NewClear Energy Fund

Investment Thesis

NewClear Energy Fund (NCEF) is an innovative investment platform accelerating the deployment of Small Modular Reactors (SMRs) through a dual-track strategy and a pioneering \$600M blended capital structure. The fund leverages structured project finance and long-term sovereign or utility-backed Power Purchase Agreements, ensuring stable, predictable cash flows. The blended capital stack—combining concessional capital (3–8% IRR) with private equity (12–15% IRR)—lowers the overall cost of capital while increasing bankability. The blend of public and concessional capital to absorb early-stage risk, and comprising private equity and strategic capital deployed post-permitting and pre-construction give investors a unique value proposition. Nuclear offers stable, predictable energy and our fund mitigates issues: with few funds in the space, there's strong first-mover advantage to support industries, utilities, and communities needing 24/7 clean, and reliable power

India is at a critical crossroads—balancing rapid industrial growth with an urgent need for decarbonization. With a population of 1.4 billion and an annual economic growth rate of 6-7%—energy demand is increasing significantly. Coal powers 75% of the electricity in the country. This has resulted in severe air pollution linked to 1.6 million premature deaths each year.

Global markets are demanding low-carbon exports. The Carbon Border Adjustment Mechanism of the EU poses a threat to \$12 billion in steel and aluminum exports. The National Steel Policy in India aims for a 300% increase in production by 2030 while requiring a 50% reduction in emissions—an impossible goal given the reliance on coal-dominated grid power. Heavy industries (such as steel and aluminum) account for 35% of electricity consumption and produce 25% of CO_2 emissions. Despite ambitious renewable energy targets (500 GW by 2030)—India faces a \$1.4 trillion funding gap for its energy transition that is exacerbated by land and storage limitations for solar and wind energy.

India Energy Mix

Total Hnal Cont	sumption (2022)			
Coal	OilProducts	Natural Gas	Electricity	Biofuels
16.7%	31.5%	6.2%	17.9%	27.5%

Sources: International Energy Agency (2023). India's cleanenergy transition is rapidly underway. IEA; Rocky Mountain Institute (2023). Decarbonizing the Indian steel industry. RMI.

ECONOMIC IMPACT & MARKET

The NewClear Energy Fund SMR project in India is set to generate \$2.5-3 billion annually—supporting the 100 GW nuclear expansion of India by 2047 and its \$2.3 billion SMR R&D investment. SMR can provide reliable and carbon-free energy to remote regions like the Andaman & Nicobar Islands (replacing diesel generators and supporting 15 GW of unmet demand while cutting emissions 50-70%). Deploying SMR in India 270+ SEZs could power energy-intensive industries—reducing reliance on 5-7 GW of fossil fuels.

Global expansion into Central Asia and the UAE offers a \$100B+ opportunity. Kazakhstan and Uzbekistan seek nuclear to replace 85% coal dependence and Kazakhstan supplies 40% of the uranium, supply of the world (offering vertical integration potential). The UAE Net Zero by 2050 strategy may drive SMR adoption. Indonesia—being the largest energy consumer (280 TWh in 2022) in the SEA— aims to replace coal and diesel on 600+ islands.

India plans to deploy 40-50 SMRs to replace captive thermal power plants and support its 2070 net-zero goal. The Department of Atomic Energy, in collaboration with Tata Consulting Engineers, has redesigned a 220-MWe Pressurized Heavy Water Reactor (PHWR) into a Bharat SMR. Tata Consulting Engineers, holding an 85% market share in current nuclear engineering service, working with the Nuclear Power Corporation of India, has already established multiple PHWRs, with several more under development.

Sources: Tata Consulting with Bharat SMRs (Case Study)

CAPITAL STACK AND STRUCTURE

The fund is structured for diversification and security—a form of a blended capital stack with Tranche A and Tranche B.



Fund Name	NewClear Energy Fund (NCEF)
Investment Managers	NewClear Energy Capital Partners LLP
Target Fund Size	\$600M
Geographic Focus	India (Emerging Markets)
Tenor	20 Years (14-Year Inv. Period and 5-7-Year for Exits)
Target IRR	Tranche A – 4.9% & Tranche B – 12%
Interest Rate	Tranche A – SOFR 5% & Tranche B – 20% carried interest
Financial Covenants	Tranche A behaves like fixed-income while Tranche B





The SMR fund is inherently scalable due to its modular design to various modes and geographies and innovative financing structure.

- 1. Replicable Modular Design: Compact and standardized designs allow for rapid deployment across rural areas and underserved regions (meeting the goal of 40+ SMRs in India to be deployed rapidly).
- 2. Integration Across Indian Value Chain: The fund leverages Indian expertise as the third-largest recycler of nuclear waste globally. Advanced technologies (like AI-driven optimization tools) can be integrated into SMR operations to enhance efficiency and reduce costs.
- 3. Geographical Expansion: The financing model ensures it can address local regulatory frameworks and market conditions effectively across CentralAsia, UAE, and Indonesia.
- 4. Product Enhancement: The fund can transition from SMRs to larger nuclear plants (leveraging lessons learned from modular deployments to scale capacity for broader energy needs).

Category	Specific Risk	Mitigation Strategy	
Market	Fluctua ting demand for decarbonized energy from heavy industries. Competition from alternative energy sources like solar and wind.	Diversify industrial applications for SMR (such as chemicals and data centers) and emphasize unique value proposition.	
Regulation	Policy uncertainty ingovernment approvals for nuclear projects. Stringent nuclear liability laws deterring private sector participation.	Advocate for bipartisan nuclear policies and negotiate contracts beyond election cycles to ensure stability.	
Technology	Dependence on emerging SMR technologies with potential delays or performance issues. Challenges in scaling nuclear waste management.	Partner with proven technology providers and diversify investments across multiple SMR designs to reduce risks. Leverage Indian expertise in closed-fuel-cycle technology.	
Financial	High upfront costs and long payback periods create cash flow challenges during construction phases. Currency fluc tuations impact.	Use blended financ e models to deter risky projects. Employ financial hedging instruments to manage currency risks effectively.	
Supply Chain	Component shortages or delays due to reliance on imported reactor parts. Rising raw material costs inflating project budgets.	Build local manufacturing capacity via partnerships to achieve 60% domestic content. Secure supply contracts with local manufacturers to stabilize costs.	
Reputation	Negative public perception of nuclear energy potentially delaying project	Investin public awareness campaigns emphasizing SMR safety	

approvals or investments.

Environmental Impact

The India SMR project will generate over 141 million kWh of clean electricity annually per SMR unit-offsetting approximately 6 million tons of CO2 per GW each year-and save communities \$175 million annually by reducing reliance on dieselgenerators.

SMRs offer significant environmental advantages with near-zero emissions—producing only 15 tons of CO2 per GWh compared to 1,025 tons for coal and 167 tons for natural gas with carbon capture. They require minimalland use at just 0.033 square kilometers per GW-100 times less than solar farms and over 10,000 times less than wind farms. SMRs are also highly water-efficient, consuming only 125 gallons per MWh-24% less than coal and 40% less than natural gas. These efficiencies make SMRs an ideal clean energy solution for densely populated and water-scarce regions.

CO₂Emissions



Social Impact

SDG Impact



Al-driven optimization. Innovation and Infrastructure Drive innovation in nuclear reactor design and grid management (alongside waste management).

Clean and Affordable Energy

Provide clean and affordable energy

through SMR deployment and fusion

Decent Work and Economic Growth

Create high-skilled jobs in nuclear

technology and manufacturing with

Climate Action

energy research.

Substantially reduce GHG emissions through the replacement of fossil fuels with nuclear energy.

Partnerships for the Goals

Foster collaboration between governments and institutions for long-term nuclear projects

Success KPI

Annual clean energy generation (TWh) from SMRs and fusion projects.

Number of high-skilled jobs created in nucleartechnology and manufacturing.

Number of patents filed and research collaborations established in SMR design.

Annual reduction in greenhouse gas(GHG) emissions (million metric tons CO2 equivalent) through nuclear energy adoption.

Number of public-private partnerships and international research collaborations for nuclear projects.

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features and environmental benefits.