategies for SMR integration, including regulatory reforms and funding incentives to stimulate private sector participation. The U.S. Department of Energy and its counterparts in Canada and the

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UK committed substantial financial backing to SMR development, fast-tracking demonstration projects and joint ventures. Meanwhile, companies such as NuScale and Rolls-Royce made headlines with progress in licensing, supply chain development, and site selection for pilot reactors. Simultaneously, academic institutions and research labs partnered with reactor designers to explore next-generation fuels, advanced cooling systems, and passive safety mechanisms that improve operational resilience. Growing geopolitical tensions and energy security concerns prompted some nations to explore SMRs as a hedge against supply disruptions and over-reliance on imported fuels. Despite delays in a few large nuclear projects globally, SMRs offered a viable path forward, especially in regions looking for more manageable energy infrastructure investments. Public perception also began to shift, with increased outreach and education about SMR safety and climate benefits, helping reduce resistance in traditionally nuclear-skeptical communities. The SMR market is poised for notable transitions from design and planning to commercialization and deployment. Regulatory pathways are expected to become clearer and more harmonized across major markets, enabling faster approval cycles and technology exports. Several pilot projects are slated for groundbreaking, particularly in Eastern Europe, North America, and parts of Asia, where SMRs will be tested for both grid integration and industrial co-generation. Commercial contracts may begin to emerge as utilities seek to diversify their low-carbon portfolios and capitalize on SMRs' flexibility. Meanwhile, new players are likely to enter the market, including technology firms and infrastructure funds attracted by the long-term returns associated with stable energy generation. Innovations in reactor design—such as molten salt and fast reactors—will continue to broaden the application scope and efficiency of SMRs. However, sustained growth will depend on addressing public skepticism, managing costs, and securing global supply chains for critical nuclear components and fuels. As energy transition goals intensify under climate action commitments, SMRs could shift from niche interest to a cornerstone of modern, decentralized energy systems.

Key Insights Small Modular Reactor Market

Accelerated Government Support: Governments worldwide are committing funds and policy incentives to fast-track SMR development, seeing them as strategic assets for energy security and decarbonization goals.

International Collaboration: Cross-border partnerships are emerging between research institutions and developers to share expertise, streamline regulatory approvals, and foster technology standardization.

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Expansion Beyond Electricity: SMRs are being designed not just for power generation but also for hydrogen production, district heating, and desalination, enhancing their value proposition in energy ecosystems.

Public Engagement and Education Campaigns: Stakeholders are prioritizing transparent communication to improve public acceptance of nuclear energy, emphasizing SMRs' safety features and climate benefits.

Private Sector Involvement: Increased interest from private equity and infrastructure funds is fueling innovation and deployment efforts, reducing reliance on purely state-backed financing models.

Demand for Clean Baseload Power: SMRs provide stable, non-intermittent power generation with zero carbon emissions, addressing the limitations of renewables in meeting 24/7 energy demand.

Need for Decentralized Energy Solutions: Remote regions and island economies require scalable, self-contained energy systems, making SMRs an ideal solution for off-grid or hard-to-reach areas.

Transition from Aging Infrastructure: Many existing nuclear and fossil fuel plants are nearing retirement, and SMRs offer a modern, cost-effective replacement path with enhanced safety features.

Geopolitical Energy Security Concerns: Nations are seeking to diversify away from imported fuels, and SMRs offer a domestically controlled source of energy that enhances national energy independence.

High Initial Development and Licensing Costs: Despite long-term benefits, SMRs face steep upfront costs for R&D, licensing, and supply chain development, which can deter investment and delay deployment timelines without sustained public-private partnerships.

Small Modular Reactor Market Segmentation

By Reactor Type

- Light Water Reactor (LWR)

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Fast Neutron Reactor (FNR)

Heavy Water Reactor (HWR)

Other Reactor Types

By Power Rating

Up To 100 MW

101 To 200 MW

201 To 300 MW

By Deployment

Single Module Power Plant

Multi Module Power Plant

By Application

Power Generation

Desalination

Process Heat

Industrial

Hydrogen Production

Key Companies Analysed

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General Electric Company

Hitachi

Korea Electric Power Corporation (KEPCO)

State Power Investment Corporation (SPIC)

Mitsubishi Heavy Industries Ltd.

OKBM Afrikantov (Rosatom)

Bechtel Corporation

Rolls-Royce plc.

Fluor Corporation

IHI Corporation

Korea Hydro & Nuclear Power (KHNP)

SNC-Lavalin Group

Toshiba Energy Systems & Solutions

Brookfield Asset Management

General Atomics Corporation

Curtiss-Wright Corporation

BWX Technologies Inc.

Nuclear Power Corporation of India Limited (NPCIL)

China National Nuclear Corporation (CNNC)

U-Battery Developments Ltd. (Urenco Group)

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Babcock & Wilcox

Tokamak Energy

NuScale Power LLC.

ARC Energy LLC

Terrestrial Energy Inc.

Holtec International

Kairos Power

TerraPower LLC.

Small Modular Reactor Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Small Modular Reactor Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

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Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Small Modular Reactor market data and outlook to 2034

United States

Canada

Mexico

Europe — Small Modular Reactor market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Small Modular Reactor market data and outlook to 2034

China

Japan

India

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South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Small Modular Reactor market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Small Modular Reactor market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

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This study combines primary inputs from industry experts across the Small Modular Reactor value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Small Modular Reactor industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Small Modular Reactor Market Report

Global Small Modular Reactor market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Small Modular Reactor trade, costs, and supply chains

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Small Modular Reactor market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Small Modular Reactor market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Small Modular Reactor market trends, drivers, restraints, and opportunities

Porter’s Five Forces analysis, technological developments, and Small Modular Reactor supply chain analysis

Small Modular Reactor trade analysis, Small Modular Reactor market price analysis, and Small Modular Reactor supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Small Modular Reactor market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

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