Advanced Nuclear Policy Options Paper

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Acronyms and Abbreviations

0x40 Assessment	Zero by 40 Technoeconomic Assessment
ANZEC	Advanced Nuclear Zero Emission Credit
ARDP	US DOE Advanced Reactor Demonstration Program
ATWACC	After-Tax Weighted Average Cost of Capital
Backbone	Nuclear Reliability Backbone Initiative
Blueprint	Blueprint for Consideration of Advanced Nuclear Technologies
BNPP	Barakah Nuclear Power Plant
BOAK	Between of a Kind
BOP	Balance-of-Plant
CAPEX	Capital Investment Project Cost Data
CES	Clean Energy Standard
CEZ	Clean Energy Zones
CFADS	Cash Flow Available for Debt Service
CFD	Contract for Difference
CGN	China’s General Nuclear Power Corporation
CGPP	Coordinated Grid Planning Process
CO_2	Carbon Dioxide
COD	Commercial Operation Date
CWIP	Construction Work in Progress
DFC	US International Development Finance Corporation
DOE	United States Department of Energy
DOE-EDF	United States Department of Energy Office of Energy Dominance Financing
DPS	New York State Department of Public Service
DSCR	Debt Service Coverage Ratio
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
EDF	Électricité de France
EDFP	Energy Dominance Financing Program
EFC	Environmental Facilities Corporation
EIA	Energy Information Administration
ENEC	Emirates Nuclear Energy Corporation
EPC	Engineering, Procurement and Construction
EPR	European Pressurized Reactor
EPR2	Evolutionary Power Reactor 2
ESD	Empire State Development
EXIM	Export-Import Bank of the United States
FFB	Federal Financing Bank
FID	Final Investment Decision
First Mover	Advanced Nuclear First Mover Initiative
FOAK	First of a Kind
Gen III+	Generation III+ Nuclear Technologies
Gen IV	Generation IV Nuclear Technologies

GEVH	GE Vernova Hitachi
GJGNY	Green Jobs Green New York
GO	General Obligation Bonds
G-PSC	Georgia Public Service Commission
GSP	Gross State Product
GW	Gigawatts
GWe	Gigawatt-electric
HALEU	High-Assay Low-Enriched Uranium
HcLo DEFR	High Capital, Low Operating Cost Dispatchable Emissions Free Resource
HPC	Hinkley Point C
I/O	Input-Output
IDC	Interest During Construction
IOU	Investor-Owned Utility
IPP	Independent Power Producer
IRR	Internal Rate of Return
ITC	Investment Tax Credit
KEPCO	Korean Electric Power Corporation
KEXIM	Export-Import Bank of Korea
KHNP	Korea Hydro & Nuclear Power Company
LLC	Limited Liability Company
LLWR	Large Light Water Reactor
LSE	Load-Sharing Entity
LUIE	Land Use Intensity of Energy
lwSMR	Light Water Small Modular Reactor
MACRS	Modified Accelerated Cost Recovery System
Master Plan	Master Plan for Responsible Advanced Nuclear Development in New York
MMR	Micro Modular Reactors
MOU	Memorandum of Understanding
MW	Megawatts
MWe	Megawatt-electric
MWh	Megawatt-hour
NAICS	North American Industry Classification System
NOAK	Nth of a Kind
NOL	Net Operating Loss
NPV	Net Present Value
NRC	United States Nuclear Regulatory Commission
NSSS	Nuclear Steam Supply System
NWF	UK National Wealth Fund
NYC	New York City
NYCA	New York Control Area
NYGB	The New York Green Bank
NYISO	New York Independent System Operator
NYPA	New York Power Authority
NYS/the State	New York State

NYSERDA	New York State Energy Research and Development Authority
O&M	Operations and Maintenance
OCC	Overnight Capital Cost
OEB	Ontario Energy Board
OEM	Original Equipment Manufacturer
Ofgem	United Kingdom Office of Gas and Electricity Markets
OL3	Olkiluoto-3
OPG	Ontario Power Generation
OREC	Offshore Wind Renewable Energy Certificate
PACB	Public Authorities Control Board
PAYGO	Pay-As-You-Go Funds
PE	Private Equity
PIT	Personal Income Tax
PPA	Power Purchase Agreement
PRA	Project Readiness Assessment
PRDC	Provision for Revenue During Construction
PSAR	Preliminary Safety Analysis Report
PSC/Commission	New York State Public Service Commission
PTC	Production Tax Credit
PV	Present Value
QA	Quality Assurance
QC	Quality Control
RAB	Regulated Asset Base
REC	Renewable Energy Certificate
RES	Renewable Energy Standard
RFI	Request for Information
RFP	Request for Proposals
RFQ	Request for Qualifications
RGGI	Regional Greenhouse Gas Initiative
SEP	New York State Energy Plan
SMR	Small Modular Reactor
SPAC	Special Purpose Acquisition Company
SPV	Special Purpose Vehicle
Staff	Staff of the Department of Public Service
TANEO	Texas Advanced Nuclear Energy Office
TRISO	Tri-Structural Isotropic Fuel
TVA	Tennessee Valley Authority
TVO	Teollisuuden Voima Oy
TWh	Terrawatt-hours
UOG	Utility-Owned Generation
WACC	Weighted Average Cost of Capital
WTP	Willingness to Pay
ZEC	Zero Emission Credit

Summary

This Options Paper evaluates a broad range of policy mechanisms available to New York State (NYS) to support new grid-scale advanced nuclear projects, with the objective of identifying approaches that can enable project viability while minimizing expected costs and risk exposure to the public. This Options Paper assesses potential financial support, technology selection and procurement approaches. It starts a process to provide clarity on these points to the market which would in turn help investment in New York State to proceed as soon as possible. Other areas of an enabling policy framework for advanced nuclear will be addressed in the full Advanced Nuclear Master Plan to be released by the end of 2026.

Nuclear Reliability Backbone Initiative

The Nuclear Reliability Backbone Initiative (Backbone), announced by Governor Hochul in her 2026 State of the State address, is central to securing a clean, affordable, and reliable energy future for New York State. By preserving the 3.4 gigawatt (GW) of existing nuclear capacity that has long served as part of the foundation of the State's carbon-free electricity supply, and by building 5 GW of advanced nuclear generation, the Backbone would provide the firm, zero-emission power needed to meet rising demand, complement continued renewable deployment, and maintain system reliability and affordability as the grid decarbonizes. The Backbone would also serve as a major new investment in New York State's growing clean energy economy, with the ability to create thousands of stable, well-paying jobs both during construction and operations, which could generate billions of dollars in economic growth and producing hundreds of millions in annual tax revenue. It would also strengthen New York State's ability to attract and retain the industries that are increasingly making location decisions based on access to clean, reliable power.

The case for advancing the Backbone is reinforced by multiple recent State analyses, including the 0x40 Technoeconomic Assessment, the Coordinated Grid Planning Process, and the 2025 State Energy Plan's pathway analysis. The State Energy Plan analysis projects significant system cost savings when including new nuclear in New York State's grid decarbonization pathway. These quantified benefits are reinforced by other public benefits, such as land use savings due to the high energy density of nuclear energy and health benefits from air quality improvements where nuclear generation would displace fossil power plants.

Barriers to Commercial Viability

During early project development leading up to the Final Investment Decision (FID) and the subsequent construction phase leading up to commissioning, key challenges arise around sourcing finance.

Pre-FID finance needs can amount to hundreds of millions of dollars for a gigawatt-scale project. Project developers can be expected to source at least some of this funding themselves. If the State policy framework can be introduced, and once awards are made to projects based on that framework, this would likely help developers to obtain affordable finance sources ahead of a FID (such as in the form of bridge loans). In addition, more direct government financial support for the pre-FID period can be considered.

FID is the project milestone that would unlock the main finance sources needed to fund construction. Debt is expected to become available at this stage in the form of federally-backed debt. The main challenge at this stage would be to secure private sector equity capital, given exposure to construction risk. Due in part to cost overrun risk during construction, private sector equity capital may be unwilling to invest, or might only invest at hurdle rates projects cannot realistically meet, without significant financial risk sharing with other parties.

Beyond these finance barriers, analysis carried out for this Options Paper indicates that, at the current expected cost levels of advanced nuclear projects, projects would require above-market revenue levels to be commercially viable, implying a need for a level of public support. This is similar to other clean energy technologies, such as renewables and storage, but it is important to note that fossil fuel power generation has also received federal subsidies for over a century. Some critical sources of support for advanced nuclear are already in place, including from the federal government in the form of tax credits and favorable debt financing terms. However, these are insufficient. Above-market revenue may also be available from some third-party offtakers, such as hyperscalers (digital service providers that operate large data centers); but their involvement may not align with New York State's unique policy goals.

Options Assessment

Rather than any single tool, successful deployment would benefit from an integrated, government policy framework that addresses barriers related to early development risk, construction risk, and operational revenue sufficiency. Each type of support entails a shift in the distribution of cost and project risk between the market/developer and the State. The optimal mix of these forms of financial support is one that achieves a cost-effective balance of project risk and benefits between the State and the developer.

Cost overrun guarantee

Availability of finance for advanced nuclear projects depends on risk. Therefore, as a starting point, any government approach should focus on reduction of risk. Partially, this would involve clarity on the broader context, such as supply chain and workforce availability, including through the forthcoming Advanced Nuclear Master Plan. As regards cost overrun risk, projects should reduce risk by applying best practice lessons learned from previous projects, such as the development of Vogtle Units 3 and 4 in Georgia.

These approaches would reduce but not entirely eliminate risk. For allocation of the residual cost overrun risk, consideration should be given to a range of project parties and other third parties. Engineering, Procurement, and Construction (EPC) providers and technology providers have taken on all or most of this risk in some previous projects. Going forward, they would likely not have the ability or appetite to do so, but should still be expected to take on a portion of the risk. Offtakers may also have a role. There may be opportunities through private sector insurance, which may be able to price this risk lower than private sector equity providers. A role for the federal government has also been considered through proposed federal legislation and would be appropriate given that the issues at hand are not limited to any individual state.

A contribution from NYS towards this risk would, as a starting point, be expected to extend to the portion of any cost overruns that aligns with any State or State-backed equity share in the project. Beyond that, a government cost overrun guarantee may need to also cover a portion of risk associated with the equity stake of private sector investors. Any State contribution towards risk should only be available after private sector project partners and investors would have absorbed a reasonable level of cost overrun. More specific terms are likely best explored through negotiations or a competitive process rather than a prescriptive determination in policy.

If the State contributes to bearing project cost overruns or similar risks, consideration should be given to upside sharing as well, either for the specific project to be deployed in New York State or potentially also for subsequent deployment that would benefit from lessons from initial deployment.

Advanced Nuclear Zero Emission Credits (ANZECs)

Advanced Nuclear Zero Emission Credits (or ANZECs) for new advanced nuclear projects could provide the above-market revenue needed to make projects viable. However, relying on ANZECs in isolation could result in higher ANZEC costs than where ANZECs would be used as part of a broader support package that includes complementary interventions discussed in this paper.

NYS can draw on its existing CES experience to inform ANZEC design choices, such as award process/mechanisms and revenue hedging.

Voluntary purchase of clean energy credits by private sector parties has long since been part of the CES, and the reasons for enabling this in terms of reducing ratepayer costs would also hold for a new ANZEC program.

Some types of large electricity load customers, in particular hyperscalers, could be attractive as offtakers for new nuclear projects due to their willingness, in many cases, to pay premium prices. This could be pursued through a power purchase agreement (PPA) or voluntary ANZEC sale construct, and could helpfully reduce the public cost of the nuclear plant. However, this would also consume the corresponding portion of the plant's capacity, and thereby reduce or eliminate generation available for other customers and the grid more broadly. Such tradeoffs and options to mitigate concerns in this respect require thoughtful consideration.

Ownership Structures

Nuclear projects would typically be expected to use a project finance model with a special purpose, non-recourse entity, with equity funding provided by specialized equity investors. As an alternative to a fully privately-owned structure, State or state-backed equity investments can be made available at lower costs than private equity and can help reduce the hurdle rate for any remaining private equity, lowering total project costs and public support needs. Public equity could take the form of a minority stake or majority stake, with larger stakes resulting in greater reduction of overall project/public costs, but increased public exposure to cost risks. The State entity taking a stake would not be expected to be exposed individually to investment risks, but rather this would be expected to translate to more general State backing for risks associated with equity ownership.

Utility ownership, across a spectrum of ownership models, could potentially provide a similar conduit for State-backed equity and ratepayer cost recovery while preserving private-sector project execution and cost incentives. Any such structure would likely need to be designed to function differently from typical utility ownership structures. Aspects to consider would include the level of utility equity ownership, the balance of project oversight between the utility and non-utility project partners, exit options when a project enters commercial operation versus a continued utility role in operation, the cost of utility equity, risk allocation, and state and federal regulatory considerations.

Construction Grants and Debt Finance

Construction grants can reduce the level of revenue support needed since they displace capital that would otherwise need to be raised from private sector funders with a zero-cost public injection, and in this sense grants could fulfil a similar role as State equity.

Debt available from the United States Department of Energy's Office of Energy Dominance Financing (DOE-EDF) and Federal Financing Bank (FFB) has the potential to cover up to 80% of advanced nuclear deployment costs of initial projects through low-cost, long-term debt with favorable terms, including interest capitalization and credit support. New York State support mechanisms (grants, equity, cost overrun guarantee, etc.) can enhance project creditworthiness and access to EDF financing, while later projects may rely primarily on private debt.

Pre-FID activities

During the pre-FID phase, the State should anticipate the need to make decisions on State support awards to projects as soon as possible, since this will help give private sector funders the confidence that projects will achieve FID and thus help to unlock private sector pre-FID finance. Development of the broader State support framework through the Advanced Nuclear Master Plan will also be important. As a complement, more direct government financial support for the pre-FID period can be considered in the form of grants, government bridge loans, or a level of backstop for private sector finance.

Funding Sources

The range of options under consideration extends beyond those exclusively within the New York State Public Service Commission's (Commission) authority, and if they require public funding, that funding could come from sources other than ratepayers. State funding, such as for grants, would primarily be considered through the annual State budget process. Where any funding sought through the budget process would need to be raised through State debt, this typically entails additional constraints, such as in the form of debt limits. Separately from the budget process, individual State entities such as the New York State Energy Research and Development Authority (NYSERDA) or the New York Power Authority (NYPA) can issue bonds to raise finance. Such bonds are typically revenue-backed, which for nuclear projects could reference revenue from project operations, but also Investment Tax Credit (ITC) payments. Such bonds would probably require additional State or ratepayer backing in relation to construction risk.

Technology Selection and Pipeline Considerations

There are two key decisions related to pursuing the 5 GW goal: which nuclear technology or technologies should be selected, and the pace and sequencing of procurement and deployment.

Technology selection matters in the nuclear sector both to manage technology risk and because cost reductions for nuclear technologies occur primarily for individual technologies rather than across the sector.

There are a number of trade-offs between selecting a first-of-a-kind (FOAK) or more mature technology, but for New York State's first project a more mature technology likely makes most sense. Advantages of FOAK technologies include increased economic development opportunities, but FOAK technologies also face higher cost risk and technology risk.

Between Large Light Water Reactors (LLWRs) and Small Modular Reactors (SMRs), the former has the advantage of previous deployment experience in the US and therefore lower cost and cost uncertainty and lower operational risk. Their larger size also enables faster deployment timelines on a per-GW basis. SMRs are likely to have a higher initial cost per kW, but a lower cost per project, resulting in a smaller amount of upfront capital at risk for the first (and likely riskiest) reactor of the pipeline. Additionally, repetitive construction activity may enable them to achieve cost reduction faster than LLWRs, though this has not yet been demonstrated. SMRs also offer unique siting opportunities in the case of smaller sites that could not accommodate larger projects.

Beyond NYPA's technology choice for its initial project, New York State could take a range of approaches to sequencing and pace of achieving the 5 GW pipeline. Approaches could include: committing to a single technology pipeline for the full 5 GW; pursuing multiple different technologies in parallel, each with a pipeline of multiple units; pursuing multiple technologies but sequentially rather than in parallel, with a review period to enable a later decision whether to continue with the same technology or switch to a different technology; or a "project-by-project" approach where projects are procured as individual units without pipeline commitments. The analysis of each of these approaches indicates the following key learnings:

- **Pipeline deployment unlocks cost reductions**. Pipeline deployment of multiple units of the same technology is important to access cost-reducing learning benefits – such approach is expected to result in lower cost than procurement of many different single-installation projects of different technologies. More generally a pipeline commitment provides the greatest level of clarity and certainty, helping for instance with workforce development.
- **Optionality is important.** The future developments of different nuclear technologies are uncertain. Even if proceeding with a pipeline of installations, New York State should therefore try to maintain flexibility, potentially through opt-in or opt-out provisions, or review periods. Maintaining the option to switch technology can lower costs if a technology other than the one initially selected achieves breakthroughs in cost or performance. A review window can similarly provide the opportunity to adjust the policy framework based on lessons learned from initial procurement action. However, a review window adds additional time to project completion.
- **Faster is not always cheaper.** New York State has urgent needs to develop clean energy projects expeditiously and the expected expiration of federal tax incentives makes parallel deployment of multiple projects and technologies tempting. However, the analysis suggests that the advantages of maximizing cost reductions through learning over time outweigh the benefit of additional access to tax credits. Additionally, as has been learned, changes in tax incentives can be unpredictable and can have long-lasting repercussions. On the other hand, as the State Energy Plan analysis indicates, faster deployment can also unlock more electricity system benefits.

Pipeline development could benefit from cooperation between jurisdictions, for instance through the “First Mover” group of states or with the Canadian province of Ontario. Partnerships between governments could take multiple forms, including: joint contracting with project developers for pipeline deployment across multiple jurisdictions, including risk sharing arrangements; joint procurement of key components to secure bulk buying discounts; expansion of contracts that might initially be entered into by one state to subsequently add participation by other states; or, for neighboring jurisdictions, partnerships that involve physical sharing of nuclear generation (i.e., through imports).

For any State involvement across a pipeline of projects, consideration needs to be given to how State support levels can be reduced as technologies mature and cost reductions are achieved. This should apply both to any support payments (e.g., ANZECs) as well as to the level of risk exposure that the State might ultimately accept. The unique nature of procurement of advanced nuclear resources, especially where procurement would extend to a pipeline of projects rather than individual units, raises unique implementation questions for mechanisms aimed at public support reduction over time.

Procurement Mechanisms

The design of a procurement framework for advanced nuclear in New York State is characterized by three factors: (1) the need for an integrated approach spanning multiple support components across pre-FID, constructions, and operational stages; (2) the potential involvement of actors beyond New York State, including the federal government, other states, and offtakers; and (3) the prospect of delivering not just a single project but a portfolio capable of achieving the scale and cost reduction trajectory implied by the Backbone commitment.

The primary procurement mechanism across New York State’s large-scale clean energy programs has been the Request for Proposals (RFP), and such a process could still have a role to play for certain elements of advanced nuclear procurement such as site and technology selection. However, a conventional RFP may not be well suited to the complex nature of nuclear support packages and to projects where allocation of project risk necessarily requires high levels of negotiation. Further, the nuclear sector is characterized by a smaller number of qualified providers and thus a more limited pool of potential competitors.

A competitive negotiation process is likely more appropriate for the financial commitment components of any State support package, particularly State equity participation and cost overrun terms, where the State is acting not just as a regulator but as a project partner.

To the extent State support is awarded through a negotiation process rather than an RFP, a pre-qualification process may be helpful to screen developers, technologies, and project proposals as a prerequisite to entering the process for negotiating and awarding State support, as well as qualifying for complementary programmatic efforts such as siting and regulatory assistance opportunities.

A key eligibility question for the options put forward in this Options Paper is their potential applicability to projects that may be developed in neighboring jurisdictions but could deliver nuclear energy to New York State in the form of imports. The CES contains precedents of how this possibility could be incorporated. More broadly, the options set out in this Options Paper are initially advanced for grid-scale nuclear generation projects. Other use cases such as microgeneration or applications that would serve heat needs will be considered later.

Cost Reductions

This Options Paper pursues the dual objective of identifying policy options that can help projects overcome barriers to commercial availability and thus enable deployment to proceed, while at the same time identifying the most efficient path for doing so from a public cost perspective. Throughout the paper, the following opportunities for cost reduction are identified:

- **Risk reduction and best practice project structure/management** – ensure lessons (e.g., from Vogtle) are applied by project developers.
- **Realistic risk sharing.** A standard RFP approach focused primarily on lowest bid prices may merely increase the risk of cost overruns. A competitive negotiation approach may enable both price discovery but also negotiations on robust provisions on risk sharing to avoid cost increases from cost overruns.
- **Finance and support policies**. Cost of equity finance is a critical component of the total project cost. It could be reduced through a (partial) State cost overrun guarantee to reduce private sector equity hurdle rates, and State equity to (partially) replace private equity. Both reduce expected cost, but both also entail greater public upfront risk.
- **Voluntary ANZECs or hyperscaler PPAs** could reduce the ANZEC public cost, but especially hyperscaler involvement needs to be weighed against broader considerations.
- **Pre-FID grants** could both address pre-FID barriers and lower total public cost compared to an ANZEC only approach. However, any upfront support increases public risk exposure and would require a near-term cash outlay.
- **Technology choice.** SMR technologies currently appear more expensive per unit of energy than a large light water reactor approach. Maintaining a “wait and see” component in technology and project selection for the 5 GW of new nuclear may allow New York State to react to technology and cost developments and adopt an SMR design that is proving it’s able to produce lower cost for a portion of the Backbone. True first-of-a-kind designs will likely have higher costs than either the LLWR or more mature SMR designs that are already in some stage of project deployment. This paper does not identify compelling reasons that would justify that exposure for New York State.
- **Timing and sequencing; ITC availability.** Based on cost analysis, proceeding as quickly as possible with, for instance, multiple designs in parallel could maximize

both ITC availability before the ITC is scheduled to phase out at the beginning of the 2030s. However, the analysis suggests that a more "phased" approach would be cheaper to New York State as a result of a greater ability to capture learning-based cost reductions. The ITC's duration in its current form is too short to reach a fully sustainable cost level for advanced nuclear and should be extended.

- **Pipeline vs project-by-project** - pipeline procurement unlocks higher learning and therefore more cost reductions than unit-by-unit procurement.
- **Siting**: Large sites that can accommodate multiple units/GW, as well as deployment at existing/brownfield sites, offer additional cost efficiencies over multiple small and/or greenfield sites.
- **Multistate cooperation** could enable risk sharing or cost reductions through multistate bulk component orders or joint procurements.

Process and Timeline

New York State is simultaneously pursuing a first gigawatt-scale project led by NYPA and laying the groundwork for the broader deployment needed to fulfil the total 5 GW commitment. These two tracks are distinct in their timelines, pace, and nature of State involvement. But they are also deeply interdependent, with the NYPA project informing the State support framework and structure for the wider deployment of the Backbone portfolio.

NYPA's process to assess sites and project partners for selection is ongoing, including through the recently announced Request for Qualifications (RFQ) for experienced nuclear developers and delivery partners. NYPA is expected to establish a project plan, with an appropriate governance structure, and in consultation with appropriate State entities. As a follow-up to this Options Paper and subsequent white paper and technical conference, the Commission will be in a position to review and provide direction on the approach to potential ratepayer support options. Other (non-PSC) State actions may proceed in parallel.

Lessons learned from the NYPA project can lead to standard terms, for instance on the distribution of risk between project partners, that can inform the awards process for the broader Backbone portfolio. To support the site and developer selection process for the wider Backbone portfolio, NYSERDA can pursue broader community engagement to identify and prepare candidate host communities, and a pre-qualification process to determine technology and developer eligibility for further State engagement. This can be followed by matchmaking between qualifying communities and developers. As the Backbone framework matures, cooperation with other states and jurisdictions can be pursued, including through the Advanced Nuclear First Movers Initiative.

Next Steps

This Options Paper will be open to public comments until August 10, 2026. Stakeholder comments can be entered through the DPS Document and Matter Management System in Case 26-E-0335. NYSERDA and DPS Staff will hold a technical stakeholder conference no later than October 31, 2026, with further details in this respect to be announced. DPS Staff will then prepare a White Paper addressing the issues and policy options considered in the Backbone proceeding by November 13, 2026.

1. Introduction

On January 14, 2025, Governor Hochul announced the development of a Master Plan for Responsible Advanced Nuclear Development in New York (Master Plan). At the same time, the New York State Energy Research and Development Authority (NYSERDA) published a Blueprint for Consideration of Advanced Nuclear Technologies (Blueprint) that sets out the scope of the Master Plan work. The Blueprint also indicated how New York State (NYS or the State) defines the group of advanced nuclear technologies under consideration for new nuclear deployment going forward. The term "advanced" nuclear refers to a range of newer designs that improve on conventional reactors through features such as passive or inherent safety systems, modular construction, alternative coolants, and operational versatility. This includes both designs that are typically categorized as Generation III+ and Generation IV. The full range of installation sizes is under consideration, including large light-water reactors (LLWR), small modular reactors (SMR), and micro modular reactors (MMR).[1]

On January 13, 2026, Governor Hochul advanced a new Nuclear Reliability Backbone Initiative (Backbone) to pursue deployment of five gigawatts (GW) of new advanced nuclear electricity generation in addition to New York State's existing nuclear capacity.[2] NYSERDA and Staff of the Department of Public Service (Staff) are presenting this Advanced Nuclear Policy Options Paper (Options Paper) as an initial part of the Master Plan to enable consideration by the New York Public Service Commission (Commission or PSC) and the State of steps needed to pursue the Backbone goal. This Options Paper has been developed to review and assess a comprehensive range of potentially viable options in respect of finance and financial support for advanced nuclear projects in NYS, including analysis of the cost implications of the key structural options.

The scope of this Options Paper is limited to grid-scale power generation advanced nuclear projects, both at the small modular and large scale. Other applications of advanced nuclear energy, including micro-scale projects, non-power use cases such as industrial heat or hydrogen production, and fusion generation, will be addressed at a later time.

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[1] Office of Governor Kathy Hochul, "Governor Hochul Commits More Than $1 Billion to Tackle the Climate Crisis – the Single Largest Climate Investment in New York's History". January 2025. https://www.governor.ny.gov/news/governor-hochul-commits-more-1-billion-tackle-climate-crisis-single-largest-climate-investment

[2] Office of Governor Kathy Hochul, "Governor Hochul Unveils Ratepayer Protection Plan to Hold Energy Companies Accountable and Ensure a Reliable Grid ". January 2026. https://www.governor.ny.gov/news/governor-hochul-unveils-ratepayer-protection-plan-hold-energy-companies-accountable-and-ensure

NYSERDA, together with the Department of Public Service (DPS), continues to work on the broader Master Plan, expected to be completed by the end of 2026. As set out in the Blueprint, the full Master Plan will address issues around nuclear workforce, supply chain, regulation, safety, siting, waste, environmental justice, research and development (R&D), and fusion.

This Options Paper is structured as follows:

- **Section 2** considers the need for advanced nuclear generation in New York State, and more specifically the Backbone goal and the costs and benefits associated with pursuit of this goal;
- **Section 3** analyzes the barriers to commercial viability, with **Section 4** offering in-depth assessment of the policy options available for overcoming them, and **Section 5** describing available funding sources for intervention options.
- **Section 6** sets out possible strategic approaches to technology and pipeline selection and timeline for implementation of the 5 GW goal, followed by **Section 7** which compares the procurement methods available to the State, and **Section 8** which offers an illustrative discussion of procurement timeline and process.
- **Section 9** concludes with near-term next steps.

These discussions are supported by more detailed examination of topics in the following appendices:

- **Appendix A:** Preliminary Economic Impact Analysis
- **Appendix B:** Market Assessment
- **Appendices C and D:** Cost Analysis
- **Appendix E:** Technology Maturity Assessment

2. Nuclear Reliability Backbone Initiative

In her 2026 State of the State address, Governor Hochul announced the Nuclear Reliability Backbone (Backbone), a new initiative led by DPS to consider, review, and facilitate a cost-effective pathway to 4 GW of new advanced nuclear energy for New York State. This announcement followed on the Governor's earlier directive to the New York Power Authority (NYPA) in June 2025 to lead the development of an advanced nuclear power project in upstate New York capable of generating at least 1 GW of zero-emissions electricity.[3]

The Governor's two initiatives would result in an 8.4 GW Backbone of clean, reliable, baseload power to support millions of New Yorkers across the State, consisting of a goal of 5 GW of new advanced nuclear generation, combined with New York State's existing nuclear capacity of 3.4 GW. The Nuclear Reliability Backbone would directly enhance New York State's ability to keep homes, businesses, and critical infrastructure running, while delivering power to growing industries across the State and to high load centers, like New York City (NYC) and other high-density centers.

2.1 New York's Operating Nuclear Fleet

Nuclear energy has played a foundational role in New York State's electricity system for more than half a century, and the 3.4 GW of existing nuclear generation is the result of deliberate policy choices to preserve this critical resource. The State's four operating reactors – R.E. Ginna, Nine Mile Point 1, Nine Mile Point 2, and James A. FitzPatrick – are located in upstate New York on the shore of Lake Ontario. Together, they produce approximately 27.5 terawatt hours (TWh) of electricity annually, accounting for more than 20% of New York State's electricity generation and 40% of its carbon-free power. All four facilities operate at well over a 90% capacity factor, typically pausing generation only during refueling activities. Together, the four operating reactors avoided 16.4 million tons of carbon dioxide (CO_2) emissions in 2024, equivalent to 20% of statewide transportation emissions.[4]

New York State's nuclear fleet is one of the oldest in the country, with an average age of approximately 50 years. The electricity needs these plants were built to meet are starkly different from those of the State they power today. They also offer what was, at the time of their

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[3] Office of Governor Kathy Hochul, "Governor Hochul Directs New York Power Authority to Develop a Zero-Emission Advanced Nuclear Energy Technology Power Plant". June 2025. https://www.governor.ny.gov/news/governor-hochul-directs-new-york-power-authority-develop-zero-emission-advanced-nuclear-energy

[4] The Brattle Group, "Economic and Power System Impacts of New York's Nuclear Units". September 2025. https://www.carbonfreeny.com/s/20250918-Constellation-NY-Written-Report.pdf

construction, an under-appreciated asset: nuclear power produces no direct greenhouse gas emissions or co-pollutants during operation, and its lifecycle emissions are among the lowest of any generation technology. As New York State pursues an emissions-free electricity system by 2040 in accordance with Public Service Law Section 66-p, the existing nuclear fleet continues to provide firm, dispatchable, zero-emission generation at scale.

Recognizing the importance of these facilities to the State's decarbonization and economic goals, the Commission established the Zero Emission Credit (ZEC) program in 2016 as part of the State's Clean Energy Standard (CES). At the time, the owners of the Fitzpatrick and Ginna nuclear power plants had planned to close the facilities due in part to low electricity prices resulting from a decline in the price of natural gas.[5] Based upon its review of Staff's research, the information that was gathered on the facilities, and the comments and proposals submitted into the proceeding, the Commission found that the benefits of retaining the zero-emission attributes of New York's Upstate nuclear plants outweighed the costs. The subsequent implementation of this program avoided the closure of the Ginna and FitzPatrick plants and supported the continued operations at Nine Mile Point Units 1 and 2.

In recognition of the nuclear fleet's essential system-wide benefits, in January 2026, the Commission approved the extension of the ZEC program, which will continue the program through 2049. This extension is intended to provide New York State's nuclear fleet with the financial stability needed to continue operating through the end of each facility's extended operating license. The 2025 New York State Energy Plan's (SEP) Pathways Analysis concluded that the alternative of retiring these plants at the expiration of their operating licenses would result in a decrease in nuclear generation capacity by 1,201 megawatts (MW) in 2030 and 2,033 MW in 2040, likely contributing to greater reliance on fossil generation while exposing the State to greater energy price volatility, reduced system diversity, and increased energy security concerns.[6] This is not speculation. As seen by the closure of Indian Point Energy Center, the termination of clean, dispatchable resources leads immediately to increased fossil use and higher emissions. Further analysis conducted by NYSERDA as part of the ZEC program found

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[5] PR Newswire, "Entergy to Close James A. FitzPatrick Nuclear Power Plant in Central New York". November 2015. https://www.prnewswire.com/news-releases/entergy-to-close-james-a-fitzpatrick-nuclear-power-plant-in-central-new-york-300170100.html.
See also Case 14-E-0270, Petition Requesting Initiation of a Proceeding to Examine a Proposal for Continued Operation of the R.E. Ginna Nuclear Power Plant, LLC., Reliability Support Services Agreement (filed February 13, 2015). https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=14-E-0270&CaseSearch=Search

[6] New York State Energy Plan, "Chapter 16: Pathways Analysis". December 2025. https://energyplan.ny.gov/Plans/2025-Energy-Plan

that the continued operation of New York State's nuclear fleet is projected to reduce total system cost by $15 billion on a net present value (NPV) basis over the 2025-2050 forecast period.[7] A 2025 report from The Brattle Group further found that the continued operation of New York State's nuclear fleet to 2050 would contribute $38 billion to the state's economy, support over 14,000 jobs, and preserve $10 billion in tax revenues.[8]

2.2 New York's Changing Energy System

Preserving the existing fleet as the 3.4 GW foundation of the Backbone is critical to meeting the State's current energy and decarbonization needs, but those needs are rapidly changing, and new resources will be required to maintain system reliability and affordability. After decades of relatively stable electricity demand, New York State is entering into a period of substantial load growth driven primarily by beneficial electrification of our lives, homes and vehicles, and new economic development opportunities. The SEP's core planning scenario projects a 24% increase in annual electricity demand by 2040.[9] New York Independent System Operator, Inc. (NYISO) projects baseline load growth of approximately 2% annually but notes that the potential for significantly greater growth from large load projects. Already, NYISO has reported narrowing reliability margins across the State, increasing the risk of future system disruptions absent the addition of new dispatchable capacity.[10] On the supply side, this is taking place within a context of the ongoing transition from aging fossil resources to clean generation.

Increasing demand is unfolding alongside the continued buildout of renewable generation, including significant deployments of solar, land-based wind, offshore wind, and energy storage in pursuit of the State's goal to decarbonize the electricity grid by 2040 and broader Public Service Law targets. Renewable resources are essential to lowering emissions bringing needed resource diversity. As a result, New York State's commitment to renewable deployment remains unchanged. However, ensuring grid reliability in a high-growth, high-renewables system

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[7] Case 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Comments on Department of Public Service Staff Zero-Emissions Credit Program Extension Proposal (filed October 20, 2025). https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-E-0302

[8] The Brattle Group, 2025.

[9] New York State Energy Plan, "Summary for Policymakers". December 2025. https://energyplan.ny.gov/Plans/2025-Energy-Plan

[10] New York Independent Service Operator, "Summer 2026 Capacity Assessment". May 2026. https://www.nyiso.com/documents/20142/57796669/S2026%20Capacity%20Assessment%20for%20OC.pdf/0b4612fb-fb14-671f-98b1-89ec25d2732b

requires a complementary set of firm, dispatchable resources including new nuclear generation to provide energy when intermittent generation is not available.

The DPS CES proceeding is ongoing to examine these challenges.[11] As part of this proceeding, in 2025, EPRI and NYSERDA authored a technoeconomic assessment to evaluate technologies that could help New York State reach its 2040 grid decarbonization goal.[12] The Zero by 40 Technoeconomic Assessment (0x40 Assessment) included evaluation of a range of candidate technologies including nuclear, hydrogen, biofuels, advanced geothermal, carbon capture and storage, long-duration energy storage, and virtual power plants. The 0x40 Assessment categorized these technologies into three types depending on the key contributions they offer to the system to meet the needs of load increase, reliability, and decarbonization: low capacity factor resources (or peak load resources), high capacity factor resources (or baseload resources), and gap rightsizing resources (or load shifting resources). Within this context, the 0x40 Assessment found that the characteristics of nuclear generation with its high energy density and capacity factor can reduce reliance on intermittent and land-intensive resources as well as on expensive peaking generation.

Where the 0x40 Assessment identified the range of technologies needed to complement renewables as well as the characteristics of these technologies on a largely qualitative basis, several other studies and planning efforts are providing valuable quantitative insights into the benefits and necessity of a Nuclear Reliability Backbone particularly as it relates to the affordability and reliability of our energy system.

The 2025 SEP, published in December 2025, assessed multiple scenarios to show future energy pathways for New York State. The Pathways Analysis carried out for the SEP explored how the State's energy supply and delivery systems can meet forecasted needs through 2040 and beyond. The Final SEP modeling carried out detailed analysis to compare scenarios with and without new nuclear, using the evaluation of five scenarios: No Action, Current Policies, Additional Action, Net Zero A, and Net Zero B. The Current Policies and Additional Action scenarios included variants that explored tradeoffs with and without new nuclear and the associated transmission needs. These pathways included the option for the model to build up to 2.2 GW and 3.3 GW of new nuclear by 2040, respectively. Across the four variants – two under

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[11] Case 15-E-0302, "Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard." https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-E-0302

[12] NYSERDA and EPRI, "Zero by 40 Technoeconomic Assessment". September 2025. https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/Energy-Analysis/Zero-x-40-Technoeconomic-Assessment.pdf

the Current Policies scenario and two under the Additional Action scenario – and based on its least-cost optimization approach, the model chose to build the maximum amount of nuclear allowed by 2040 each time with additional builds in the 2040s reaching between 4.8 and 5.6 GW total by 2050, coupled with new transmission. At the same time, scenarios with new nuclear still also projected very significant levels of new renewables buildout (48-49 GW of new renewables by 2050), emphasizing the economic efficiency of a complementary approach together with new nuclear. Though the timing of the building of the transmission and the number of accompanying renewables built varied, new nuclear paired with transmission enhancements proved to be an important component in the mix of generation resources to meet policy goals at least cost in all pathways.

The Coordinated Grid Planning Process (CGPP), New York State's long-term transmission and distribution planning initiative, also identified nuclear energy as a key part of the most cost-effective solution to meet New York State's future energy needs.[13] The capacity expansion model run as a part of the CGPP optimizes the most economic, reliable, and Public Service Law 66-p compliant generation mix for New York State. In CGPP Scenario 2, the analysis was set up to include the possibility of deploying a so-called high capital, low operating cost dispatchable emissions free resource (HcLo DEFR), corresponding with the characteristics of nuclear generation. In this scenario, the capacity expansion model selected to build 5 GW of such resources, driven by their low operating cost, ability to provide a significant portion of energy needs, low land use intensity, and high firm capacity as a percentage of nameplate. This complementary approach of new nuclear and renewables was economically efficient, reducing the need to over-build large-scale renewable energy resources by 20 GW as compared to the scenarios with no new nuclear. Relatedly, this scenario also reduced the need for new local transmission compared to other scenarios. Lowering the total number of projects also eliminates the need for hundreds of interconnection studies and permits, while lowering administrative costs significantly.

Going forward, the CGPP process can support the Nuclear Reliability Backbone through the identification of new transmission and distribution upgrades to bring the energy generated at new nuclear sites to the load centers where it is needed most. Additionally, the Commission is advancing the Clean Energy Zones (CEZ) initiative, which seeks to coordinate clean energy and

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[13] Case 20-E-0197, "Coordinated Grid Planning Process: Cycle 1 Report". (filed May 4, 2026). https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=20-E-0197&CaseSearch=Search

grid infrastructure development to maximize efficiency and reduce ratepayers cost while enabling further community benefits and engagement.

2.3 Benefits and Costs of the Backbone

Based on both analysis carried out for this Options Paper (see Appendices C and D) and analysis from other available studies referenced above, this paper provides insights on the balance of costs and benefits associated with pursuing 5 GW of new advanced nuclear generation as part of the Nuclear Reliability Backbone.

Appendix D of this Options Paper offers initial cost analysis that can be refined further over time. Under a base case policy approach and if deployment would take place at greenfield sites, the public cost of support programs to enable 5 GW of advanced nuclear could range from around \$15.4 to \$23.9 billion in total over the first 25 years of operation of these plants. This range reflects a wide spectrum of choices on the pace of development and selected technologies. This Options Paper also identifies a range of policy variants, and depending on the combination of such intervention options, these could reduce the cost projection range by up to 29%. Costs could be further reduced by up to 19% where projects use existing or brownfield sites rather than greenfield sites. Where private sector offtakers may pay projects at above-market levels for nuclear energy this could again reduce public cost.

Throughout this Options Paper, the analysis therefore offers important choices to pursue advanced nuclear in the most efficient manner. Where the selected approach will ultimately still entail a public cost, this should be considered within the context of the system and societal benefits that these actions can be expected to unlock. System benefits quantification in particular is a critical consideration since this recognizes that the costs of one technology – in this case advanced nuclear – should not be assessed in isolation. Rather, such analysis compares the cost of meeting our energy system needs with advanced nuclear to the alternative without. As noted, the State Energy Plan provides this analysis in the form of two scenarios. At the low end, with estimated new nuclear deployment of 2.2 GW by 2040 and 4.8 GW by 2050, net system benefits were quantified as \$28.1 billion by 2040 and \$47.2 billion by 2050 (NPV). At the high end, with nuclear deployment of 3.3 GW by 2040 and 5.6 GW by 2050, the system benefit was projected to be \$31.1 billion by 2040 and \$54.2 billion by 2050, relative to a baseline of decarbonizing the grid without nuclear.

Note that the SEP only assessed a time horizon through 2050 and therefore omits subsequent system benefits over the full lifetime of the nuclear generation assets. The SEP analysis estimated annual system benefits in the year 2050 as $2.89-$3.94 billion per year (2024$), and these benefits can be taken as an indication of the level of annual system benefits beyond 2050.

A number of other benefits and advantages of nuclear deployment not included in the above analysis should also be considered:

- **Economic impact**: In addition to enabling economic development through their power supply, nuclear facilities themselves offer direct economic development opportunities, in particular job and supply chain growth, to their surrounding communities and New York State as a whole. Preliminary economic analysis in Appendix A points to the economic benefits and job growth that new nuclear deployments could deliver to the State's economy. Key findings from Appendix A are summarized in Table 1 for a representative LLWR or SMR project, in each case adjusted to 1 GWe for comparative purposes.

Table 1. Advanced Nuclear Preliminary Economic Impacts

	Large Light Water Reactor (1 GWe)	**Light Water Small Modular Reactors (1 GWe)**
Total Value Added *(2025$, billions, undiscounted)*	**$15.0**	**$20.0**
Planning and Construction Phase	$2.0	$2.2
Operations (40 years)	$13.0	$17.9
Total Jobs Added		
Planning and Construction Jobs (average per year)	980	1,082
Operations Jobs (permanent)	1,071	1,470

Scaled across 5 GW, these projections indicate that the build-out of the Backbone could support thousands of jobs during construction and operations, while generating billions of dollars of economic growth. Further analysis of the workforce, supply chain and economic development opportunities of advanced nuclear technology deployments is ongoing and is expected to be published with the full Master Plan at the end of 2026.

- **Energy diversity and security:** By providing firm, dispatchable, zero-emission baseload generation, nuclear facilities complement the intermittent output of New York State's growing renewables supply, while reducing the State's reliance on out-of-state energy imports. Estimates from CGPP and SEP show that strategic transmission investments paired with new nuclear generation could save ratepayers tens of billions of dollars as compared to scenarios without nuclear deployment. Nuclear's high capacity factor also supports system resilience and cost stability against supply disruptions, fossil fuel price volatility and seasonal demand peaks.

- **Land use.** Nuclear generation has the lowest Land Use Intensity of Energy (LUIE) of any electricity production source when compared to natural gas, wind, solar, geothermal, hydroelectric, and biomass generation. For example, nuclear generation uses only about 1% of the land that solar panels would require for a similarly sized system.[14] It can also be sited on existing or brownfield sites, resulting in significant land use savings when compared to the build out of new large-scale renewables. Analysis from the CGPP indicates that, by reducing total capacity needs, 5 GW of new nuclear reduces the total energy-specific land-use requirements by over 200,000 acres (not including energy storage or transmission siting), which is an area larger than the footprint of the five boroughs of New York City.[15]
- **Long term value**. As noted, the system benefits quantification provided here only extends to 2050, at which point the last units of a 5 GW pipeline would likely only just have come online (see Appendix D (Cost Analysis – Results) for scenarios that show deployment timelines). The SEP analysis quantifies the annual system benefits in 2050 as $2.89B-$3.94 billion. Annual benefits of this order of magnitude could be expected to continue, not just for the initial 40-year life of the nuclear plants but likely well beyond, given the expectation of much longer total project lifetimes including license extensions.
- **Health and air quality**. Beyond system costs and carbon value, the Backbone is expected to deliver meaningful public health and air quality benefits. Nuclear generation produces no direct air pollutants during operation. The SEP analysis saw the elimination of the need for 15 TWh of gas generation in 2040 that was retained in the Draft SEP results under realistic but constrained renewable deployment assumptions with no nuclear additions. This reduction in fossil fuel use is equivalent to roughly 25% of the State's current annual fossil fueled generation. Reduced emissions from these sources would contribute to improved air quality and associated public health benefits, with the expectation that such benefits would disproportionately benefit communities that have historically borne the greatest pollution burdens from in-State fossil generation.

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[14] Lovering J, Swain M, Blomqvist L, Hernandez, "Land-use Intensity of Electricity Production and Tomorrow's Energy Landscape," *PLoS* ONE 17, no.7. July 2022. https://doi.org/10.1371/journal.pone.0270155

[15] National Renewable Energy Laboratory, "Land of Opportunity: Potential for Renewable Energy on Federal Lands". January 2025. https://docs.nlr.gov/docs/fy25osti/91848.pdf.

The benefits and costs summarized here make the case for proceeding with around 5 GW of new nuclear generation. Determination of an optimal timeline to achieve this goal requires further consideration. The benefits quantification from the CGPP and SEP analyses suggests system benefits are maximized where deployment proceeds as soon as possible. This Options Paper identifies broader pros and cons of the pace of rollout in Section 6 (Technology Selection and Pipeline Considerations), including availability of federal tax credits, maintaining optionality on technology selection, maximizing cost-reducing learning effects, and development of workforce and supply chain. While the process to consider these factors is underway, this paper does not offer a recommendation on a specific target date for achievement of the 5 GW goal.

3. Barriers to Commercial Viability

This section offers a summary of the key financial and financing challenges and barriers that advanced nuclear faces and that government intervention would need to address in order to ensure commercial viability of these projects. The barrier assessment provided here reflects a detailed assessment of, and lessons learned from, past and current advanced nuclear projects and government programs in other jurisdictions, both abroad and in the US, provided in Appendix B (Market Assessment). It also reflects observations from the quantitative cost analysis provided in Appendix D (Cost Analysis – Results).

There are three main phases to a nuclear project: early development leading up to the final investment decision (FID); the construction phase leading up to commercial operation date (COD); and operation.

3.1 Reaching FID

FID represents the key financing milestone when both equity and debt funders commit to the project and both types of funding become available to the project. Reaching this milestone as soon as possible in the development cycle enables access to the finance needed to pay for the higher and higher levels of annual expenditure as the project reaches later stages of development and starts construction. However, this milestone can only be reached if and when funders are comfortable that the project proposition is sufficiently mature for them to understand and agree to the level of risk and reward. This will require clarity both on key aspects related to project development and related to the government policy framework. The challenge here is a potential vicious circle where funding becomes available at FID, but finance is also needed for project costs that need to be incurred to complete the project development steps that will enable FID.

The size of this challenge in the first instance depends on the size of pre-FID funding needed. For a new nuclear project, the pre-FID phase encompasses the full set of activities required to reduce regulatory, technical, site, environmental, and execution risks to a level that enables a final investment decision. These activities include site and technology selection; early and ongoing regulatory engagement; and extensive site characterization work, such as geotechnical borings, seismic testing, and hazard analysis, hydrogeologic investigations, groundwater monitoring, and meteorological data collection (e.g., through installation and operation of meteorological towers). In parallel, developers undertake terrestrial and aquatic environmental surveys, cultural and archaeological assessments, and preparation of environmental reports to support licensing. Pre-FID scope also includes development of preliminary plant and site design, including nuclear steam supply system and balance-of-plant design sufficient to support a construction permit application, as well as preparation of the Preliminary Safety Analysis Report (PSAR), emergency planning frameworks, and the construction permit application with a request for Limited Work Authorization. Under the U.S. Nuclear Regulatory Commission (NRC) licensing framework, these elements form core components of the safety and environmental reviews required prior to authorization of construction activities. Lastly, pre-FID activities include negotiating and executing an Engineering, Procurement, and Construction (EPC) contract and making deposits on long lead items. It is expected that for initial gigawatt-scale projects, these costs may add up to hundreds of millions of dollars.[16]

Completion of these activities prior to FID is important because they directly determine whether the project is financeable. At FID, capital providers require a sufficiently de-risked project, including a well-defined site, an established licensing pathway, and a mature preliminary design basis. Without these elements, fundamental uncertainties around constructability, licensing timelines, and project costs remain too high to support underwriting of multi-billion-dollar capital commitments. This sequencing is reflected in both regulatory requirements and market practice. The NRC requires submission and review of safety and environmental documentation prior to issuance of a construction permit or limited work authorization, and recent project experience indicates that developers must complete substantial engineering, licensing, and site development work prior to taking a final investment decision.[17]

The next key question is to what extent private sector finance is available and feasible to meet the identified pre-FID funding need; and what level of government intervention may be needed in this respect.

As with all nuclear project finance needs, both pre and post FID, the availability and affordability of private sector finance depends primarily on risk. Funders will perceive pre-FID risk as significant given, as noted above, the absence at that stage of clarity on key project aspects and the government policy framework. As a starting point, some level of project developer and/or project owner equity contribution (either on balance sheet or arranged by the developer from third party equity funders) would be expected as a matter of course, to reflect "skin in the game"

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[16] Abdalla Abou-Jaoude et al., “Meta-Analysis of Advanced Nuclear Reactor Cost Estimations,” INL/RPT-24-77048, pp. 62-63. July 2024. https://inldigitallibrary.inl.gov/sites/STI/STI/Sort_107010.pdf. The preconstruction costs estimated sum to roughly $260/kWe.

[17] U.S. Nuclear Regulatory Commission, “Pre-application Process”. Last updated May 13, 2026. https://www.nrc.gov/reactors/new-reactors/advanced/new-app/general-guidance/pre-app-process

from the private sector, and it appears that some advanced nuclear developers have successfully raised project development capital, e.g., through [18]. Some level of pre-FID debt may also be available backed by the U.S Department of Energy's Office of Energy Dominance Financing (DOE-EDF, f/k/a Loan Programs Office or LPO)).

More generally, availability of pre-FID private sector bridge loans may be limited given the uncertainties and related risks identified here. To some extent government could reduce the risk perception at the pre-FID stage by providing clarity on the government policy framework, and even more so if project-specific awards on any of the support options discussed in this Options Paper would be made ahead of FID. Options for specific government financial support at this early stage also merit consideration. Section 4.6 (Pre-FID Activities) considers these, such as in the form of government bridge loans or grants, or assurances that would unlock private sector bridge finance.

3.2 Construction Finance

Both observations from the market in Appendix B (Market Assessment) and the analysis in Appendix D (Cost Analysis – Results) indicate that a key unresolved challenge during the development and construction phase is financing, either where financing costs would be unrealistically high (which, in the absence of any other intervention at the development/construction phase would translate to an unrealistically high project revenue requirement), or where financing may not be available at all.

Project finance typically assumes a debt-equity ratio based on the predictability of future cash flows. It is expected that the current challenges relating to nuclear project finance apply most prominently to the equity portion. Specific issues related to nuclear project debt finance are discussed further below in Section 4.5 (Construction Debt Finance), but for the most part these are currently not considered the primary or most immediate obstacle, since under both the current and previous federal administration, a consistent policy has been in place to offer debt financing at affordable rates through the DOE-EDF office and Federal Financing Bank (FFB). However, there have been indications that across the spectrum of available advanced nuclear technologies, DOE-EDF may be primarily interested in the more mature designs, which suggests potentially more significant debt barriers for the most innovative advanced nuclear designs.

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[18] For instance, X-Energy was recently reported to have raised $1 billion through an IPO. See X-energy, "X-energy Reports First Quarter 2026 Results". June 2026. https://x-energy.com/news/x-energy-reports-first-quarter-2026-results/. Also, a partnership between Meta and TerraPower may also involve Meta providing upfront funding though no details have been announced. See TerraPower, "TerraPower and Meta Enter Agreement for 8 Natrium Advanced Nuclear Plants". January 2026. https://www.terrapower.com/terrapower-announces-deal-with-meta.

Appendix E (Technology Maturity Assessment) offers a summary assessment of relevant maturity aspects of key grid-scale advanced nuclear designs.

Indications of private sector debt finance availability are limited, so in the near-term DOE-EDF debt finance would likely play a critical role. Further specifics related to DOE-EDF loan guarantee program, FFB low-cost debt, and NYS's expected role in supporting projects to secure such debt finance are discussed in more detail in Section 4.5 (Construction Debt Finance) below. In short, it is expected that up to 80% of overnight capital cost (OCC) of early advanced nuclear projects could be financed through DOE-EDF/FFB debt.

Beyond debt, the key challenge – illustrated by the analysis in Appendix D – is equity investment for the remaining portion of at least 20% of OCC. For a gigawatt-scale nuclear project, this can be expected to amount to at least $2 billion.

The risk and magnitude of the equity amount needed for nuclear projects itself limits the range of funders with sufficient investment capacity and risk appetite. In order for finance to proceed, these funders would need to be presented with a project that is able to produce the revenue and cash distribution necessary to produce an internal rate of return (IRR) that matches or exceeds their risk-adjusted cost of capital. While project risks cover a wide range of risk types (e.g., operational, financial, and climate risks), many of these are similar across many different types of energy technologies, are well understood, and considered manageable. However, market observations and feedback indicate consistently that at their current state of development, advanced nuclear technologies raise significant questions around the construction risk that equity funders would need to take on, in particular in terms of cost overrun risk. Perceived cost overrun risks for new advanced nuclear power plants are particularly high for initial projects. In all instances, such cost overrun risks would need to be mitigated.

A related relevant risk is technology risk, including underperformance (e.g., low megawatt output and/or low availability) or failure. Underperformance risk is significant for many nuclear reactor designs that have not been built or successfully operated at scale, even if their designs are not truly unprecedented technology and are variations of prior generations. For example, the Department of Energy's Pathways to Commercial Liftoff Report on Advanced Nuclear noted that Generation IV reactors may need design enhancements following the construction and operation of First of a Kind (FOAK) demonstration units and that while such changes might be ultimately beneficial, it is unclear how quickly new designs will "reach design and operational optimization."[19] Such performance risk is less of an issue for nuclear reactor designs such as the AP 1000 that have built up considerable real world operational experience.

Such risks can be partially mitigated for funders to the extent project developers or backers absorb them, typically through some level of balance sheet commitment. Past examples of this approach are discussed in Appendix B (Market Assessment), but market indications currently suggest that potential advanced nuclear project partners such as technology developers, EPC providers or utilities do not have the resources or risk tolerance to be able to commit in this manner – likely precisely because some past projects resulted in significant downside from such risk exposure to these parties.

To the extent project partners such as developers, technology providers, or third-party offtakers would not commit to accepting cost overrun risk, such risk would effectively fall to the equity funders. As such, market indications suggest that there is significant funder interest in providing capital to new nuclear development. In some cases, this has already taken concrete form, for instance in the form of IPOs as noted in Section 3.1 (Reaching FID). However, investment into individual projects still requires funders to be comfortable with these risks, or project development will not move ahead. The analysis also illustrates a second, closely related challenge: even if financing options might be available, the risk-adjusted cost of capital would require high return rates to equity investors, at a level that may not be supported by the expected revenue levels from nuclear projects, even at the elevated levels of Power Purchase Agreement (PPA) revenue that hyperscalers have been offering. The analysis in Appendix D (Cost Analysis – Results) suggests that for a first nuclear project, even with the benefit of available federal support, project revenue levels might need to be between $183-452/megawatt-hour (MWh) – well above what available market revenue could sustain – to be able to support such cost of finance. This likely explains to a significant extent why merchant projects – i.e., projects based purely on market dynamics – do not appear to move ahead, and why the projects that are actively proceeding or have recently completed all appear to have benefited from some level of public or other commitment outside market dynamics, as discussed in Appendix B (Market Assessment).

In short, risk or perception of risk at the construction stage currently constitutes a barrier to equity finance. Section 4.1 (Cost Overrun Guarantee) explores options for sharing this risk more

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[19] U.S. Department of Energy, "Pathways to Commercial Liftoff: Advanced Nuclear." September 2024, p.32 https://gain.inl.gov/content/uploads/4/2024/11/DOE-Advanced-Nuclear-Liftoff-Report.pdf#:~:text=This%20update%20report%20focuses%20on,US%20achieving%20its%20decarbonization%20goals.

widely, including through involvement from private sector parties other than funders, but also in the form of government taking on a portion of this risk.

3.3 Revenue Sufficiency

As the analysis in Appendix D (Cost Analysis – Results) indicates, at the current expected cost levels of advanced nuclear projects, such projects will require above-market revenue levels in operation to be commercially viable, in addition to federal support available primarily through tax credits and loan guarantees. However, this is not atypical. In New York State, renewable energy receives meaningful public support under the Clean Energy Standard and through other programs that are successfully bringing forward clean energy deployment and adoption. But fossil fuel power generation has also enjoyed significant subsidies. For over a century, the federal government has extended significant financial support to the fossil fuel industry through preferential tax provisions, as well as below-market royalty and lease rates for the extraction of oil, gas, and coal from public lands and federal waters, in addition to public investments into infrastructure related to fossil fuel power generation, such as the gas transmission system.[20]

To a significant extent, the need for above market revenue reflects the relatively high capital cost of initial nuclear projects – a dynamic that is well understood for innovative technologies and not unique to advanced nuclear – before the technologies in question have achieved cost reductions through pipeline dynamics and learning effects. Pipeline dynamics are discussed further in Section 6 (Technology Selection and Pipeline Considerations) below.

Market revenue in the first instance refers to the commodity revenue available in the electricity markets. However, over the past few years, announcements from companies such as Meta, Microsoft, Amazon, and Google suggest that in particular these types of "hyperscalers" are willing to offer revenue significantly above the regular price of electricity.[21] This dynamic raises the question whether such private sector action can take the place of public intervention. This opportunity is likely limited to the aforementioned market segment of data center hyperscalers which, based on its demand in terms of quantity and quality of new electricity, can offer a significant above-market level of compensation to nuclear generation.

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[20] Center for American Progress, "5 Hidden Ways the Government Rigs the Market in Favor of Fossil Fuels". February 2026. https://www.americanprogress.org/article/5-hidden-ways-the-government-rigs-the-market-in-favor-of-fossil-fuels/

[21] Hyperscalers are defined here as computing providers that operate large data centers to support digital services.

While the opportunity for advanced nuclear deployment to potentially come forward with a reduced need for government intervention is clearly attractive, at the same time it must be weighed carefully. NYS has not, to date, pursued data center expansion as a priority, reflecting, from a policy perspective, that this market segment offers comparatively limited economic development opportunities (e.g., jobs), while at the same time absorbing significant other resources, in particular energy and land that could be dedicated to other economic development opportunities. Key reasons for New York State to pursue new nuclear build include the ability for advanced nuclear to support continued economic development, job growth, and the broader energy system needs. By contrast, advanced nuclear development supported by the data center market would primarily focus on meeting the needs of that industry.

With this balance of factors in mind, the assessment of options in this Options Paper includes the possibility of involvement of hyperscalers but is not limited to it. Options for above-market revenue are explored further in Section 4.2 (Advanced Nuclear Zero Emission Credits), including the extent to which this could include revenue support from hyperscalers.

As a complement to revenue support, upfront intervention during the project and development stage (for instance in the form of grants, low-cost loans, or state-backed equity investment) may help to reduce the need for above-market revenue. These options are also explored in Section 4 (Options Assessment).

4. Options Assessment

Based on the inventory of barriers to commercial viability identified above, this section considers approaches to overcome them in the following areas:

- **Commercial viability**: core options to address the challenges of revenue sufficiency and availability of upfront private sector finance, in particular in the form of cost overrun guarantees and above-market revenue support.
- **Ownership structures**: opportunities to reduce project or finance cost and ultimately public cost through State or utility equity shareholdings in advanced nuclear projects, as alternatives to fully privately-owned structures.
- **Grants:** grants could play a role both at the pre-FID stage and in the form of construction grants.
- **Debt finance:** opportunities to leverage federal loan programs to cover a significant share of project deployment costs through low-cost, long-term debt, and how State support mechanisms can enhance project creditworthiness and access to financing.

The scale and novelty of initial advanced nuclear projects means that some level of government support that is integrated across the four areas identified above, rather than a single instrument, would likely be necessary to attract capital and capable developers to New York State. Each form of support considered in this section may shift cost, benefits and risks in different ways between the developer, other project partners and government, and the options are best understood (and most effective) in combination.

The optimal mix of these forms of financial support is one that achieves the best overall cost-effectiveness of a project while appropriately balancing financial risks and benefits between NYS and the developer. Too little State support and the project is un-investable, too much and the State bears unnecessary burdens while developers lose the financial “skin in the game” that maintains cost discipline. The assessment that follows focuses on finding the right balance of these considerations, identifying combinations of support that advance viable projects, minimize public burdens and preserve private sector incentives to deliver on time and on budget.

Quantitative comparison between the options discussed below is provided in Appendix D (Cost Analysis – Results).

4.1 Cost Overrun Guarantee

As discussed in Section 3 (Barriers to Commercial Viability), the risk profile of advanced nuclear projects raises financing challenges, with cost overrun risk as the most prominent one to be addressed. Appendix B (Market assessment) describes past projects where this risk has primarily been allocated to private sector parties such as EPC providers or utilities, but it is not expected that going forward these will be able or willing to take on this risk, at least not to the same extent. Other projects have seen primarily public backing through government involvement. New York State has not typically taken an approach where risks are borne largely or even exclusively by government and will seek to take a more balanced approach. This section explores options for allocating such risks and the extent to which this should include a New York State government role, referred to here as a "state cost overrun guarantee".

The assessment provided in Appendix B (Market Assessment) offers in particular two key lessons: risks of cost overruns should be minimized through best practice approaches, and residual risk should be shared among multiple project partners that may include but are not limited to government.

The top priority should be to minimize risk. This entails two dimensions. Firstly, investors will look for assurances that the context for project development is favorable. This includes the full range of activities that New York State has already undertaken or is in the process of pursuing – establishing overall policy direction (including through New York State's Backbone goal), and addressing the needs of the industry in particular as regards workforce development and supply chain availability (areas that are under active consideration through New York's ongoing Advanced Nuclear Master Plan process).

Secondly, at the project level, it is critical that the likelihood of large cost overruns is minimized. Recommendations on best practice approaches – based on lessons learned from Vogtle and other projects – are available from DOE's update to its *Pathways to Commercial Liftoff: Advanced Nuclear* and other sources:[22]

- Complete engineering and design work before construction begins and, where possible, re-use established designs for subsequent projects;

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[22] See U.S. Department of Energy, "Pathways to Commercial Liftoff: Advanced Nuclear", September 2024 update. https://gain.inl.gov/content/uploads/4/2024/11/DOE-Advanced-Nuclear-Liftoff-Report.pdf#:~:text=This%20update%20report%20focuses%20on,US%20achieving%20its%20decarbonization%20goals.

- Conduct early due diligence to allow for better cost estimation of key components and major costs, leading to more realistic financial and timing expectations for project backers;
- Conduct rigorous "constructability reviews" to identify execution challenges and improve construction efficiency;
- Develop a realistic, "resource-loaded" integrated project schedule, supported by robust project controls;
- Establish clear and consistent quality assurance (QA) / quality control (QC) and documentation requirements;
- Maintain a lifecycle risk-management process, including a regularly updated risk register, clear risk ownership, and mitigation plans for high-priority risks;
- Invest early and significantly in workforce training on both technical requirements and project execution processes;
- Maintain incentives to manage and minimize costs for all project parties, particularly those that can best manage costs;
- Spell out comprehensive and specific arrangements for risk sharing in contracting arrangements, so that if overruns occur, these do not also trigger delays from lengthy contract restructuring negotiations.[23]

The above approaches would reduce, but not fully eliminate risk and risk perception. When it comes to allocating the remaining risk, Section 3 (Barriers to Commercial Viability) already noted that a structure that allocates cost overrun risk entirely to equity funders is likely unfundable, or not fundable at affordable cost-of-finance levels. Consideration should initially be given to a level of risk sharing that can reasonably be expected among the full range of private sector parties, including but not limited to equity funders.

- Core project delivery partners should as a matter of course, and similar to any other type of project development, be expected to absorb a level of risk for issues within their area of control or responsibility within the project. This regards primarily **EPC providers and nuclear technology (OEM) providers**. As indicated in Appendix B (Market Assessment), there have been examples in the past where these project partners have taken on (almost) all risk through fixed price type offerings, but based

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[23] Miller, Roger, and Donald R. Lessard, "Mapping and Facing the Landscape of Risks," in *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance*. MIT Press. 2000. https://direct.mit.edu/books/edited-volume/2054/The-Strategic-Management-of-Large-Engineering

on the experience of these examples it is unlikely that these parties will accept similar arrangements going forward. However, some level of exposure should still be expected, especially where parts of the project are fully within the EPC or technology provider's control. Securing a reasonable level of risk participation also highlights the best practice aspects summarized above – for instance the EPC provider can be expected to offer a firmer commitment to deliver against a design once that design is finalized. In general, the extent of the EPC's exposure could likely be increased in later projects in a pipeline. Exposure could take the form of fixed price contracting or contracting mechanisms that share upside and downside. The level of exposure will need to reflect the extent to which EPC contractors can be expected to have the balance sheets that enable them to absorb risks.

- **Private sector offtakers**, in particular hyperscalers, have already given indications of some ability to share in construction risk in the form of a PPA level that could be negotiated to respond to (i.e., increase in the case of) cost overruns. However, as discussed in more detail in Section 4.2 (Advanced Nuclear Zero Emission Credits), there are broader issues that need to be taken into account when considering potential involvement of hyperscalers in advanced nuclear generation projects in New York State.
- For non-nuclear projects, **equity funders** would by default be expected to be fully exposed to the residual cost overrun risk that remains beyond commitments from the above project partners. As discussed in Section 3 (Barriers to Commercial Viability), funders are unlikely to commit to this at least for initial deployment. Where developers have been able to raise finance (e.g., through an IPO), this specific funding source may enable such developer to take on a greater portion of risk. Either way, some shielding against cost overrun risk likely needs to be provided to enable access to equity capital; the specific level of more limited equity funder exposure that funders would still be expected to bear would need to be established as a balancing act between the level of risk and the level of finance cost.
- **Private sector insurance providers** may be able to price risk more appropriately, and more affordably than private sector equity funders for a net reduction in cost. At the time of writing, there are market indications of the potential role insurance and re-insurance companies may assume, beyond liability and commercial insurance, to offer protection against cost overruns based on negotiated criteria and specific risk events that may lead to cost overruns during construction. This shift would only make sense where such companies would price the risks involved more competitively

than equity funders do, to lead to an overall more affordable finance cost proposition. Further exploration of this opportunity is needed.

- **Government as shareholder.** To the extent government participates as an equity investor (discussed further in Section 4.3 (Ownership Structures) below), this would entail, in the absence of arrangements to the contrary, an expectation of bearing a proportionate share of cost overrun risk. This would likely also have an implied beneficial effect on risk perception for potential private sector equity investors for the remaining required equity investment, since the market may have an expectation that by its nature, a government or public commitment to a project makes it more likely to complete successfully. This type of government role is not referred to in this analysis as a government cost overrun guarantee but rather the typical level of risk exposure associated with equity ownership.

The takeaways from Appendix B (Market Assessment) suggest that allocating cost overrun risk exclusively between private sector partners does not enable a sustainable business model. Where this needs to be complemented by a government or public role, this does not necessarily mean only New York State government.

- Overcoming the financing barriers discussed here would have significant spillover benefits, i.e., subsequent deployment beyond first of a kind or second of a kind projects – wherever it takes place, at least within the US – would likely no longer face the risks considered here, or only to a much more limited extent. This indicates that a **federal government** contribution to bearing cost overrun risk is appropriate. The question of federal involvement has been under discussion for some time but the likelihood of such involvement is uncertain at this time.
- When it comes to state government involvement, a shared role between **multiple states** is an opportunity worth exploring. New York State is the co-lead of the Advanced Nuclear First Mover Initiative (First Mover), which is pursuing opportunities for cooperation on advanced nuclear, including on risk sharing.
- As the analysis highlighted in Section 2 (Nuclear Reliability Backbone Initiative) demonstrates, **New York State** itself also has a clear interest in realizing the system benefits that nuclear energy can offer. These benefits are substantial and help to justify taking on a portion of the risks identified here.

On balance, a mix of contributions from New York State, the federal administration and (potentially) other states to the cost overrun commitments described here would reflect these dynamics. Continued exploration of partnerships with other states including through the First Mover Initiative, as well as the federal government, would be important to unlock these opportunities.

The above discussion suggests that a role for New York State in providing a partial state cost overrun guarantee – complementing risks that should be borne by the range of other project partners – should be considered to enable at least initial new nuclear deployment to go forward in New York State. As noted above, any consideration of a state cost overrun guarantee in this discussion would be separate from the risks the State might accept as part of any equity stake that might be taken in nuclear projects.

To an extent, New York State is already employing tools to mitigate cost uncertainty through the Clean Energy Standard, and this can serve as a starting point for consideration of the State's role for nuclear projects. Under the CES, both the offshore wind (Index Offshore Wind Renewable Energy Certificate or OREC) and onshore renewables (Index Renewable Energy Certificate or REC) solicitations have evolved over time to recognize that strike price adjustments accounting for certain factors, such as inflation, can minimize ratepayer costs by reducing the risk premium. Consideration of a project cost overrun guarantee for advanced nuclear to reduce funders' risk premium in project financing would build on this experience. Were this type of arrangement to be made available for nuclear projects, specific aspects that would need to be considered include (i) the extent to which this option would cover risks entirely outside the project's control (e.g., inflation) or also project-specific risks (e.g., cost overruns more generally), and (ii) whether such a mechanism would be integrated in a ratchet-type arrangement in a revenue support program (similar to the approach to renewables) and/or through an upfront guarantee that would apply during the construction period.

This paper does not put forward specifics on the exact level of expected distribution (or "laddering") of cost overrun or related risks. Such specifics should be established through negotiations or a competitive process. See also Section 7 (Procurement Mechanisms). However, this paper proposes the following principles in this respect:

- Some level of cost overrun should – as a matter of prudent project development – be borne within initial project budgets, through cost contingencies.
- Equally, some level of cost overrun should be borne by project partners other than equity funders and NYS government, as per the discussion further above.

- Where cost overruns would go beyond these levels, there is a level of cost overrun exposure that private sector equity funders should reasonably expect to be exposed to in any non-nuclear infrastructure project. This "slice" of cost overruns should also not benefit from an incremental state cost overrun guarantee. For this portion of cost overruns, any public or public-backed equity stake in the project should however be expected to bear the pro rata share of cost overruns consistent with the equity share.
- Above a threshold, the government cost overrun guarantee would start covering, at least partially, cost overruns that would otherwise fall to the private sector equity funders. This is the core of the value this intervention option would add in order to achieve the objective of greater availability of private sector project finance for advanced nuclear projects at cost of finance levels that the project can bear. Options on allocation of risk at this stage could include a simple percentage-based approach, or an approach that limits government involvement to specific types of risk, e.g., high impact, low probability cost overrun risk. As noted, a state cost overrun guarantee could be in the form of flexibility in revenue support and/or an upfront commitment that would apply during construction.

For the purpose of the analysis in this paper, it is assumed that for initial advanced nuclear deployment, following a process to negotiate or otherwise distribute the risk between parties including government (see Section 7 (Procurement Mechanisms) on process), the resulting private sector equity hurdle rate ends up at a level broadly similar to other infrastructure or clean energy projects. See Appendix C (Cost Analysis – Inputs and Metrics) for the more specific cost of equity assumptions made.

From a public cost perspective, any state cost overrun commitment represents a balance between on the one hand a reduction in expected public support cost for the projects in question but on the other hand an increase in public risk exposure. The cost analysis in Appendices C and D provides a starting point for quantitative assessment of this balance. It illustrates how a reduction in risk for private project funders translates to a reduction in project cost, which in turn translates to a reduction in the amount of support needed for instance in the form of revenue support. This analysis also recognizes the cost uncertainty for nuclear projects that underpins the risks that a cost overrun commitment would address – it does so by quantifying cost estimates under central cost assumptions, but also under high and low cost sensitivity assumptions.

However, it is too early to offer more specific quantification of what increased public costs might look like if cost overruns would materialize and a state cost overrun guarantee would be triggered. As noted, specifics on the extent of risk allocation between private sector project partners and the government would still need to be established. Once more clarity in this respect emerges as New York State’s procurement process for advanced nuclear takes shape, analysis reflecting such specifics can be made available.

The possibility of a state cost overrun guarantee also raises the question whether a corresponding sharing of upside should be part of any such arrangement. The learning from initial advanced nuclear project development will result in spillover benefits. These will accrue in a very specific way to the private sector partners involved in the initial advanced nuclear project deployment. Private sector partners (in particular technology providers and project developers) can expect significant upside from subsequent project deployment that could proceed either in New York State or elsewhere with much reduced hurdles as a result of the risk mitigated or overcome through initial deployment. To the extent NYS would take on any cost overrun commitment as discussed here, a key opportunity might therefore be for NYS to receive a share of such future upside.

- As a starting point, this would already be the case if the project finance structure includes a government equity share. To the extent the project in question might achieve a lower cost or higher revenue than initially budgeted, such upside would accrue to equity investors, including a government equity share. The negotiations leading up to FID would be the opportunity to specify the terms of such upside sharing.
- Similarly, the state cost overrun guarantee terms or formula itself could incorporate upside sharing, e.g., through a ratcheted approach that could increase or reduce the level of revenue support payments depending on higher or lower actual project costs.
- But upside sharing could also extend beyond the project itself, in recognition of the spillover benefits to the project partners for all subsequent deployment. This could take the form, for instance, of a State stake in a joint venture with relevant project partners for future projects, and/or a stake in one or more of the project partners themselves (e.g., similar to the recent announcement of the federal government taking a stake in Westinghouse).

Again, this Options Paper does not put forward specifics on what level of reward sharing would be appropriate but rather leaves this to a negotiation or competitive process.

4.2 Advanced Nuclear Zero Emission Credits

As discussed in Section 3 (Barriers to Commercial Viability) and evidenced in the analysis in Appendix D (Cost Analysis – Results), especially for initial advanced nuclear deployment (before capital costs will have come down through wider deployment), market revenue from wholesale electricity generation and capacity markets does not suffice to make projects financially viable. The analysis indicates that while the level of required above-market revenue differs very significantly depending on government action taken to mitigate project risk – and options in this respect have been assessed in the above section – this is still the case across the range of scenarios explored.

The main option for enabling above-market revenue for projects is through a CES-like approach involving nuclear energy credits, referred to in this Options Paper as Advanced Nuclear Zero Emission Credits, or ANZECs. This approach can include third-party offtake through voluntary ANZEC sales or PPA agreements. New York State has experience with a policy framework that makes above-market revenue available, both in the form of the ZEC program under the CES for existing nuclear generators, and for other clean energy technologies including renewables under other programs within the CES.

Compared to the existing ZEC program, new nuclear facilities present a fundamentally different revenue and risk profile. The analysis in Appendix D (Cost Analysis – Results) provides indications on the expected level of revenue support payments depending on the wider package of interventions. Key findings from the quantitative analysis are that (i) ANZECs can provide the above-market revenue needed to enable project viability, but (ii) that these revenue levels would need to be high if ANZECs are applied as an intervention in isolation, due to the combination of investor discounting of future revenue and very high project finance hurdle rates. As a result, (iii), ANZECs are most effective as a mechanism for delivering least-cost public support when packaged alongside complimentary interventions and structures discussed in this paper. For instance, for an initial 1 GW LLWR project on a greenfield site, the analysis indicates that a revenue level (comprising both commodity revenue and above-market revenue support) of $252/MWh would need to be provided if no policy mechanism other than ANZECs was used; that this would come down to $160/MWh when combined with a (partial) state cost overrun guarantee, and that this in turn could come down further to around $100/MWh depending on combinations with other interventions such as State equity or grants.

Given the experience gained with the various CES programs, implementation challenges related to the creation of an ANZEC program would likely be limited. Key questions on the process for selecting and awarding ANZEC support are considered in Section 7 (Procurement Mechanisms) further below. The timeline for implementation of any such ANZEC program would also be critical, namely when developers would have clarity on the features of the ANZEC program and award decisions to specific projects, since such clarity would likely be a precondition to projects reaching Final Investment Decision.

Building on the experience with existing nuclear generation through the ZEC program and renewables in the Index (O)REC approach, further consideration would need to be given to the specifics of the ANZEC formula. The analysis presented in this paper assumes ANZECs would offer projects a near-perfect revenue hedge with respect to market revenue from wholesale electricity generation and capacity markets; more detailed consideration is outside the scope of this paper and would be part of the implementation process.

Voluntary ANZEC Purchase/ Offtaker PPAs

Currently, CES programs, including the ZEC program for existing nuclear energy and multiple Renewable Energy Standard (RES) programs for large-scale renewables, take as their starting point that the costs of any above-market support payments are borne on a statewide basis, in the form of load-share-based LSE obligations, and that this reflects the environmental benefits that New York State as a whole receives from these forms of generation. At the same time, the CES has also allowed individual parties to procure these benefits more directly, in the form of voluntary purchases from NYSERDA (e.g., voluntary REC purchases). These voluntary market sales allow such parties to directly obtain clean energy attributes.

This provides a precedent for how such voluntary sales could be implemented for ANZECs, including as it relates to transfers outside of New York State in order to preserve the attributes in-state, and setting the sales price, which could be determined through a market-based price discovery mechanism or administratively set. The reasons why these arrangements have been mutually beneficial in other CES programs in principle also hold for any ANZEC program. These critically include the opportunity to reduce the program costs for ratepayers as a whole. The extent to which this is the case would depend on the willingness of potential offtakers to pay a revenue premium, which may differ significantly, for instance depending on the dynamics of the markets that particular types of large energy users operate in. Consideration should also be given to broader benefits of voluntary ANZEC sales (or inclusion of offtakers through similar arrangements such as PPAs) – large load energy users can provide significant job growth and wider economic development benefits to the community and New York State as a whole, and it may be the availability of clean energy credentials that may help to attract them to New York State.

As noted in Section 3.3 (Revenue Sufficiency), a specific group of potential offtakers that has already indicated its active interest in using nuclear generation for its power needs is the market segment referred to as hyperscalers, relating to the development of data centers. A number of announcements have been made of partnerships between nuclear technology providers/developers and hyperscalers, and these announcements include indications of their willingness to pay a premium for the zero-emission attributes from new nuclear generation to support their operations' growth and decarbonization goals.[24] For ANZEC voluntary sales to hyperscalers, however, a number of issues would need to be considered and addressed, both in regard to the implementation of this approach but also the program's structure more fundamentally.

For participation by private sector buyers to be considered as a structural opportunity to reduce the cost of a government ANZEC program, or potentially even form an alternative to a government support program altogether, it would need to be a reliable, long-term arrangement. Any long-term reliance on either offtaker PPAs or voluntary sales raises credit worthiness and bankability issues. This would certainly be the case were a nuclear project (and its developers) to directly rely on an offtake PPA agreement for the financial viability of the project; in principle, the same issue would arise from the State's point of view. If New York State was to factor the contribution from such an offtake arrangement – PPA or voluntary ANZEC sales – into the calculation as to what constitutes an acceptable mix of government and private sector participation in a nuclear project development structure, this would again require a sufficient level of comfort that such long-term offtake commitment would be bankable.

More fundamentally, from a public-benefit perspective, involvement of hyperscalers – either in the form of PPAs or through voluntary ANZEC sales to them – presents important tradeoffs. If new nuclear generation is dedicated to serving new data center load, it would not contribute meaningfully to meeting existing system load needs or broader statewide load growth projections. Moreover, data center development is not expected to deliver significant employment or economic development benefits relative to other forms of industrial growth. Furthermore, while hyperscalers are looking to deploy new data centers in the very near term,

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[24] N. Ford, "Big Tech contracts inject life into new nuclear," *Reuters*. February 2025. https://www.reuters.com/business/energy/big-tech-contracts-inject-life-into-new-nuclear-2025-02-19/

the increased load they would generate before new nuclear generation would be able to come online could place significant strain on New York State's grid (and as a result, increase ratepayer costs via higher electricity prices) in the near term. In the long term, there could be a misalignment between the contractor tenor of any hyperscaler PPA or voluntary ANZEC purchase arrangement and the hyperscaler's period of operation. Once the hyperscaler PPA or voluntary ANZEC purchase arrangement period expires, the generation (or zero-emission attributes) from the advanced nuclear generator would technically no longer be locked to the hyperscaler in question and thus would become available to help meet broader system load needs; but unless the data center in question closes at that time, in practice it would continue to consume the same amount of load but without any assurance that it would continue to pay a premium above market prices. Based on these considerations, while hyperscalers may be the only buyers willing to meet the costs necessary to improve new advanced nuclear project economics, they are less aligned with NYS's broader state policy objectives.

These concerns with data center development extend beyond their specific interaction with new nuclear energy. The Commission has initiated a proceeding to consider these and other issues related to large loads; which, at the very least, may consider some form of review of data center projects to prevent adverse impacts on existing ratepayers.[25]

Without prejudice to this new proceeding, and within defined constraints, there may still be a role for hyperscaler PPAs or voluntary ANZEC purchases within the overall strategy of building the nuclear Backbone for New York State. A key objective for initial deployment of new advanced nuclear is not only to unlock the benefits from those projects, but also to unlock the cost reductions that then enable subsequent deployment at lower cost. New York State may determine that pursuing a PPA with an offtaker willing to pay a premium is worthwhile if it reduces risk and cost for an initial project and enables future, cheaper deployments that provide broader system benefits. Involving hyperscalers in the first project or projects may be an acceptable trade-off. A variant of this approach could also be to include hyperscaler offtake only for a portion of the generation of the initial project or projects.

Even so, it may not be sufficient for hyperscalers to just pay the above-market revenue cost per MWh of nuclear generation if this would still leave potentially significant public cost exposure through other program components such as upfront support or cost overrun guarantees.

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[25] Case 26-E-0045. "Proceeding on Motion of the Commission to Address Interconnection Reforms for Large Loads". https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=26-E-0045&CaseSearch=Search

Offtake arrangements might need to include features that recognize these additional risks and exposure elements. This could take the form, for instance, of a variable PPA or voluntary ANZEC pricing arrangement where the price level (e.g., the equivalent to the Strike Price applied in the Renewable Energy Standard (RES) program) might vary based on the actual level of construction cost incurred. Cost overruns would in this case result in a higher PPA/ voluntary ANZEC payment level. Beyond that, an even more direct contribution by offtakers towards the new nuclear finance challenges described in Section 3 (Barriers to Commercial Viability) in the form of an upfront investment would be even more welcome. However, reflecting the reality of the finance hurdles as described in Section 3, there have been only limited indications from these parties that they have the willingness to participate in this manner.[26]

In short, an ANZEC program or dedicated CES tier for new nuclear generation could be expected to allow for voluntary ANZEC sales, similar to existing CES programs, or for third-party PPAs; but this part of the program could be expected to apply specific additional requirements or preconditions to offtakers depending on the burden they would place on NYS's grid or, more broadly, where concerns arise on consistency with state energy system objectives.

4.3 Ownership Structures

The government intervention options discussed would, consistent with CES programs, maintain the default approach of project development and ownership in the hands of private sector equity owners and investors. This section describes what that structure would look like but also discusses alternative ownership approaches through either a New York public or state-backed equity stake in projects, or through utility ownership.

Private Ownership

As discussed in Section 3.2 (Construction Finance) and based on the market assessment shown in Appendix B, the expected default business model for private-sector-led nuclear projects would be based on a project finance approach, with a special purpose non-recourse entity at the center. Key contracting partners for the project in this structure as in any other structure would be:

- Technology provider
- EPC contractor

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[26] An exception may be “Oklo, Meta Announce Agreement in Support of 1.2 GW Nuclear Energy Development in Southern Ohio” Jan. 9, 2026, which announced a Meta-Oklo agreement that appears to include funding for deployment activities for Oklo’s Aurora project..

- Developer if separate from tech provider
- Offtaker (to the extent the project would not proceed based on an ANZEC contract, as discussed above) or merchant arrangement
- Debt provider (most likely DOE-EDF/FFB, see Section 4.5 (Construction Debt Finance) further below)

Many of these parties could conceivably hold an equity stake in the project; indeed equity stakes from technology providers have been observed in some of the case studies discussed in Appendix B (Market Assessment), but as also discussed there, going forward it appears less likely that they would do so. However, this may again be different in a situation where a (partial) government cost overrun guarantee may be available.

The default expectation for the private ownership model is that the equity shareholders will be specialized investors such as private equity funds or infrastructure funds. These investors have experience across energy development, infrastructure delivery, and complex project risk management, as well as access to substantial pools of long-duration capital. A 2025 report estimated that roughly $1 trillion of infrastructure-focused private equity capital is available for large-scale greenfield U.S. infrastructure projects, including nuclear.[27] As discussed above, a range of actions would likely be needed to mitigate in particular cost overrun risk such that these sources become available at an affordable cost of finance level or even at all. In New York State, NYPA is in a unique position to contribute best practice project management to help with risk mitigation based on its long history of developing large energy projects.

Upon completion of construction and start of operation, construction funders would likely sell to a different owner-operator entity that specializes in nuclear plant operation.

This business model would become active as of the Final Investment Decision (FID) for the project. Issues pertaining to pre-FID project development are discussed further in Section 4.6 (Pre-FID Activities) below.

The following diagram summarizes this structure as it would be in place from FID until COD.

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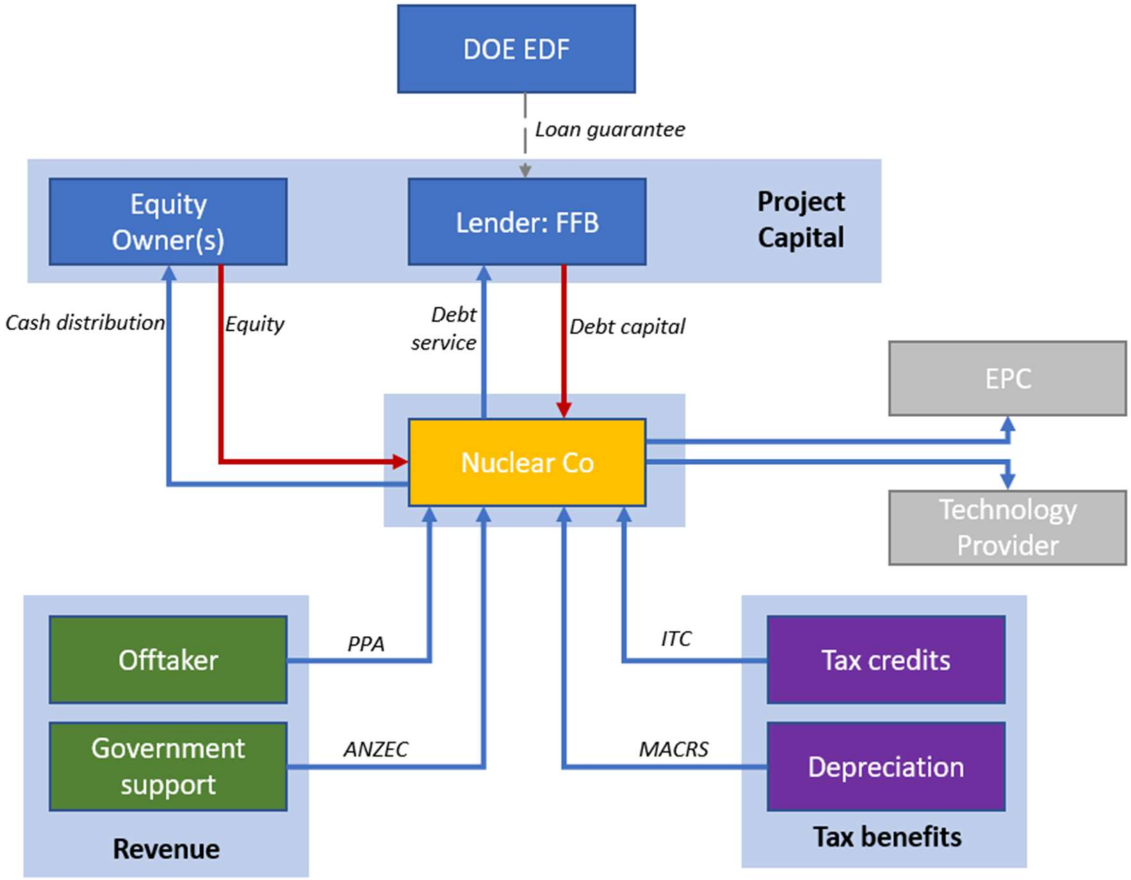
[27] P. Tice, "A Strategy for Financing the Nuclear Future," *National Center for Energy Analytics*. August 2025. https://energyanalytics.org/financing-the-nuclear-future/

Figure 1. Example Business Model from FID to COD



State Equity Stake

A public investment into the project can be made available at a lower cost to the project than what private sector equity funders would require, which would reduce the overall project cost and the need for revenue support. The cost analysis in Appendix D illustrates this effect. A government contribution to equity finance needs may have a secondary benefit of helping to reduce also the hurdle rate for the remaining portion of equity that would still be funded by the private sector.

A public equity investment could occur as a minority stake, majority stake, or even as the sole owner. As the analysis in Appendix D (Cost Analysis – Results) indicates, a greater State equity shareholding would reduce cost more than a smaller stake, but also entail greater public risk exposure. However, a 100% State equity stake is not considered a viable approach since not only could it fully expose ratepayers or taxpayers to all project risk, but also would arguably increase the risk level since there would be no private sector investment partner who would help ensure cost control.

A public equity share could take multiple forms. NYSERDA and NYPA both have the authority to be equity holders. NYPA has already been tasked with developing at least 1 GW of new nuclear generation, and its involvement in this project could include an equity or ownership role for this project. NYSERDA also has the authority to be an equity shareholder, and a role in this respect could complement its typical role under the CES to implement clean energy procurement programs as well as to follow up on development of the Advanced Nuclear Master Plan. Alternatively, a new State entity could be created with a specific focus on this role, which could potentially be defined more broadly than just limited to nuclear projects. A hybrid option could include expanding the role of state public financing entities, such as the New York Green Bank (NYGB), which operates as a division of NYSERDA, or by creating a new subsidiary to or division of NYSERDA similar to NYGB but with this more specific role. In each case the involvement of such State entity could add a layer of risk mitigation by helping to ensure best practice lessons as summarized in Section 4.1 (Cost Overrun Guarantee) are applied.

In each case, this Options Paper does not envision the State entity in question to be exposed individually to investment risks; rather, the risks involved would be taken on by the State as a whole. Where funding options for State equity include private sector funding such as through bond issuance, the terms of such bonds or other funding instruments would further set out the level of risk taken on by funders. Funding sources are explored in Section 5.

As the project progresses from development to operation, the continued role of State equity post-COD would be subject to additional determinations. Any State equity share could be retained through operations, allowing the State to receive a share of project revenues over time, or it could be bought out at COD when the project would be transferred to a private sector operator. An exit at COD provides early repayment, while continued ownership allows the State to capture long term cash flows and potentially further reduce overall project costs. Either approach preserves the upfront cost of capital benefits achieved through State participation during project development and construction.

Utility Ownership

The potential role of utility ownership in clean energy projects is currently under consideration by the Commission as part of the CES Biennial Review process.[28] This Options Paper offers preliminary thoughts on a specific variant of utility ownership that considers whether involvement of investor-owned utilities (IOUs) instead of or in addition to a State entity may be a further channel for deploying lower-cost equity for advanced nuclear projects.

A number of aspects would need to be considered.

- **Equity share**. Aligned with the discussion of a State equity role above, utility ownership might not be pursued as 100% utility ownership. Full utility ownership can result in incentive misalignment during construction. Compared to private developers, utilities typically face more limited exposure to risk as prudently incurred costs may be recoverable from ratepayers. A partial, rather than full, utility-owned generation (UOG) ownership structure could help address these incentive concerns by adding meaningful private sector "skin in the game" while preserving the core advantages of utility participation.
- **Project execution**. As a further parallel to the State equity approach discussed above, the utility in question would be expected to have some level of oversight, but project execution would be expected to be led by private sector project development and delivery partners. NYS utilities have limited experience in this domain, especially when considering FOAK deployments. Nuclear development and construction require specialized experience in licensing, regulatory engagement, complex contracting arrangements, and construction oversight.
- **Operation**. The discussion in this Options Paper focuses primarily on a role for UOG ownership and financing during development and construction. Under a traditional UOG model, a utility would retain ownership of a generation facility through its operating life, recovering capital and operating costs from ratepayers over a defined period. However, full lifecycle ownership and operation would also expose a utility, and by extension its ratepayers, to additional operating costs, risks and responsibilities. Allowing utilities to exit at COD through a sale or transfer mechanism

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[28] Case No. 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Order Adopting Clean Energy Standard Biennial Review as Final and Making Other Findings (May 15, 2025). https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-E-0302&CaseSearch=Search

would relinquish project ownership to a private operator better positioned and experienced to manage the asset. In that case there would be not recovery of utility cost through rates, but rather the utility would be repaid fully through the purchase price. This implies that in this approach, government support during operation would take the same form as discussed throughout this paper for the business models without utility ownership – see Section 4.2 (ANZECs).

- **Cost of equity**. While State equity could be priced as low as the underlying source of State funding or investment grade bond funding at a cost of finance of around 5-6%, equity cost in utility ownership structures tends to be higher at around 9%. However, this would likely still offer a significant savings compared to market rate private sector construction finance.
- **Cost recovery of expected costs**. Under a typical UOG model, costs would not be passed on to ratepayers until project completion, and at that point would be charged to the utility's customers over the project's operational life through electric rates. As noted, this would not be the case where the utility would sell to a third-party operator at COD. Under this approach, key questions on cost recovery by the utility focus on the development and construction period. The default approach would be that – as with all other construction funders – the utility would accrue cost of finance on its construction investment and would only be repaid once the project completes. A variant would be the Construction Work in Progress (CWIP) approach that would see (some) payments being made to utilities during construction. Under this approach, the Commission would authorize the utility to pass these onto ratepayers bills as the payments occur during construction. This would be similar in nature to the Provision for Revenue During Construction (PRDC) grant option discussed further below in Section 4.4 (Construction Grants).
- **Cost recovery in case of cost overrun**. As discussed in Section 3 (Barriers to Commercial Viability), utilities may not have the capacity or appetite to assume on-balance-sheet risks at a significant level for advanced nuclear projects. This suggests that for the utility ownership option to be feasible, a similar level of State backing would be needed in respect of the utility equity investment as has been discussed further above in respect of a State equity investment. As with the considerations set out above for State equity, the potential role for utility ownership is assessed as an opportunity to offer a level of State backing for equity finance that unlocks benefits in terms of reduction of finance cost and resulting overall project cost, not to place utilities in the position of directly underwriting project development.

- **Regulatory certainty**. Across all ownership and operational variants, cost recovery from the utility's perspective relies on commitments in this respect in the design of the utility ownership regulatory structure. Where this depends on determinations by the Commission, further assurance in this regard could be offered to the market by embedding these into contracts with the utility and other project partners, similar to the type of contract typically provided to projects under the various CES programs.

4.4 Construction Grants

Where New York State provides support for commercial clean energy projects, this has often taken the form of revenue support, notably through the CES, and the discussion above addresses how this could be pursued for advanced nuclear. The main alternative support mechanism is upfront grants. In New York State, grants have typically been considered for residential programs or programs that target relatively small-scale projects, where access to upfront finance may be an issue. Finance has been identified in Section 3 (Barriers to Commercial Viability) as a barrier for at least initial advanced nuclear projects, suggesting that grants should be considered as an option.

With the range of intervention options explored in this paper, a key question is which option or combination of options achieves the outcome of making advanced nuclear projects commercially viable at the lowest public cost. The quantitative analysis in Appendix D (Cost Analysis – Results) explores this question for construction grants by comparing them to both revenue support (ANZECs) and State equity investment.

- Compared to a cost overrun guarantee and ANZEC-only approach, both State equity and construction grants can materially reduce public costs by lowering overall project capital costs and the associated revenue requirements to repay them.
- When comparing State equity and grants head-to-head, grants show a moderately higher total public cost. Although grants reduce the revenue requirement by more than State equity (because grants do not carry a financing cost and are not repaid by the project), the direct public costs of the grant itself offsets this gain, compared to an equity investment that is ultimately repaid.

These dynamics are illustrated by the analysis for instance for the case with an initial greenfield LLWR project, where total public cost would come down from $5.97B in the base case of ANZEC support to $4.96B when combined with 40% State equity and $5.17B when combined with 40%

construction grants, showing both the cost reduction opportunity from either State equity or grants, and the slight efficiency advantage of State equity over grants.

As with the approach to State equity, when utilizing construction grants as an option the question would arise to what extent the State would be expected to absorb a share of any cost overruns corresponding with the level of grant funding. If the grant is fixed and does not scale with potential cost overruns, private equity investors bear the same construction risk with a smaller capital base, which could increase the cost of private equity and partially offset savings.

The discussion above focuses on standard construction grants, where a capital injection from the State is provided to the project to help cover project expenditures at the developers discretion. An alternative to this approach is a Provision for Revenue During Construction (PRDC). A PRDC would provide annual payments during construction to pay specified financing costs, such as returns on equity or interest on debt, as they arise. Rather than allowing these costs to accrue and compound through capitalization, the PRDC covers them as they emerge, reducing the level of revenue required to repay project costs at operation. The analysis in Appendix D (Cost Analysis – Results) suggests that this type of payment does not offer cost efficiency advantages, on a dollar for dollar basis, compared to standard grant approaches.

Beyond these quantitative distinctions, construction grants also have distinct qualitative characteristics worth noting. Grants can often be funded from general tax revenues rather than ratepayers, helping to reduce the need for ratepayer revenue support and spread the burden of State involvement across a broader base. They are also relatively straightforward to administer compared to other mechanisms discussed in this paper.

4.5 Construction Debt Finance

The discussions above focus on the equity portion of construction finance. As discussed in Section 3 (Barriers to Commercial Viability), it is expected that up to 80% of the cost of (initial) advanced nuclear projects can be financed through debt provided/facilitated by the DOE-EDF. This section discusses key features of the DOE-EDF program and likely involvement by New York State government to help facilitate the provision of debt by DOE-EDF.

The DOE-EDF, through the Energy Dominance Financing Program (EDFP), offers federal support through loan guarantees and access to low-cost capital, offered by the FFB. The terms and conditions offered by EDF/FFB include favorable interest rates, set against the 10-year Treasury benchmark, up to 30-year terms (from the time of drawdown), interest capitalization during construction, and a credit subsidy for projects below investment grade. It offers debt financing for up to 80% of total project costs, including development and construction capital and non-capital costs.

Depending on the credit rating and structure of the project, some terms, such as the 80% advance rate, may vary. Even where not provided as a commitment directly from New York State to DOE-EDF, State government support policies for advanced nuclear deployment could serve to convey more robust project proposals to DOE-EDF that would enable New York State projects to benefit from the highest credit rating possible. Such additional confidence in projects could be conveyed to DOE-EDF at multiple levels, starting with the broader foundation of New York State's approach to advanced nuclear (e.g., in the form of New York State's nuclear Backbone goal); the nuclear eco-system issues that New York's Advanced Nuclear Master Plan addresses (such as supply-chain and workforce development); the pursuit of support options as outlined in this Options Paper; and finally most specifically through New York State support awards to individual projects.

Other assurances that may be necessary to increase the project's credit rating include explicit assistance from the government to mitigate risks for developers through, e.g., streamlining community engagement, siting and permitting processes, and by requiring diverse forms of commercial and liability insurance, including subcontractor default insurance.

The debt finance that DOE-EDF can arrange from the FFB may only be available for initial project deployment; DOE-EDF may also apply more specific technology restrictions within the spectrum of advanced nuclear designs, i.e., focus on the more mature designs. There are currently no clear indications from the market on availability of debt from commercial private sector lenders at the level needed for grid-scale advanced nuclear projects. However, as deployment proceeds beyond initial projects and into pipeline deployment, it is expected that private sector debt lenders would be a viable and affordable alternative. At that time, DOE-EDF support may still offer a complementary role through its ability to offer loan guarantees for such commercial loans.

4.6 Pre-FID Activities

As discussed in Section 3 (Barriers to Commercial Viability), projects would likely need a considerable amount of funding even at the initial stages of development to get the project to a state where FID can occur – for a gigawatt-scale project this could be in the hundreds of millions of dollars.[29] The extent to which project developers can source affordable private sector finance (e.g., in the form of bridge loans) will depend on risk perception. Pre-FID funders would be repaid at FID, so their primary risk concern will be whether FID will be achieved. Clarity on the government policy framework can contribute to confidence that this will be the case. On this basis, a comprehensive government support approach at the pre-FID stage could include the following components:

- Pursue key steps in the development of government support options as set out in this Options Paper as soon as possible. This includes decision making on the framework, implementation thereof, and conducting the process to award support to projects.
- Other flanking support can take the form of government initiatives in the areas considered in the broader upcoming Advanced Nuclear Master Plan including to (i) help communities to develop their interest in advanced nuclear deployment, (ii) offer matchmaking between communities and developers to help identify candidate siting locations, (iii) support supply chain and workforce development, and (iii) assist developers to navigate regulatory requirements.

However, it must be recognized that even so, especially for initial projects, potential pre-FID funders may still feel indirectly exposed to the same construction risks that apply post-FID until final arrangements on how to manage these risks have been agreed, which would not be the case until FID. Accordingly, complementary financial support could also be considered that would already become available during the pre-FID phase to help with the identified pre-FID funding needs. This could take the form of direct financial support through grant support or government lending, or a level of government support that would still look to private sector funders to mobilize the required funds but could offer a level of backstop assurance in case FID might not be achieved.

Pre-FID Grants

A specific role for grants pre-FID can be identified as attractive for a number of reasons.

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[29] Abdalla Abou-Jaoude et al., “Meta-Analysis of Advanced Nuclear Reactor Cost Estimations”, INL/RPT-24-77048, pp. 62-63. April 2024. https://gain.inl.gov/content/uploads/4/2024/11/INL-RPT-24-77048-Meta-Analysis-of-Adv-Nuclear-Reactor-Cost-Estimations.pdf. The preconstruction costs estimated sum to roughly $260/kWe.

- This can help in particular at the earliest development stages before the project has been shaped sufficiently to be able to attract private sector funding (e.g., co-funding for community capacity building and initial site studies).
- During subsequent project development work ahead of FID, grant support could help provide a signal to the market that could leverage private sector finance (including bridge loans).
- More generally, any upfront public investment at a lower cost than that of available private sector finance could help to lower the overall project cost and thus the need for above-market revenue, which in turn could lower the overall public support cost. For instance, the cost analysis in Appendix D offers a scenario whereby, in the case of an initial GW-scale greenfield project, a pre-FID grant of $160 million could reduce total public cost from $5.97B in the base case to $5.36B after addition of the grant.

NYSERDA has already allocated a level of funding to be used for community capacity building and early-stage project development in the latest amended Regional Greenhouse Gas Initiative (RGGI) Operating Plan. Further grant availability could also be considered from other sources.

Federal grant programs can also play a helpful role in this respect. While at present no actively open federal grant funding opportunities are available, a partnership between Constellation and NYSERDA was able to secure more than $17 million in federal grant funding to help with early site permitting costs in relation to a potential advanced nuclear project at the Nine Mile Point site.[30]

Pre-FID Finance

DOE-EDF finance is expected to become available as of FID. It may, however, even be possible to secure EDF finance somewhat ahead of FID. Indications in this respect have been observed with regard to possible DOE-EDF finance for initial milestone/deposit payments on long lead items.[31] Providing early clarity on New York State's government policy framework may also help to achieve a DOE-EDF loan commitment ahead of FID.

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[30] U.S. Department of Energy, "Energy Department Awards $94 Million to American Companies to Help Expedite the Deployments of Small Modular Reactors in the United States". May 2026. https://www.energy.gov/articles/energy-department-awards-94-million-american-companies-help-expedite-deployments-small

[31] T. Gardner, "US considers financing billions of dollars for nuclear plant parts, industry group says". May 2026. https://www.reuters.com/business/energy/us-considering-financing-billions-dollars-long-lead-time-parts-nuclear-plants-2026-05-12/

Either in the form of early availability of DOE-EDF finance or through private sector bridge loans, a level of pre-FID debt finance is likely needed given the magnitude of these pre-FID costs. New York State lending could also take on a role in this respect. NYGB, a division of NYSERDA, is a State-sponsored proprietary fund established to incentivize investment in clean energy and sustainable infrastructure projects. Within the current constraints of its mandate, NYGB would likely only be able to offer a limited role on pre-FID nuclear finance needs. As discussed in Section 4.3 (Ownership Structures), the creation of a new State equity/debt investment entity could be considered as well. State involvement in pre-FID bridge loans would likely be complementary to private sector finance including private sector debt rather than replace it outright.

Pre-FID Backstop

As noted, availability of pre-FID private sector finance will effectively depend on confidence that "the project will go ahead", i.e., that the project will achieve FID. Government involvement in all forms can help to create such confidence – ranging from the pursuit of a goal (in the case of New York State, the Backbone goal), to development of a government policy framework (as New York State is currently doing through this Options Paper and the Master Plan process more generally), to ultimately awarding support to projects. Another form may be – somewhat similar to the discussion of cost overrun guarantees in Section 4.1 (Cost Overrun Guarantee) – in the form of a level of assurance or backstop to private sector bridge loan providers, in case the project in question would ultimately be unable to achieve FID. While this option could potentially expose New York State to a greater portion of the pre-FID project cost, the advantage would be that it would not involve any outlay until and unless this eventuality would occur.

5. Funding Sources

This Options Paper discusses a broad range of potential advanced nuclear intervention options. Any Commission determination on support policy options to be pursued would include consideration of ratepayer funding and ratepayer impacts. However, the range of options under consideration extends beyond those exclusively within the Commission's authority, and if they require public funding, that funding could come from sources other than ratepayers.

As a starting point, New York State can choose to make funding available through its annual budget process. The budget process begins in the fall and ends the following spring with the signing of the Enacted Budget, which requires agreement from the Assembly, Senate, and Governor. All State funds must be appropriated through this process, thus granting authority to spend to the relevant NYS entity. Any funding approved through the budget process would likely be designated to a funding source. Funding sources for capital spending (as would be appropriate for any infrastructure project) include federal PAYGO (defined as pay-as-you-go funds which are functionally cash), State PAYGO, State Supported Authority Bonds, and General Obligation (GO) Bonds. The determination of which funding source is used for any appropriation is constrained by a number of factors including federal funding awards, available cash, and the bondability of the project. For context, in the FY 2026 NYS Capital Program and Financing Plan, the FY 2026 projected capital spending was estimated at 17% federal PAYGO, 37% State PAYGO, 44% Authority Bonds, and 2% GO Bonds.[32]

Access to bond funding for spend under the budget is constrained. Authority Bonds are issued under two indentures, the Personal Income Tax (PIT) Revenue Bonds and Sales Tax Revenue Bonds. These programs are administered by the Division of the Budget and utilize designated State authorities to issue the bonds on behalf of the State. GO Bonds have another hurdle, which is that they must be approved by voters for one purpose per election, as stipulated in the NYS Constitution. The Office of the State Comptroller issues GO Bonds, and once authorized by voters, the statutory language is included in the following budget cycle. GO Bonds are not commonly utilized as the limitations are significant.

Both State Supported Authority Bonds and GO Bonds (together comprising State-supported debt) are also subject to the Debt Reform Act of 2000. The Debt Reform Act contains specific limits on the amount of debt. Total debt outstanding (since enactment in 2000) must be less

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[32] New York State Division of the Budget, "FY 2026 Enacted Budget Five-Year Capital Program and Financing Plan". https://www.budget.ny.gov/pubs/archive/fy26/en/fy26cp-en.pdf

than 4% of personal income and total debt service must be less than 5% of All Funds receipts. This statutory debt cap is highly regarded as a measure of fiscal responsibility and has only been suspended once post-COVID during a declared state of emergency. The result of the debt cap is that a limited amount of debt can be added to the capital plan in any one fiscal year.

The Public Authorities Control Board (PACB) has to approve any debt issuance made by public authorities. This includes Authority Bonds but does not impact GO Bonds. This also includes bonds issued directly by public authorities outside of the budget process.

A number of public authorities are able to issue debt outside the budget process, pursuant to enabling legislation with their own indentures, secured by the public authority's credit and balance sheet, or issued on a non-recourse basis secured by pledged revenues. State Authorities with bonding authority include Empire State Development (ESD), Environmental Facilities Corporation (EFC), NYPA, and NYSERDA. This would not be considered State-supported debt, and is typically backed by revenue associated with the initiative in question rather than backed by the State. It is also not subject to the limitations of the Debt Reform Act. Currently, NYSERDA issues debt under the Residential Clean Energy and Energy Efficiency Financing Green Revenue Bonds, which specifically finance the Green Jobs Green New York (GRGNY) program. Another example would be the NYS Environmental Facilities Corporation, which has two indentures that provide funding for water quality projects as part of its State Revolving Fund. Indentures can be created to fund specific purposes. To do so, there would need to be a clear source of revenue identified and pledged to the indenture, thus creating security for investors supporting the bond sales.

In the case of advanced nuclear projects, pledged revenues may include the Elective Pay of the ITC (i.e., direct cash payment of the ITC to a not-for-profit or government entity), or post-COD operational project revenues and cash distributions. ITC payments would be received when the project reaches COD at the latest. Other inflows of funds to be pledged could include sales proceeds if construction investors would sell the project to an operator upon completion, or the ongoing operational revenue streams from the project.

All these revenue streams would depend on successful completion of the project. As with the risk perception of other (private sector) equity investors in the project, a significant factor in the risk perception of bond investors in this respect would therefore be the extent to which government backing is provided that would mitigate risks such as cost overrun risk. Other features that would help the revenue-backed bond to be rated and priced as investment grade could include risk-mitigating measures at the project level and bond insurance. Given their nature, such bonds could primarily be an option to fund a State-backed equity investment.

6. Technology Selection and Pipeline Considerations

Governor Hochul announced a plan in January 2026 to pursue 5 GW of advanced nuclear to complement the State’s existing nuclear generation capacity of 3.4 GW, resulting in a total nuclear Backbone of at least 8.4 GW. This section examines two key decisions that would need to be taken in respect of New York State government interventions in pursuing the Backbone goal: (1) which nuclear technology or technologies should be selected; and (2) what factors should be considered as regards the pace of procurement and deployment.

New York State’s approach to clean energy technology selection has historically been technology-agnostic to a significant extent. For example, New York State’s Tier 1 Renewable Energy Certificates are eligible to a variety of clean energy technologies but do not specify individual designs or technology providers. However, when it comes to pursuing the nuclear Backbone goal, technology selection will need to play a more significant role, for two primary reasons:

- **Maturity**. Many of the candidate advanced nuclear technologies have not yet been deployed, or are only at the test reactor stage. Technology maturity matters for a number of reasons, including the level of technology risk associated with a particular nuclear design, and the time needed before a technology can be expected to achieve successful deployment at scale. These factors matter in particular for the grid-scale power generation use case that is the focus of this Options Paper. On this basis, Appendix E (Technology Maturity Assessment) provides an assessment of maturity of the available grid-scale advanced nuclear technologies. The scenario assessment described in this Section 6 and related quantitative pipeline scenario analysis in Appendix D (Cost Analysis – Results) illustrate how choices to deploy less or more mature technologies can impact New York State’s timeline.
- **Cost reductions**. As discussed throughout this Options Paper, pursuing cost reductions for advanced nuclear technologies is critical to enable a sustainable path towards achieving the Backbone goal. As is well understood from past experience across a wide range of clean energy technologies, cost reductions occur primarily through the learning effects associated with deploying at scale. Contrary, however, to many other clean energy technologies, in the nuclear sector such learnings have been observed to occur primarily for each nuclear technology design on its own as

opposed to across the entire sector. Further details on how learning in the nuclear sector occurs and how this is incorporated into the analysis provided in this Options Paper are set out in Appendix C (Cost Analysis – Inputs and Methodology). This Section 6 examines the trade-offs between concentrating deployment on one technology to unlock more of this technology-specific learning or pursuing multiple nuclear designs.

When it comes to the timing of action, a number of factors need to be weighed, including:

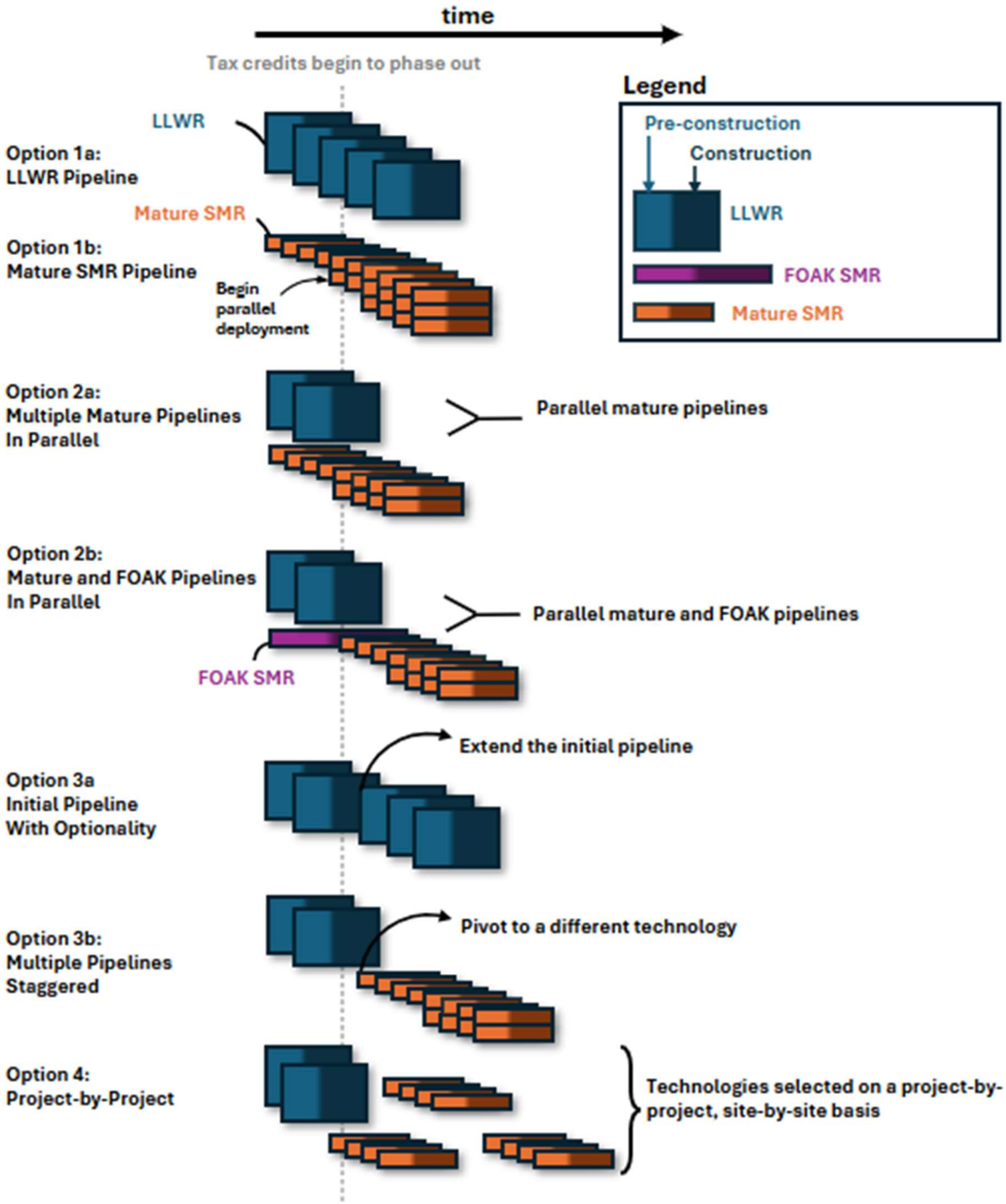
- ITC tax credits offer significant cost reduction opportunities from a State perspective but are, as currently embodied in federal legislation, only available for a limited period of time;
- Committing to more projects sooner could enable overall faster deployment of the nuclear Backbone, but would mean foregoing the option value that would be associated with a slower pace, where New York State could react to developments in the advanced nuclear sector – for instance significant cost reductions that some but not all nuclear designs may be able to achieve – that are not yet known.

This section considers the above issues across a number of scenarios, identified in Table 2 and depicted visually in Figure 2. A number of the scenarios described here are assessed quantitatively in Appendix D (Cost Analysis), and key findings from the analysis are reflected in the discussion.

Table 2. Overview of Pipeline Options

	Option
1	Single 5 GW pipeline with mature technology
2	Multiple technology pipelines in parallel
3	Multiple sequential pipeline procurements
4	Project-by-project procurement approach

Figure 2. Pipeline Options



6.1 Technology Choice

Consistent with the technology maturity assessment in Appendix E, the above options effectively distinguish between three technology types: mature LLWR, mature SMR, and FOAK SMR. Before assessing the pros and cons of the different pipeline and timing choices across the above four options, this section considers the tradeoffs between these three technology types.

LLWR vs SMR

Appendix E (Technology Maturity Assessment) discusses multiple available technology options both for LLWR and SMR designs. As regards LLWR, the Westinghouse AP1000 design has a unique position in the US as the only design with a fully-completed project, namely the Vogtle project in Georgia. This experience offers an argument in favor of choosing this design, since Westinghouse has benefited from lessons learned from the Vogtle plant, lowering the risk of cost overruns relative to even the more mature SMR options. More generally, the cost analysis in Appendix D indicates that both the cost per unit of energy and the level of uncertainty of the cost projection is lower.

The larger size of the AP1000 is likely to facilitate a faster deployment schedule (on a per-GW basis) and therefore enable more capacity to be eligible for federal tax credits, as illustrated in Figure 2 above and in more detail in the quantitative pipeline analysis in Appendix D (Cost Analysis – Results). It is estimated that a pipeline of AP1000s could achieve 2‑3 GW of eligibility for full tax credits. For a pipeline of SMRs, reaching the same GW quantity would require many more reactors to be deployed given their smaller size. While ultimately multiple SMRs could be expected to be deployed in parallel, it can still be expected that even a committed SMR pipeline approach might only achieve construction start by the tax deadline for a lower amount of capacity, estimated at 1-2 GW depending on technology choice and the sequencing pace.

Appendix D (Cost Analysis – Results) also indicates that a 5 GW LLWR pipeline could reach completion by 2045 but a dedicated 5 GW SMR pipeline may not be completed until 2053 (though, again, these differences will depend on the sequencing schedule including how many SMRs would be built in parallel). There are opportunity costs associated with slower deployment of nuclear that are not captured in the quantitative analysis in Appendix D – with a slower deployment rate, the State would have to rely on other resources to meet near-term load, potentially resulting in higher overall electric sector costs.

However, there are advantages associated with SMRs. SMRs have a lower overall cost per project than AP1000s, which has several benefits including a smaller amount of upfront capital at risk for the first (and likely riskiest and costliest) reactor in the pipeline. Additionally, the AP1000 faces timing uncertainties because many different states are currently interested in deploying AP1000s, so it will be critical to understand where New York State would be in the queue to fully understand project timing. Notably, however, the same could be true for some SMRs such as the BWRX-300. Thus, there may be timing advantages to selecting mature technologies that have smaller orderbooks.

While AP1000s are expected to start at a lower cost per GW than SMRs, SMRs will likely experience cost reduction at a faster rate on a per-GW basis due to more repetitive construction activity per GW. If New York State was to pursue the AP1000, and other SMR designs would achieve cost breakthroughs that make them competitive with large reactors, New York State could miss out on an opportunity to leverage those cost reductions. However, it is also possible that SMRs never reach the cost of large reactors. The analysis in Appendix D (Cost Analysis – Results) indicates that over a 5 GW pipeline, a dedicated SMR pipeline could get close to by not quite “catch up” with the cost of AP1000s. For instance using the metric of required operational revenue, by the end of a 5 GW pipeline, Pipeline Scenarios P-1a and P-1b show a cost of $127/MWh for LLWRs and $135-146/MWh for SMRs. However, if SMRs see substantial deployment success and cost breakthroughs, a clearer picture emerges. Pipeline Option P-3b illustrates that if SMRs are able to realize the lower end of their estimated cost range, switching to such SMR design once it would have demonstrated its lower cost could result in significant savings, with revenue level of $106-108/MWh by the end of a 5 GW pipeline, and the lowest total (NPV) public cost of $15.4 billion of all the scenarios tested. Maintaining optionality to switch technologies mid-pipeline is critical so that the State can leverage future SMR cost breakthroughs if they do happen.

See Appendix A for preliminary analysis of the economic benefits of both LLWR and SMR reactors. The results indicate that, on a per-GW basis, both AP1000s and SMRs deliver roughly comparable economic benefits in the construction phase, though the SMRs appear to generate larger economic impacts in the operations phase. However, the analysis in Appendix A assumes the labor required for SMR operations scales linearly with increased capacity, which may not be true in practice. Since the SMRs are not yet deployed, the long-term employment demands of operating are more uncertain.

The smaller footprint of SMRs means that individual units could also be deployed at smaller sites. However, this advantage would likely only play a role to the extent New York State chooses to pursue the Option 4 “project-by-project” approach, where less priority would be given to co-located pipeline deployment aimed at maximizing cost reductions across a pipeline.

Mature vs FOAK SMR

While NYPA’s initial project is expected to pursue a more mature technology, New York State could choose to support a FOAK technology in parallel as a second pipeline, as illustrated in Option 2.

One potential advantage of choosing a FOAK technology for the secondary pipeline is the potential for increased economic benefits associated with being the first state to pursue a particular technology design. To produce a multi-GW FOAK pipeline in New York State, it is possible that the technology provider would build manufacturing facilities in the State, which would likely bring additional jobs and other economic benefits to the State compared to a mature technology.

The prospect of bringing a new nuclear technology from FOAK to Nth of a Kind (NOAK) within the boundaries of New York State could also have other positive outcomes. As an early mover, New York State could play a relatively larger role in supporting the national or even global supply chain of a given FOAK technology. If the pipeline were successful, it is likely that other states would want to leverage New York State’s experience and workforce, potentially further boosting economic opportunity for New Yorkers.

However, FOAK reactors carry more risk of cost and schedule overruns due to unforeseen challenges and lack of deployment experience. There is substantial learning opportunity to bring costs down, but bearing the FOAK cost is risky, and debt and equity providers may require higher interest/hurdle rates, resulting in additional cost hurdles. A FOAK project is also going to have increased complexity challenges, as the first deployment would likely have to navigate novel licensing and design certification challenges as well as fuel and supply chain readiness challenges. With these various additional risks in mind, FOAK efforts to date are taking the approach to fully complete the FOAK installation to enable all lessons to be learned, before proceeding to deployment of a subsequent pipeline. This approach would certainly result in a significant delay of the overall deployment timeline compared to using more mature technology where staggering of units (i.e., each subsequent unit starting deployment only one or two years after the start of the previous one) is feasible. This delay effect is illustrated in Pipeline Option 2b in Figure 2 above.

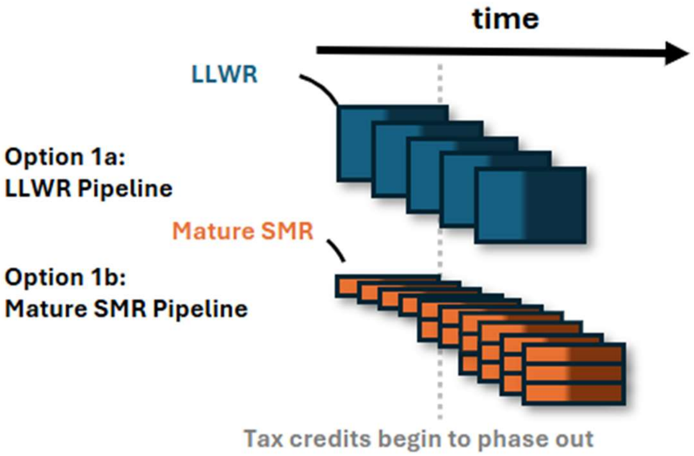
6.2 Pipeline Options Assessment

Keeping in mind the above observations on technology selection, the following section considers the pros and cons of the four identified options in all other respects.

Option 1: Committed Pipeline of Mature LLWR or SMR

In this scenario, NYPA and the State would select a mature technology (either a mature LLWR design such as the AP1000 or a mature SMR design such as the BWRX-300) to fulfil the NYPA 1 GW mandate but extend the commitment to the full 5 GW needed for the Backbone. While in general any pipeline commitment would be assumed to contain "opt outs" of some sort, the key defining feature of the pipeline approach in this option would be to set up the contractual arrangements so that by default they would allow for ongoing deployment across the entire pipeline, with no delay as a result of any further procurement action when moving from one unit to the next. In contractual terms, the "committed pipeline" approach described here would refer to full reservation and allocation of key resources by key providers (e.g., technology providers) though this would still be expected to entail certain "opt out" (or "off ramp") provisions.

Figure 3. Option 1: Committed Pipeline of Mature LLWR or SMR



Option Assessment

The advantage of a single mature technology “opt out” approach over a multi-technology pipeline or more flexible “opt in” approach is that the project structure and schedule can be optimized in a way that maximizes cost reduction potential: optimizing construction schedules to maximize labor force learning, retaining the same key contracting parties throughout the entire pipeline, maximizing co-siting benefits, and potentially maximizing the amount of capacity eligible for federal tax credits. Building a sustained pipeline of reactors, regardless of technology, across New York State would unlock powerful learning-by-doing benefits. Delivering projects in sequence would drive efficiencies, strengthen execution, and cultivate a highly skilled, in-State nuclear construction workforce.

Option 1 also offers several additional workforce benefits. The risk of workforce attrition between projects would be reduced by avoiding delays associated with new procurement processes. Training and certification investments can be deployed more effectively, supported by earlier and more accurate visibility into job volumes and construction timelines. This improved visibility enables the State to better coordinate and plan workforce development efforts, which is important given that labor unions typically require at least five years' notice to scale capacity.

For both workforce and supply chain development efforts, the greater certainty around a long-term project pipeline under Option 1 helps to maximize opportunities and economic benefits. It is also likely to support higher recruitment levels and creates the strongest foundation for establishing training-to-employment pathways, which are often most effective in building a local workforce but can be difficult to secure without sustained demand visibility. Preliminary quantification of the economic benefits opportunities – including creating thousands of jobs – is provided in Appendix E.

Committing to all 5 GW upfront also lowers the risk that New York State would fall behind other states in the technology provider's "queue." Such firm commitment also sends a clear signal to the technology provider to ramp up their production volume to meet New York's and other states' needs, which could result in cost savings from economies of scale relative to a more flexible approach that provides less clarity to technology providers.

From a timing perspective, the approach to commit to a pipeline of more than one reactor means that multiple reactors are likely to reach the important milestone of start of construction in time to still benefit from the full federal tax credits (2033).

However, a key challenge with Option 1 is the limited level of optionality when making such a large commitment to a single technology, which may translate to an upfront cost risk. While, as noted, certain opt-out provisions would be expected in this approach, locking in firm commitments from counterparties to the full 5 GW would no doubt entail a more significant non-refundable funding commitment (including potentially from the State) than the more limited commitments considered in the other options below.

Perhaps more significantly, this dynamic also constitutes a technology risk more broadly. Even with opt-outs, in practice switching to another technology would be difficult, e.g., when considering reputational risks. On this basis, when contemplating whether to adopt the Option 1 approach, there would arguably be less risk if choosing what is demonstrably the most mature design available – the AP1000 – because the technology has already been proven to work successfully and is subject to less cost uncertainty. By comparison, even the most mature SMRs have not yet been proven (see above for more detailed discussion of tradeoffs between different technology choices).

To mitigate these risks, New York State could firmly commit to two or three reactors and create optionality to add further reactors in the form of opt-ins as time progresses. Option 3 captures this approach, and while in many respects similar to Option 1, Option 3 is expected to entail some delay at the point where optionality would be exercised, both as a result of State-level decision-making and to secure queue availability from key suppliers. As a result, there is reduced certainty that Option 3 could achieve the maximum number of reactors that could be started in time to fully benefit from the federal tax credits.

Relative to multi-pipeline options, Option 1 is among the less complex to implement because it entails a single technology. However, it still faces challenges, in particular as regards the AP1000 and the BWRX-300 and the question whether, given interest from other states, 5 GW of near-term deployment "slots" could be available to New York State.

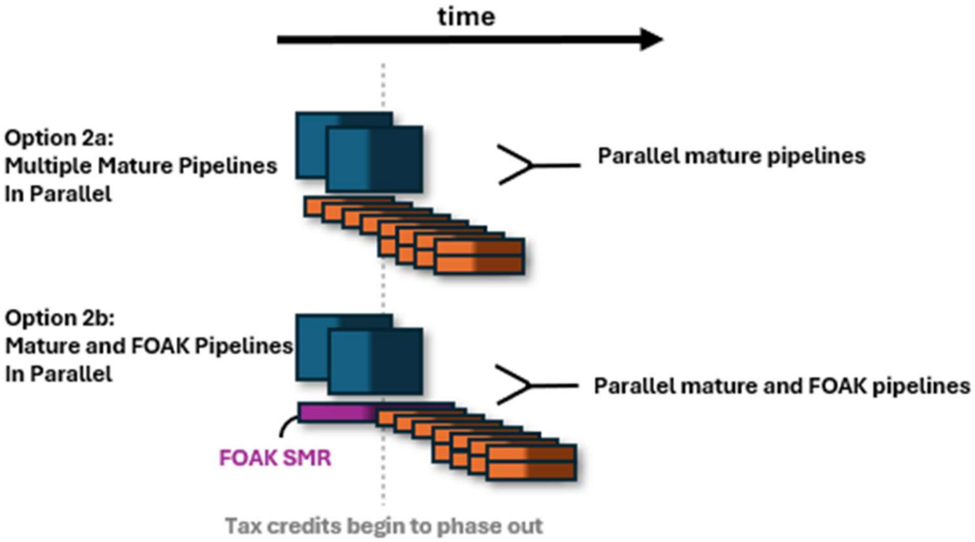
All nuclear deployments are expected to have economic development benefits. However, Option 1 may have more substantial in-state economic development impacts due to the scale of investment in a single technology. A long-term commitment to a specific technology could facilitate the development and maturation of technology-specific training facilities, in-State supply chain activity, or other tailored supporting services.

Option 2: Multiple Pipelines in Parallel

In this scenario, the State elects to pursue multiple technology pipelines roughly at the same time in an effort to diversify technologies while maximizing speed-to-power. For example, the State could elect to develop a pipeline of two AP1000 units but simultaneously pursue an additional number of deployments of an SMR technology. While the illustration below shows this approach as assuming one AP1000 pipeline and one SMR pipeline, this option could also involve two SMR pipelines, and the NYPA-selected project could be either SMRs or AP1000.

Given the NYPA emphasis on mature technologies, the possibility of two parallel FOAK SMR pipelines is not considered.

Figure 4. Option 2: Multiple Pipelines in Parallel



Option Assessment

If both pipelines are pursued at (roughly) the same time, Option 2 would be a fast path to achieving 5 GW, maximizing speed-to-power and increasing the number of projects eligible for tax credits before phase-out. However, building two large construction projects in parallel could strain New York State's construction workforce, potentially requiring supplemental workforce from out-of-State and/or driving up labor costs. On the other hand, since different technologies would require to some extent different supply chains, this could reduce supply chain bottleneck risks.

In terms of technology risk, this approach would have some advantages of diversification (two rather than one technologies), but by prioritizing speed this would still imply that New York State would forego some of technology risk reduction that could be expected by waiting until deployments of any of the advanced nuclear technologies have progressed further elsewhere.

In terms of cost, both technology pipelines would start in the near term when cost reductions have not yet materialized to a significant extent, and the 5 GW portfolio cost would not include reactors with the lower cost expected for the later units in a single technology pipeline.

Under this approach, more units could be expected to fully benefit from the federal tax credits. However, analysis in Appendix D (Cost Analysis – Results) indicates that, despite achieving higher ITC eligibility, pursuing LLWRs and mature SMRs in parallel would result in higher public cost than either a single LLWR pipeline (+$4.9 billion relative to Pipeline Option 1a) or a single SMR pipeline (+$4.1 billion relative to Pipeline Option 1b). However, as the SEP analysis discussed in Section 2.3 (Benefits and Costs of the Backbone) indicates, the greater deployment speed unlocks incremental electric system savings, which may to some extent offset the incremental program costs.

In contrast, waiting to pursue a secondary pipeline (Pipeline Option 3, discussed below) can result in a lower overall pipeline cost relative to a parallel approach, but also slower deployment. Either way, it should also be borne in mind that federal tax credits can change and have in the past been changed in an unpredictable manner, and that therefore any strategy that prioritizes reliance on tax credits over other considerations may be subject to risk in this respect.

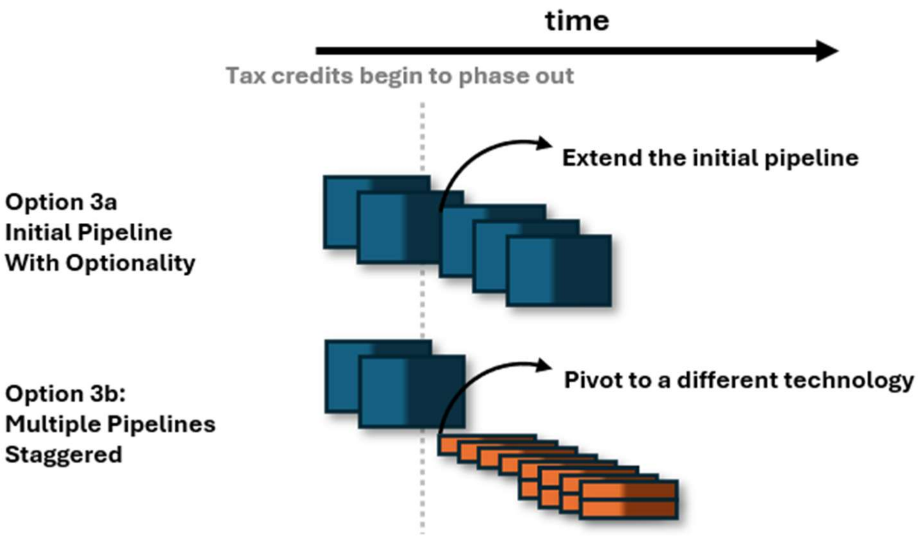
The pursuit of two separate technology pipelines would encounter implementation complexities. Obtaining financing for two separate pipelines at the same time could also be a challenge. New York State would have to find partners for both pipelines, manage parallel construction projects with a limited construction workforce, and manage two separate streams of State financial support.

The economic benefits of a two-technology pipeline relative to a single-technology pipeline depend on the technologies selected. If New York State selects multiple mature technologies, the benefits of Option 2 are likely comparable to Option 1. However, if New York State decides to invest in a FOAK technology as the secondary pipeline, there could be increased economic development potential. Further analysis to explore these differences is ongoing as part of the Master Plan process.

Option 3: Multiple Sequential Pipeline Procurements

In this scenario, the State, in the first instance, pursues procurement through NYPA's project development (which could entail a single project or pipeline of 1 GW or more), but elects to prioritize optionality for further procurement needed to deliver the 5 GW commitment. The State would only commit to a portion of a pipeline at the outset, for example, two AP1000 units. While that initial commitment could be designed to include an “opt in” to extend it to further units, the State would wait to commit to a technology for the remainder of the pipeline until significant progress has been made on the State's first deployment and/or deployment of advanced nuclear technologies in other jurisdictions. Option 3 would enable the State to maintain optionality to either (i) choose to stick with the same technology and (through the opt-in process) extend the original pipeline to the full 5 GW once significant progress had been made on the first units, or (ii) choose to pivot to a different technology if one were to emerge as a better choice. While the delay to commit to the follow-up pipeline might not entail waiting until the first unit or pipeline has fully completed, under this approach procurement action on the follow-up pipeline would be delayed at least for long enough to be able to take stock of emerging deployment results in New York State and in states elsewhere, so likely by a number of years.

Figure 5. Option 3: Multiple Sequential Pipeline Procurements



Option Assessment

This option has lower technology risk than any of the previous options because it enables New York State to wait to select the technology for the second part of the pipeline until there is more clarity in the market about which technologies are most likely to be successful and lowest cost. It still prioritizes speed-to-power in the immediate commitment to the first portion of the pipeline, but it preserves optionality for the second half of the pipeline. However, this optionality comes with the cost tradeoff that the second half of the pipeline, either in the form of continuation of the initial pipeline or in the form of a switch to a different technology, might not be pursued in time to fully benefit from the federal tax credits.

Analysis in Appendix D (Cost Analysis – Results) indicates that if the State elects to extend a LLWR pipeline (Option 3a), the delay associated with that optionality does decrease the capacity eligible for the ITC. However, the cost reductions associated with deployments assumed to be occurring in other states during that time compensates for the reduced ITC eligibility and the total public cost between Pipeline Options 1a and 3a is projected as very similar. In other words, the cost penalty for optionality appears minimal.

The analysis in Appendix D (Cost Analysis – Results] characterizes the scenario where the State pivots to a different technology as motivated by lower cost of such other technology, i.e., this scenario is analyzed on the basis of the second technology realizing costs at the lower end of the range of current cost estimates for SMRs. On that basis, the analysis (Pipeline Option 3b), indicates that this "wait and see" approach for the SMR pipeline could unlock a cost savings of $8.5 billion compared to the parallel pipeline approach of Option 2.

A key additional feature of the Option 3 approach is that it would also build in the opportunity to apply lessons learned on the operation of the government policy framework itself, and allow for the approach to the second pipeline to build in adjustments to the policy approach.

On the whole, this approach could be an effective way to balance speed-to-power, cost, flexibility and risk management.

However, one key challenge facing Option 3 is the timing risk associated with the "wait and see" approach. In addition to the "wait and see" delay itself, if New York State waits to commit to a technology for the second half of the pipeline, it may have to join the queue for a given technology behind other states, which injects uncertainty into the deployment timeline in New York State. Under Options 1 and 2, New York State would make deposits on long lead time items and/or secure agreements with key partners to lock in its position for the full pipeline.

This uncertainty may also have implications for workforce training strategy, retention, and learning potential, as large gaps between projects could result in increased workforce attrition and a lack of return on training investments. It also introduces higher job volume and timeline uncertainty, limiting the amount of workforce prediction visibility. New York State would have to plan carefully to manage this uncertainty.

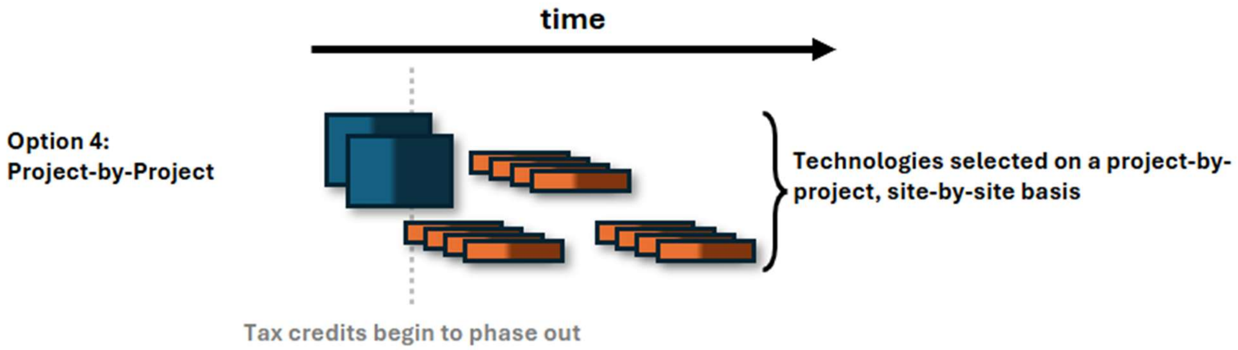
Option 3 is less complex to implement than Option 2 because it does not require the parallel construction of two separate pipelines. However, it would require New York State to undergo a secondary technology selection process, which makes it more complex to implement than Option 1.

The economic benefits of this option are likely similar to Options 1 and 2. However, by waiting to see which technologies emerge, New York State may miss out on bringing key economic development opportunities to the state.

Option 4: Project-by-project Procurements

In this scenario, the state procures projects and the technology associated with each project on a project-by-project basis, likely through a series of procurement rounds. For each project, selection would be based on what appears best for the project in question (i.e., given the needs a project intends to serve, site characteristics, cost factors associated with the project), but without firm link or consideration of ties with a broader pipeline. Projects could be built either in parallel or in series and one project would not necessarily depend on the next.

Figure 6. Option 4: Project-by-Project Procurements



Option Assessment

The advantage of not committing to a single technology for a pipeline is the ability to be flexible and adapt to changes in the market. If a particular technology shows extraordinary progress in the next decade, this approach enables New York State to leverage that progress by selecting that technology for one or more deployments. In addition, it would likely also enable more flexibility in the choice of sites, by deprioritizing the need for sites to either allow for multiple units or to be selected in a coordinated way that would allow deployment of a committed pipeline.

However, this option would entail more complexity in managing selection of, and the State's involvement in, potentially multiple separate nuclear projects at the same time. Additional uncertainty would also arise to the extent technology providers might have limited availability in their supply timelines at the time a particular project is selected, which could result in timeline delays compared to the other options that include pipeline commitments from suppliers. These timing challenges also create uncertainty for New York State’s nuclear workforce, as the laborers could disperse between projects if the gaps are too large.

The related challenge associated with this approach is the increased cost uncertainty. On the one hand, this option could have cost advantages because it creates the opportunity to choose the least-cost technology option for each project and leverage cost reductions that are occurring in other states. However, this option faces higher cost risk relative to the other options for several key reasons.

- First, the degree of learning or cost reduction New York State can achieve with projects occurring out-of-State is lower than if the pipeline is occurring in-State. New York State may still be able to take advantage of some out-of-State learning that occurs during projects in other states, but the degree to which that learning is transferable is more limited and uncertain. See the discussion of learning effects in Appendix C (Cost Analysis – Inputs and Methodology) for more detail on which types of learning are likely to transfer.
- If each technology is different project-to-project in New York, the State’s workforce would potentially need new training or certifications for each deployment, incurring additional costs and potential schedule inefficiencies. It would therefore be difficult to fund large training initiatives as job predictions would have higher uncertainty. There may also be increased workforce attrition if the gaps between projects are too large.
- The timing uncertainties associated with a project-by-project approach may decrease the number of projects that are eligible for federal tax credits before they expire, which would have a significant impact on overall pipeline cost.
- This approach likely entails a reduced opportunity to save on costs by co-siting projects, as projects contracted separately are less likely to take advantage of the same site.

Reflecting all these factors, the quantitative analysis for Option 4 in Appendix D suggests that this approach may, like the parallel pipeline approach of Option 2, be more expensive than alternative approaches.

It is worth noting that the project-by-project approach has broadly characterized the historical approach to the US nuclear fleet, and that, under this approach, it appears that cost did not reduce over time, although that outcome reflects multiple factors, including regulatory changes and emerging safety requirements.[33]

In the short term, this option may be the least complex to implement, as New York State would only have to focus on one project at a time rather than an entire pipeline. However, in the long term, this option would require New York State to undergo repeated and lengthy technology and site selection processes, increasing complexity and introducing additional uncertainty.

The economic benefits of this option are also uncertain. Projects would be more likely to be spread out across the State given the one-by-one nature of the process, so the benefits would also be more spread out across New York State than a scenario in which many reactors are sited in the same region. New York State would not be endorsing any specific technology, so it would be unlikely for technology-specific manufacturing capacity to come to New York State.

Despite these challenges, the flexibility of the project-by-project approach may nevertheless be attractive especially when it comes to specific opportunities, e.g., deployment of specific use cases such as behind the meter or on small sites. Some of these opportunities may be evaluated through follow-up assessment of the non-gridscale use cases that are outside the scope of this Options Paper.

6.3 Cooperation with Other Jurisdictions

Each of the above scenarios could be conducted in New York State independently or in collaboration with other states and jurisdictions. New York State is a founding member and co-chair of The National Association of State Energy Officials (NASEO) Advanced Nuclear First Mover Initiative, a state-led effort to accelerate the deployment of advanced nuclear energy across the United States. Launched in February 2025, the initiative is led by the state co-chair New York, Indiana, Kentucky, Tennessee, and Wyoming, with participating states Maryland, Pennsylvania, Utah, Virginia, West Virginia, and Louisiana. The participating states have

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[33] Lovering, Yip, and Nordhaus, "Historical construction costs of global nuclear power reactors", *Energy Policy.* April 2016. 91: 371-382. https://www.sciencedirect.com/science/article/pii/S0301421516300106

committed to accelerating advanced nuclear projects by reducing financial and technology risks, devising supportive market adoption policies, defining supply chain needs, reforming and streamlining permitting and siting, developing coordinated procurement options, exploring state-federal-private financing structures, and creating public-private partnerships. The states are coordinating with Idaho National Laboratory, Oak Ridge National Laboratory, and the DOE's Gateway for Accelerated Innovation in Nuclear (GAIN).

Either through the First Mover Initiative or otherwise, cooperation with other states could take many forms:

- The types of pipeline commitments from government to project developers considered above could be made by multiple states together rather than New York State individually. Such an arrangement could spell out each participating state government’s role on all key aspects, such as which reactor would be deployed in which state and the sequencing of deployment in multiple states, as well as any risk sharing arrangements between the participating governments in particular when it comes to the types of cost overrun guarantee structures discussed in Section 4.1 (Cost Overrun Guarantee).
- As an alternative to such joint commitments from multiple states from the start, where an individual state (New York or another state) might take the lead on entering into agreements with project developers, participation by one or more other states could still be negotiated subsequently, to enable an initially more limited arrangement to be expanded to include other states over time.
- If arrangements between states would stop short of partnerships for projects or pipelines as a whole, such partnerships could still extend to specific aspects, such as joint procurement with other states (and/or the federal government) of large components needed for nuclear projects to secure bulk buying discounts from suppliers.
- For neighboring states or jurisdictions, cooperation could take the form of physical import or export arrangements. This concept is explored below in Section 7 (Procurement Mechanisms).

6.4 Reduction of Public Support Across Pipelines

Reduction of public support levels over time as technologies mature has long been a core design principle of clean energy programs. In competitive procurement structures, (e.g., RFPs) the competitive element incentivizes project developers to pursue cost reductions which in turn enables them to bid into such RFPs with lower bid prices. As discussed below in Section 7 (Procurement Mechanisms), RFPs may have disadvantages for procurement of advanced nuclear projects, and a competitive negotiation process may be more promising. In such approach, again the competitive nature of such negotiations should enable cost reductions to be translated into lower levels of public support.

A number of challenges would need to be resolved to apply support reduction approaches to an advanced nuclear program.

First, as described in Section 4 (Options Assessment), the State support policy framework for advanced nuclear may involve more than one tool. Section 4 assesses ANZECs, State equity, construction grants, debt finance, and pre-FID activities. Any reduction in State support policy over time could be applied across all support mechanisms or focus on a single component.

Second, as set out above, procurement of advanced nuclear projects may extend to a pipeline of installations over time rather than individual units. Depending on which of the pipeline approaches set out above are pursued, there may not be a large number of individual procurements that each would include a new opportunity for price discovery. If awards are made for a pipeline of units, the expected or desired cost reduction trajectory might need to be agreed upfront for the whole pipeline. This could be in the form of a preset schedule of cost reductions, or as a flat support level that would apply to the entire pipeline.

Third, uncertainty around project cost (including the extent to which cost overruns may materialize) has been identified as one of the key challenges at least of near-term advanced nuclear deployment. While this challenge persists, it may, by definition, not be possible to firmly enforce a particular predetermined level of reduction in support. If private sector project partners commit firmly to a predetermined level of support (including reduction of support) across a pipeline, this effectively means that they take on the full risk of cost overruns. If, as put forward in Section 4 (Options Assessment), successful development of advanced nuclear projects means that the government takes on some exposure to cost risk, this means that any expectations of support level reduction over time are not guaranteed.

As a result, rather than seeking overly simplistic predetermined reductions in support levels, mechanisms could be pursued that share cost reductions as they occur throughout a pipeline. A State equity holding achieves this by definition. An ANZEC mechanism with a ratchet formula, as discussed in Section 4.2 (Advanced Nuclear Zero Emission Credits), could be another example.

In addition to considering how support levels can reduce across a pipeline or over time, consideration should also be given to how any State exposure to risk can reduce over time. As a pipeline of units moves from the first installation to subsequent ones, the key risks and barriers outlined in Section 3 (Barriers to Commercial Viability) reduce, and the need for the State to take on a share of related risks diminishes. To the extent a level of State cost overrun guarantee may be made available to initial deployment(s) (see Section 4.1 (Cost Overrun Guarantee)), it could be negotiated with private sector funders that this State role would reduce and be withdrawn as the pipeline progresses, with private sector funders and other private sector project partners taking on the full level of risk exposure.

7. Procurement Mechanisms

When pursuing a process to adopt and implement a policy framework for advanced nuclear along the lines discussed above, several complexities arise.

- First, as discussed above, the policy framework would likely need to include an integrated approach across multiple components with potential support components at the pre-FID, post-FID and post-COD stages.
- Second, at least some of these components involve opportunities or even the need to include actors other than NYS, including potentially the federal government, other states and offtakers.
- Third, the policy approach needs to consider not just a first project, such as the one currently pursued by NYPA, or any individual project, but an overall portfolio of projects and how it can deliver both the quantity of nuclear deployment needed and the objective of cost reductions when moving from first of a kind to subsequent projects.

The default approach of delivering a policy framework across most other clean energy sectors has been to conduct RFPs. RFPs are the primary tool for activating competitive dynamics aimed at getting ratepayers or taxpayers the best deal. The various multi-dimensional factors noted above – not just revenue support but also upfront government actions, not just NYS but also other actors, and not just one installation but a broader portfolio or pipeline – suggest that an RFP approach would not be straightforward to implement. A competitive negotiation process is also considered as an alternative to an RFP approach. Under either approach, standard terms can be considered as an opportunity to strike a balance between a project-by-project and a standardized approach.

7.1 Request for Proposals

Under an RFP process, selection requirements and scoring criteria are set and bidding projects evaluated on that basis. As used most typically for selection of clean energy projects in New York State, the key objective of selection through RFPs is to pursue a competitive dynamic to identify projects that deliver a combination of the best price (lowest cost to ratepayers) and other (non-price) factors. If approached in a similar way as RFPs typically conducted for renewables, developers would be required to bid in with a particular proposed site, technology, and price.

Any competition aimed at price discovery would face a number of challenges in a nuclear context:

- As put forward further above, government intervention could involve a number of factors, such as a cost overrun guarantee, an equity investment and revenue support. Price competition with multiple variables would be challenging to implement.
- Competitions tend to allow only limited room for negotiation, including legal constraints on the ability to change bids through negotiation, whereas the complexity of these multiple variables may actually require negotiations to get to an optimal outcome.
- In addition, the core competitive dynamic of an RFP may not even be a clear benefit at all, at least for first of a kind or second of a kind procurements. A competition that encourages bidders to submit lowest-price bids may lead to a lowest-price result at the RFP stage, but where combined with a cost overrun risk approach that, as discussed, may well need to include a government share in such risk, this could result in a perverse incentive for projects to bid unrealistically low in order to win, with an expectation that their exposure to any resulting increased cost overrun risk would be limited. While non-price RFP bid evaluation criteria could mitigate this concern, they would not remove it. The experience where projects bid and win at a price level that ultimately does not turn out to be viable is known from other sectors. But in the case of advanced nuclear (certainly grid-scale projects), the small number of individual projects, their large scale, and their long development timelines all contribute to the need to avoid situations where projects would either need additional injections above RFP bid price levels, or would need to be abandoned with significant loss of time and sunk cost.

A competitive process such as through an RFP may be more straightforward to conduct and deliver benefits for distinct elements of the project selection process, namely to narrow down potential sites or potential technologies to the most promising ones. This could include the process to award grants for the early, pre-FID project development stages.

7.2 Competitive Negotiations

The additional public support role at the FID/post FID stage considered in this paper suggests, by its nature, a different way of engaging with and selecting a project or projects than the "standard" RFP aimed at offering revenue support. Such role during the project development and construction period represents more of a grey area where government would participate not just as a typical government partner but also taking on aspects of a private sector project partner role. This is illustrated by the role that NYPA has fulfilled in the past and has now taken on for the 1 GW initiative it is pursuing. This role may well still incorporate RFP elements (e.g., an RFP for technology selection). But in particular when it comes to making financial commitment to a project, an active role from the relevant government entity by means of participation in negotiations may most appropriately reflect the complexities and nuanced roles.

An open book approach may also offer opportunities for transparent risk and benefit sharing throughout the project life, similar to the Swedish approach to risk sharing noted in Appendix B (Market Assessment).

A key aspect of a negotiation approach to new advanced nuclear projects would be to maintain competitive dynamics through this process. New York State would negotiate with multiple parties in parallel. This could be at the level of developer/technology selection but also, when it comes, for instance, to allocation of risk as discussed in Section 4.1 (Cost Overrun Guarantee), through negotiations with multiple candidate funding partners and other project partners.

7.3 Standard Terms

While participating in multi-dimensional negotiations offers opportunities in terms of flexibility and optimization, it also presents challenges where there would be less of a transparent benchmark on what constitutes a "good deal" for ratepayers or taxpayers, and how to select a portfolio of projects where those would not be considered immediately side-by-side as in an RFP process but through separate negotiations. An approach with standard offer elements or standard terms could potentially complement either the negotiation or the RFP approach by turning some of the many variables into fixed offerings, allowing for either a more targeted RFP process or a negotiated process with fewer open variables. This could take the form of translating lessons learned from the procurement process for the first project into standard terms – for instance on the distribution of risk between project partners – that could at least form the starting point of subsequent procurements.

7.4 Pre-qualification Process

While any RFP process would likely by default include assessment of projects on the basis of non-price factors such as technology and project feasibility, to the extent the award process for government support may be based on a competitive negotiation approach, a separate preliminary process may be needed to screen developers, technology providers and project proposals for suitability to access those types of procurement offerings. In addition, a level of screening may also be appropriate as a prerequisite for related advanced nuclear programmatic offerings that New York State and NYSERDA more specifically may offer. This includes:

- Support NYSERDA can offer to help nuclear developers to navigate regulatory requirements;
- Access to communities and potential sites for nuclear deployment that have been or will be identified through engagement that NYSERDA and NYPA have already conducted and will conduct going forward with interested communities in New York State;
- Grant support that NYSERDA or other State entities may offer for early project development and pre-FID activities.

Such preliminary assessment process could be conducted in one or multiple steps, e.g., ranging from a preliminary screening of technology providers and development companies before individual project proposals would have been developed, to a more in-depth assessment of project proposals as a precursor to procurement of projects into the types of government support initiatives discussed throughout this Options Paper. NYPA has effectively already commenced initial steps of a process of this nature through its RFQ aimed at identifying developers qualified to deliver its advanced nuclear generation project.[34]

7.5 Eligibility

As noted, this Options Paper focuses on grid-scale power generation projects. The specific circumstances of other use cases such as micro-scale or industrial heat applications will be considered later. Options set out in this paper may not be suitable or tailored to those uses cases. For instance, an ANZEC-style approach may not work where the primary output of the project is heat; or the cost/value proposition of micro-scale projects may be different from the quantification provided here for large-scale situations. If procurement is conducted through a negotiation process, this would afford flexibility, at least to an extent, to tailor the support framework for grid-scale projects to the needs of other use cases. However, a negotiation approach is time intensive, and it may not be feasible to pursue this approach for all use cases in parallel. In addition, the opportunity of and timing for procurement of non-grid-power projects depends on the decision on which of the pipeline approaches set out in Section 6 (Technology Selection and Pipeline Considerations) may be adopted, e.g., a sequential approach as illustrated by Pipeline Option 3 under which New York State would not immediately pursue procurement beyond the NYPA project, versus a “project-by-project” approach as illustrated by Pipeline

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[34] Office of Governor Kathy Hochul, “Governor Hochul Announces Significant Steps in Development of at Least 1 GW of Nuclear Energy in Upstate New York”. June 2026. https://www.governor.ny.gov/news/governor-hochul-announces-significant-steps-development-least-1-gw-nuclear-energy-upstate-new

Option 4, under which multiple near-term procurements potentially for multiple use cases could take place.

With these considerations in mind, it may be preferable to prioritize grid-scale projects for next steps in the procurement approach, until deliberations on a more dedicated approach for other use cases can be completed.

In terms of geographical constraints, New York State's focus for grid-scale advanced nuclear projects is on Upstate New York. Only projects north and west of the Lower Hudson Valley are considered.

Cooperation with other jurisdictions offers attractive opportunities to maximize benefits and share risks. New York State already has multiple frameworks in place that can facilitate such opportunities, in particular participation in the First Mover cooperation initiative with ten other states, and the MOU in place between NYPA and Ontario Power Generation. As a starting point, and based on the established approach in the CES, these opportunities can be expected to apply where power could be delivered physically into New York State, either using existing or new transmission. For instance, Ontario is already constructing new nuclear generation and is planning to develop significantly more capacity.[35] New Jersey has just passed legislation that may also form the precursor to concrete project development.[36]

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[35] World Nuclear News, "OPG and Port Hope to Collaborate on 10 GW New Nuclear Plan". February 2026. https://www.world-nuclear-news.org/articles/opg-and-port-hope-to-collaborate-on-10-gw-new-nuclear-plan

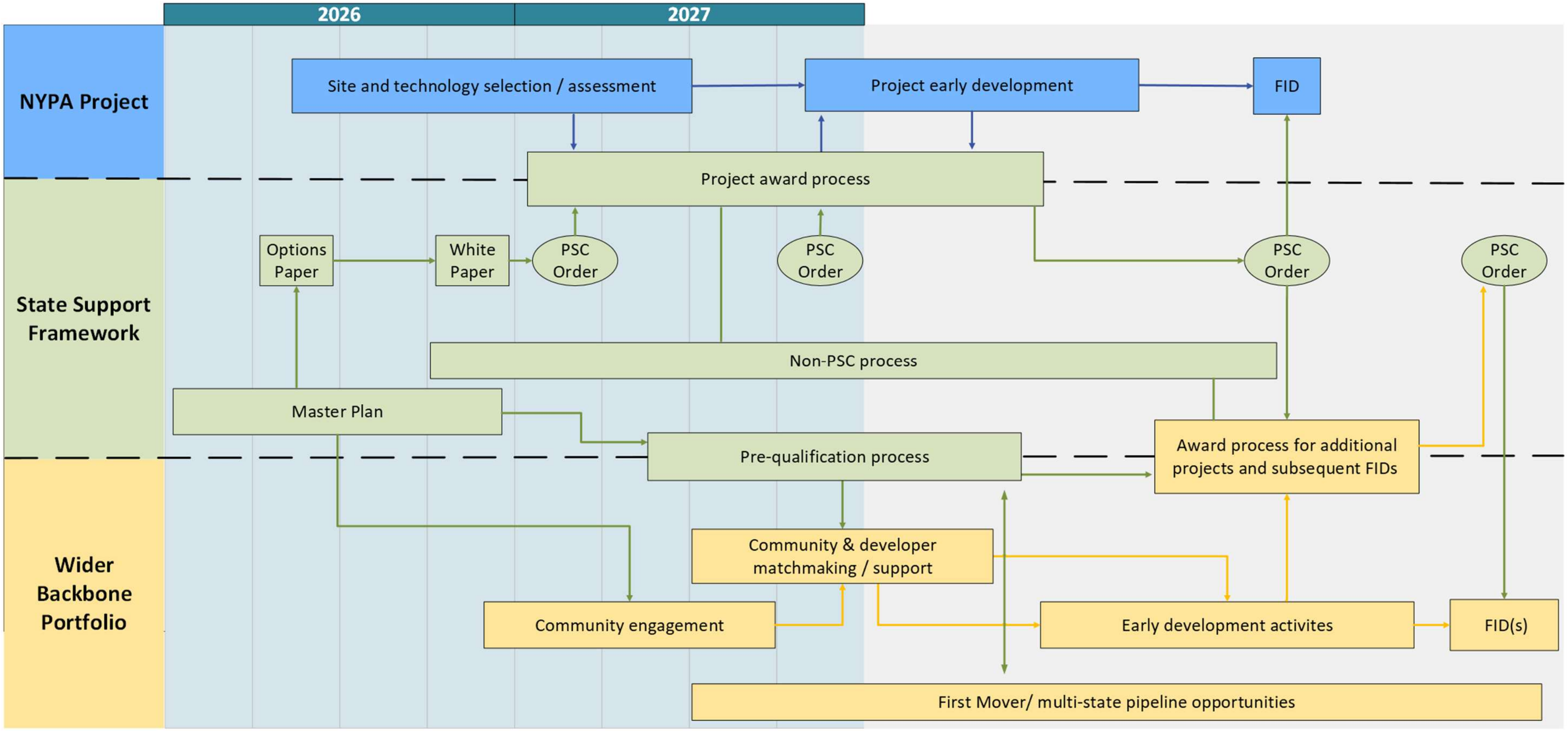
[36] Office of Governor Mikie Sherrill, "Governor Sherrill Signs Legislation Lifting 50 Year Nuclear Moratorium, Launches Nuclear Task Force at Salem Nuclear Power Plant". April 2026. https://www.nj.gov/governor/news/2026/20260408a.shtml

8. Process and Timeline

New York is simultaneously pursuing a gigawatt-scale project led by NYPA and laying the groundwork for the broader deployment needed to fulfil the state's Nuclear Reliability Backbone commitment. These two tracks are distinct in their timelines, pace and nature of State involvement – but also deeply interdependent: both contribute to the goal of 5 GW of new advanced generation; the enabling support framework set out in this Options Paper will be relevant for both; and the experience gained from developing the NYPA project will help to determine the approach to deployment of other nuclear projects. This section examines a process and timeline for both the NYPA project and other projects, and the interactions of each of these with the development and application of the State support framework. Timeline and process will also need to reflect the different perspectives and involvement of two key groups of stakeholders: developers and host communities.

The below flow chart Figure 7 offers an overview of the approach New York State could take to reflect all these tracks and interests. Pending further decisions to be taken by the Commission and the State on all aspects of nuclear procurement, including as a follow-up to this Options Paper, the discussion of process and timeline in this section is illustrative only.

Figure 7. Illustrative Process and Timeline Flowchart



NYPA Project

Operating within and helping to shape the State support framework, the 1GW NYPA project will serve as a vehicle through which processes are established and lessons are learned that can inform the wider Backbone portfolio.

NYPA site and technology shortlist	Having initiated community and developer engagement through an RFI process at the end of 2025, NYPA’s next step will be to review sites and technology providers for further assessment and selection, including through the recently announced RFQ for nuclear developers and delivery partners. NYPA is expected to establish a project plan, with an appropriate governance structure, and in consultation with appropriate State entities.

White Paper	A DPS Staff White Paper, based on input received through the comment process on this Options Paper, the Nuclear Reliability Backbone Initiating Order, as well as a planned technical conference, is expected to offer recommendations to inform a subsequent Commission Order.

PSC and non-PSC process	The White Paper will form the basis to enable the Commission to provide direction through one or more Orders to DPS and NYSERDA on ratepayer support that may be made available and the process for awarding it. The options set out in this Options Paper can also extend beyond Commission action and pursuit of such options can happen in parallel. Any determination of next steps on support options would need to consider both how these apply to the NYPA project and the 5 GW goal more broadly.

NYPA project Final Investment Decision	FID can be expected to incorporate commitments from NYPA, funders and other project partners. It may also require a further authorization decision from the Commission and/or New York State more generally depending on the selected process and the level of government support commitments to the project. Finalization of the construction capital stack, cost overrun mechanics, pipeline commitments, equity participation, and operational revenue would serve as a pivotal milestone for the project and enable construction to begin.

Wider Backbone Portfolio

As discussed in Section 6 (Technology Selection and Pipeline Considerations), the timeline and approach for projects beyond the NYPA project remains to be determined. This could include a further pipeline commitment or project-by-project selection opportunities.

Sites and developers that participate in the NYPA process but would not ultimately be selected for the NYPA project may still present attractive opportunities for subsequent awards, and would be expected to participate in the below steps depending on the level of project development they might have reached through the NYPA process.

Standard terms	Development of the NYPA project offers the opportunity to establish standard terms on aspects of the State's involvement as applicable, e.g., terms on the distribution of risk between the parties. These could then apply as a starting point for subsequent procurement.
Community engagement	While NYPA has started the process of identifying sites for its project, a broader process can help to identify and engage the candidate communities that could host the wider Backbone portfolio. NYSERDA is considering the approach to such an initiative, as a community-driven process through which interested host communities identify and assess sites and build the technical, social and institutional capacity needed to engage with developers on an informed and empowered basis. Communities demonstrating continued interest as well as technical and social suitability could advance to community and developer matchmaking.
Pre-qualification process	A pre-qualification process can help the State to determine which developers, technologies and project proposals – beyond the NYPA project – would be eligible to enter the process to award State support and benefit from other initiatives such as access to sites identified through the community engagement process and regulatory support.
Community and developer matchmaking	NYSERDA can facilitate a matchmaking process between communities/sites (following the engagement and capacity building process noted above) and developers (following the pre-qualification process noted above), to help interested host communities and developers explore the partnerships needed to then create project proposals. Communities and developers that already participated in the NYPA process may join this matchmaking process depending whether they would have already solidified such partnerships.
Support award process	Following determination of the approach to the technology selection and pipeline dynamics discussed in Section 6 (Technology Selection and Pipeline Considerations), project candidates identified both through NYPA's current process and the matchmaking process described above would be able to enter into the support award process backed by PSC or non-PSC funding approvals. With clarity on state support, projects could then progress to FID and construction.

First Mover/ Multistate pipeline opportunities	As the State's support framework matures and the NYPA early development process generates commitments with project partners for the NYPA project, opportunities could be pursued for partnerships with other states or jurisdictions, for instance on long-lead time items or deployment slot reservations. These efforts could be coordinated by NYSERDA with other states through the First Mover Initiative to explore whether broader multi-state commitments could generate additional cost efficiencies.

9. Next Steps

NYSERDA and Staff are submitting this Options Paper into the new Commission Nuclear Reliability Backbone proceeding since many of the interventions identified in the paper are subject to review by the Commission. Other aspects would be subject to other executive or legislative action.

Next steps in the Commission Backbone proceeding are expected as follows.

This Options Paper will be open to public comment until August 10, 2026. Stakeholder comments can be entered through the DPS Document and Matter Management System on Case 26-E-0335. Submitted comments will be considered by DPS, NYSERDA, and other state entities, as appropriate, in addition to the PSC for action to enable commercial project viability of advanced nuclear projects. NYSERDA and Staff will hold a technical stakeholder conference no later than October 31, 2026, with further details in this respect to be announced.

A subsequent Staff White Paper, based on this Options Paper and the input received through the comment process and technical conference, is expected to offer recommendations no later than November 13, 2026. As a follow-up to this Options Paper and subsequent White Paper and technical conference, the Commission will be in a position to review and provide direction on the approach to potential ratepayer support options.

In the meantime, NYSERDA and DPS will continue to develop other parts of the Advanced Nuclear Master Plan, for publication by the end of 2026.