

# NuScale Power Investor Presentation

May 2024

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### **NuScale is the SMR Market Leader**

NuScale is the leading developer and manufacturer of advanced small modular reactor ("SMR") nuclear technology

The Company has invested over \$1.8B to become the sole advanced nuclear technology to achieve U.S. Nuclear Regulatory Commission ("NRC") design certification

NuScale's SMR design is near-term deployable, with six reactors currently being manufactured





### **Investment Thesis**

#### Strong Momentum in Nuclear and Massive Opportunity for NuScale

Growing global nuclear support

Policies and global dynamics driving interest

Nuclear is the only viable clean baseload power available to address the massive global need for 16K+ GW of carbon-free generation Strategic Partnerships with Supply Chain Partners Experienced in Nuclear

Established ecosystem of strategic partnerships who are experienced in nuclear, with continued government support

#### First-to-Market Advantage

- Years ahead of the competition
- Only advanced nuclear technology with U.S Nuclear Regulatory design certification; >\$1.8B invested to date
- No competitor has submitted for NRC approval; Submission to approval process takes at least 3 years

#### Asset-Light with Recurring Revenues



 Competitive moat supported by robust IP portfolio, mature designs and committed manufacturing partners

#### Established and Licensed Fuel Supply

NuScale SMR Technology operates with proven, approved, conventional fuel

Robust Business Development Pipeline Prospective customers in North America, Europe and Asia

### NuScale is the Only Near-Term Deployable SMR Technology in the U.S.



### **Our Core Technology | NuScale Power Module™**



Key Specifications					
Electrical Capacity	77 MWe				
Modules per Plant	Up to 12 (924 MWe)				
Design Life	60+ years				
Fuel Supply	Existing light water reactor nuclear fuel				
Safety	Walk-away safe				
Emergency Planning Zone (EPZ)	NRC-approved site boundary EPZ				

Groundbreaking technology features a fully factory-fabricated SMR, referred to as a NuScale Power Module<sup>™</sup>, consisting of an integral nuclear steam supply system in which the reactor core, steam generators, and pressurizer are all contained in a single vessel

Simple design eliminates reactor coolant pumps, large bore piping, and other systems and components found in conventional reactors

Simplicity results in an extremely strong safety case and reduced capital and operational costs

Modules can be incrementally added to power plants to match load growth

Scalable, Cost Competitive Solution with Enhanced Safety and Flexible Applications



### **Setting SMR Standards for Design Safety and Innovation**



Unlimited Coping Period<sup>1</sup> for Reactors

Coping Period Comparison: Extreme Station Blackout & AC/DC Power Loss



Generation II Reactors: 4-8 Hours with Significant Operator Actions Required



Generation III & III+ Reactors: Up to 72 Hours with No Operator Actions



Only SMR with Unlimited No operator actions or external support

#### NRC-Approved Site Boundary Emergency Planning Zone (EPZ)

Significantly smaller radius than traditional nuclear

"At-the-fence" proximity to end-users

Increased siting flexibility and decreased operating costs

Unparalleled Capability and Performance

"Black-Start" and "Island Mode" No grid power or connection required – first for a nuclear power plant

First Responder Power

Can inject power back into the system to support grid restoration

#### Highly Reliable, 24/7 Carbon-free

Clean energy to mission-critical with reliability over the 60-year plant lifetime

### **Proven Safety Features Drive Credibility with Regulators and Customers**

<sup>1</sup> Coping period is defined as time available from loss of all AC power to the safety bus until onset of core damage if no counter measures



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### First-Mover in Providing the Only Viable Zero-Emission Baseload Technology

Key Criteria						
Generation Type	Approx. 2020 U.S. Generation Volume Mix (EIA)	Baseload Capable/ Dispatchable?	Zero- Emission?	Effectively Deployable at Scale?		
Gas/Oil	39%	$\checkmark$	$\otimes$	$\checkmark$		
Coal	23%	$\checkmark$	$\otimes$	$\checkmark$		
Nuclear: Large Scale	19%	$\checkmark$	$\checkmark$	$\otimes$		
Hydroelectric	8%	$\checkmark$	$\checkmark$	$\otimes$		
Wind	7%	$\otimes$	$\checkmark$	?		
Solar	2%	$\otimes$	$\checkmark$	?		
Biomass	2%	—	$\bigotimes$	$\otimes$		
Geothermal	<1%	$\checkmark$	$\checkmark$	$\otimes$		
Nuclear: SMR	-	$\checkmark$	$\checkmark$	$\checkmark$		
Hydrogen	-	$\checkmark$	?	?		
Fusion	-	$\checkmark$	$\checkmark$	?		

#### SMRs Critical for Faster, Economically Viable Carbon-Free Energy Transition



### **NuScale is Years Ahead of the SMR Competition**

	Selected		Advantages Over Othe	er LWRs and Non-LWRs <sup>1</sup>
	Differentiators	Power for all humankind	Other LWRs	Non-LWRs <sup>2</sup>
	Underlying Technology Track Record	$\checkmark$ Light water reactor (LWR) (60+ years history)	Same as NuScale	Relatively limited
	Fuel Supply Infrastructure	✓ Exists (50+ years history)	Same as NuScale	Does not exist today
	Manufacturing Infrastructure	✓ Multiple suppliers for all components	Same as NuScale	Largely in place, but risks exist
	U.S. NRC Licensing	<ul> <li>Standard Design Approval in 2020</li> <li>Design Certification in 2023</li> <li>Second Standard Design Approval Application (SDAA) Accepted in 2023</li> </ul>	None (applications not yet submitted)	None (applications not yet submitted)
	Coping Period	✓ Unlimited	Varies (between 7-days and unlimited)	Goal of unlimited
	Unmatched Capabilities	<ul> <li>Innovations including "black-start," "island mode," off-grid operation, and site boundary EPZ</li> </ul>	TBD	TBD

### Strategic Design Decisions as Important as Regulatory First-Mover Advantage

<sup>1</sup> Does not include micro-reactors <sup>2</sup> For example; high temperature gas cooled, molten salt, and fast-reactor technologies



## Key Competitive Advantage | NRC-Approved Emergency Planning Zone (EPZ)

Pre-determined protective action plans required for large publicly accessible areas



Williams Power Station (Coal, 650 MW), S. Carolina Announced retirement date of 2028

## Strong regulatory advantages over other SMRs

- Engaged with NRC on rule for advanced nuclear emergency preparedness
- Completed all requirements to obtain approval (took ~7 years)
- Process to obtain approval is rigorous and time consuming
- Must have NRC-approved methodology to achieve site-boundary EPZ



### Only SMR with NRC-Approved Proprietary Method for Calculating Site-Boundary EPZ



### **Established, De-Risked Manufacturing Ecosystem Prepared to Deliver**



Mature Supply Chain Efficiently and Reliably Supports Commercial Deployment

<sup>1</sup> Fuel assembly image provided by Framatome Inc. and used with permission



### **Transition Requires 16K+ GW of Zero-Carbon Capacity Additions by 2040**



#### **Extended Flexibility for Diverse Electrical and Process Heat Applications**



### **NuScale is Well-Positioned for Integrated Energy System Solutions**



#### **Grid Resiliency**



- NuScale Power Modules (NPMs) not impacted by adverse weather
- On loss of offsite grid, modules can remain at power and be available to provide electricity at restoration

#### **Mission-Critical Facilities**



- Modules can provide highly reliable power to mission critical micro-grids (e.g., hospitals)
- Capable of supplying power without external grid connection



#### Coal Plant L Replacement

 130+ coal plants in the U.S., representing
 ~140+ GW of capacity, are planned for retirement through 2050 Carbon Capture & Sequestration (CCS)

**Energy Transition-Specific Opportunities** 

 Our technology can provide 100% clean power and direct air capture for energyintensive CCS facilities



 Can provide solutions to support rapid growth in energy needs from machine learning

Support for Wind and Solar Development

- Capabilities well suited to intermittency needs and conventional renewable support in the face of scale and cost challenges
- Hydrogen Production
- One module can produce 50 metric tons (Mt) of hydrogen per day



 One module can provide ~77M gal of clean water per day

### **Deep De-Carbonization Requires Emission-Free Baseload Generation**



### Inflation Reduction Act (IRA) Provides Significant Support for Advanced Nuclear

 $\triangleright$ 

30% tax credit towards the building cost of carbon-free advanced nuclear power plants

Potential 50% cost reduction for building an SMR at former coal sites



- 30% ITC (investment tax credit)
- Technology-neutral tax credits
- Start in 2025 and phased out in 2032<sup>1</sup>
- 10% bonus for eligible facilities<sup>2</sup>
- 10% bonus for domestic content



#### Loan Guarantee Expansion

- DOE's Loan Programs Office can employ up to \$40B in additional loan authority
- Additional \$3.6B to cover loan guarantee costs

# (H<sub>2</sub>) Clean Hydrogen Credit

- \$3/kg-H2 PTC for qualifying facilities
- Must begin construction before 2033
- Available for 10 years



- 30% ITC for qualifying manufacturers producing clean energy components
- \$10B extension cap, with \$4B to be located in energy communities

### Advanced Nuclear Receiving Support Previously Only Available to Renewables

 $^1$  Or when CO2 emissions from electricity production are 75% below 2022 levels  $^2$  In certain communities, e.g., coal plant communities



### **Coal-to-Clean Energy Transition Expected to Accelerate**

#### Insights from the U.S. DOE Coal-to-Nuclear Report<sup>1</sup>:

- Construction cost savings are between 15 35%
  - for a nuclear power plant to be built on a coal power plant site
- 80% of 394 active and recently retired coal plant sites are candidates to host SMRs
- \$275M in new economic activity; 92% increase in direct tax revenues per plant, each 12 module NuScale SMR supports ~270 permanent operation jobs
- The IRA places advanced nuclear on a level playing field
  - with other zero-carbon generation sources
- Additional tax incentives are available for projects in energy communities where coal mines or coal-fired power plants have closed



### Repurposing of Retired Coal Plants Represents Significant Market Opportunity

<sup>1</sup> U.S. DOE, "Investigating Benefits and Challenges of Converting Retiring Coal Plants into Nuclear Plants, 2022 H.R.5376 -117th Congress (2021-2022): Inflation Reduction Act of 2022



### **Well-Positioned to Monetize Hydrogen Opportunity**

#### **Massive Opportunity**

- 95% of the world's hydrogen is being produced using fossil fuels, especially natural gas
- 50 tons of hydrogen per day avoids ~460 tons of CO<sub>2</sub> emissions/day; 168K tons/year<sup>1</sup>

#### **Ukraine Clean Fuels from SMRs Pilot Project**

- U.S./Ukraine public-private partnership announced at COP27 with participation from Japanese and Korean industry
- Will assess and demonstrate the use of NuScale's SMR technology for commercial-scale production of hydrogen and ammonia
- Will produce ~0.5 metric tons of hydrogen/day and ~3 metric tons of ammonia/day

#### **Enabling Decarbonization Across Many Sectors**



### A Single 77 MWe NPM Capable of Providing ~2.1kg of Carbon Free Hydrogen/Hour

<sup>1</sup> Compared to hydrogen produced from natural gas

### **NuScale Steam Production Can Satisfy Key Industrial Applications**



\*Graphic adapted from "International Atomic Energy Agency, Opportunities for Cogeneration with Nuclear Energy, 2017, with additional data and input from industry

#### Accelerating power and heat generation

- Generate 250 MWt of thermal power via superheated steam (12-module generates 3 GWt)
- Yield ~500K lbs. of steam/hour at 1500 psia/500°C (2400 psia/650°C being evaluated)

#### Deploying solutions to new opportunities

- Study with Shell Global to assess hydrogen production using NuScale integrated system
- DOE announced award with Oak Ridge National Lab to perform study for major U.S. petrochemical with goal to produce scalable process heat

#### Value from design advantages

- Site boundary EPZ minimizes heat-loss from transport process
- NuScale Power Module not impacted by corrosion from extremely high-temperatures

#### High Temperature, High Pressure, Carbon-Free Steam for Industrial Decarbonization



### **Data Center Opportunity**

Data center share of U.S. electricity usage is growing, accelerated by Artificial Intelligence ("AI")



Equivalent to electricity used by one-third of U.S. homes in a year



1. Source: Boston Consulting Group, The Impact of GenAl on Electricity: How GenAl is Fueling the Data Center Boom in the U.S. (September 13, 2023)

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### **Single Hub Solution to Meet Growing Energy Demand**

#### Global Strategic Partner for Commercialization and Development of Energy Plants with NuScale SMR Technology

#### ENTRA1 Provides Bespoke Structures to Meet the Unique Needs of Energy Purchasers



### **Market Engagement**

- Coal plant repurposing remains a strong focus for NuScale as our technology is well suited for a coal site repurpose

   having a site boundary emergency planning zone, small footprint and the ability to re-purpose the coal plant
   staffing while providing growth to the community with long term, well paying positions
- As the energy needs continue to increase, we are engaged in discussions with the majority of U.S. utilities
- NuScale has been working with industrials to enhance the production of process heat and hydrogen and looking at opportunities globally
- The increased energy needs of the data and AI community has clearly been recognized by NuScale and our technology offers a unique match to the needs of these off takers
  - Having the only technology approved for off-grid/behind-the-meter applications
  - Having an Emergency Planning Zone at boundary of the site
  - The ability to provide a high reliability/availability output during refueling of one module
- Increasing water shortages globally have also increased our discussions to support the energy needs of desalinization plants
- Our technology offers unique characteristics to meet the needs of these different sectors and our increased discussions with potential customers are encouraging for our future results





### Financials Driven by Delivering NuScale Power Modules and Services Provided

	Select NuScale Services									= Revenue Timing					
	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	COD	T+1	T+2	T+3	T+4	T+5	
Licensing & Support															
Startup & Testing															
Initial Training															
Nuclear Equipment Inspection & Testing															
Fuel Supply, Handling & Refueling Services															
O&M Engineering Program Mgmt.															
Requal Training Services															
Design Engineering Mgmt.												к			
Procurements & Spare Parts Mgmt.															

#### Expecting to Create Services Value for All Customers

#### **Revenue Source**

 Diversified suite of services including licensing support, testing, training, fuel supply and program management

#### **Competitive Advantage**

 Developed and controlled design and licensing basis

#### **Cash Revenue Timing**

 Full 60+ year plant life plus pre-COD services

#### **Recurring Revenue Model Begins Pre-COD and Spans 60+ Year Plant Life**

Note: COD stands for Commercial Operation Date





### **Key Financial Themes**

- Strategic initiatives aligned resources with transition to commercialization and revenueproducing contracts, while generating \$50M to \$60M in annualized savings, starting in 2Q'24
- Improved cash position while remaining debt free
- Higher net loss driven by a one-time \$3.2M charge supporting our transition to commercial operations and a \$9.0M noncash adjustment to fair value of warrants due to a higher share price

Revenue	Net Loss	Cash
<b>\$1.4M</b> 1Q'24	<b>\$(48.1)M</b> 1Q'24	<b>\$137.1M<sup>1</sup></b> No Debt
VS	VS	
<b>\$5.5M</b> 1Q'23	<b>\$(35.6)M</b> 1Q'23	



#### 1. March 31, 2024 cash Includes restricted cash of \$5.1M

## **Capitalization Summary**<sup>1</sup>

Share Type	Amount	Description
Class A Shares	86.8M	NuScale Power Corporation Class A shares
Class B Shares	154.5M	NuScale Power Corporation Class A shares issuable upon the exchange of one Class B share and one NuScale Power, LLC Class B unit <sup>1</sup>
Total Shares Outstanding	241.3M	
Options	12.1M	Legacy options converted to NuScale Power Corporation stock options
Warrants	18.5M	Spring Valley Acquisition Corporation warrants assumed upon merger
Time-Based Restricted Stock Units	6.8M	NuScale Power Corporation 2022 Long-Term Incentive Plan
Total Dilutive Shares	37.4M	
Fully Diluted Shares	278.7M	



<sup>1.</sup> As of March 31, 2024; Must be exchanged for Class A shares