

State of Micro-Reactors

Alaska Legislative Hearing

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Market Opportunities



Micro Reactor Developers



Oklo
1.5 MWe



Ultra Safe Nuclear Corporation
5 MWe



HolosGen
13 MWe



Westinghouse eVinci
1 MWe to 5 MWe



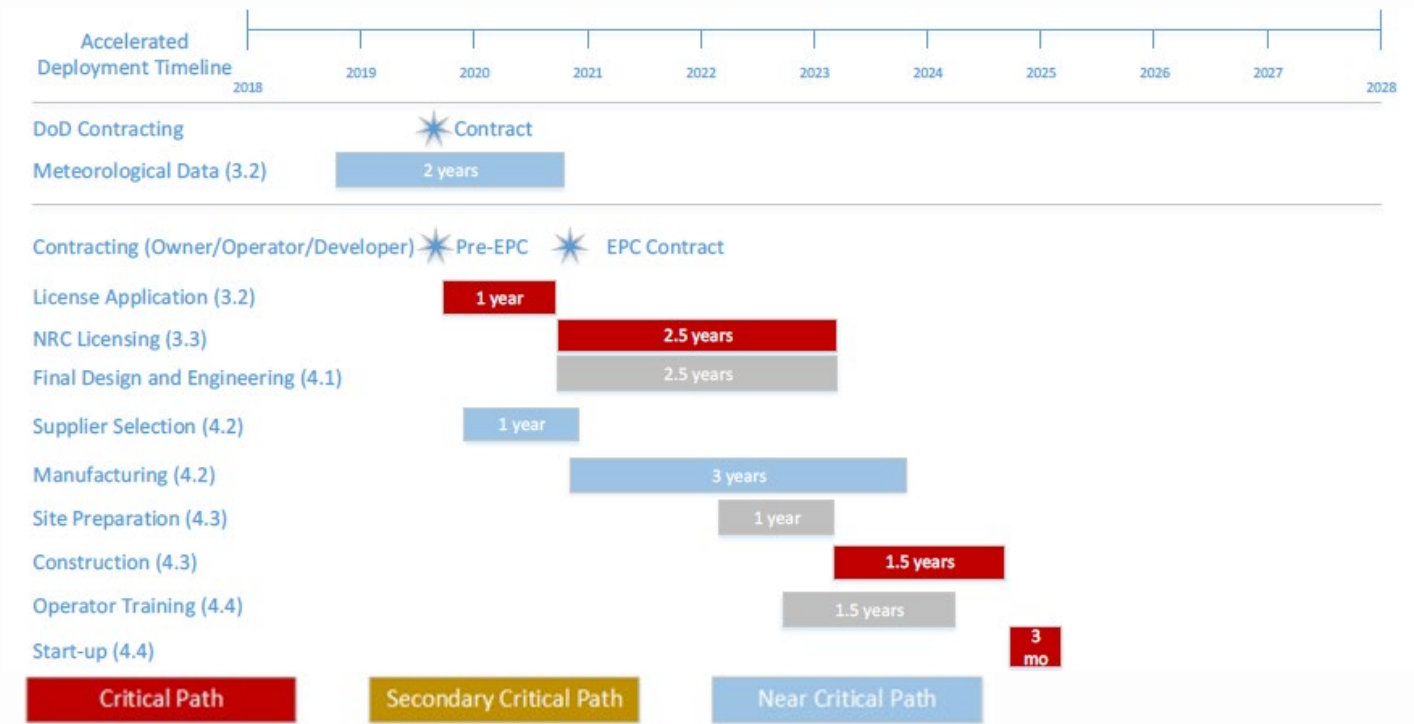
X-energy Mobile
1 MWe

Other Designs (not all inclusive)

- BWXT
- General Atomics
- Hydromine
- NuGen
- NuScale
- Radiant

Deployment Timeline

First projects expect to take 5 to 7 years

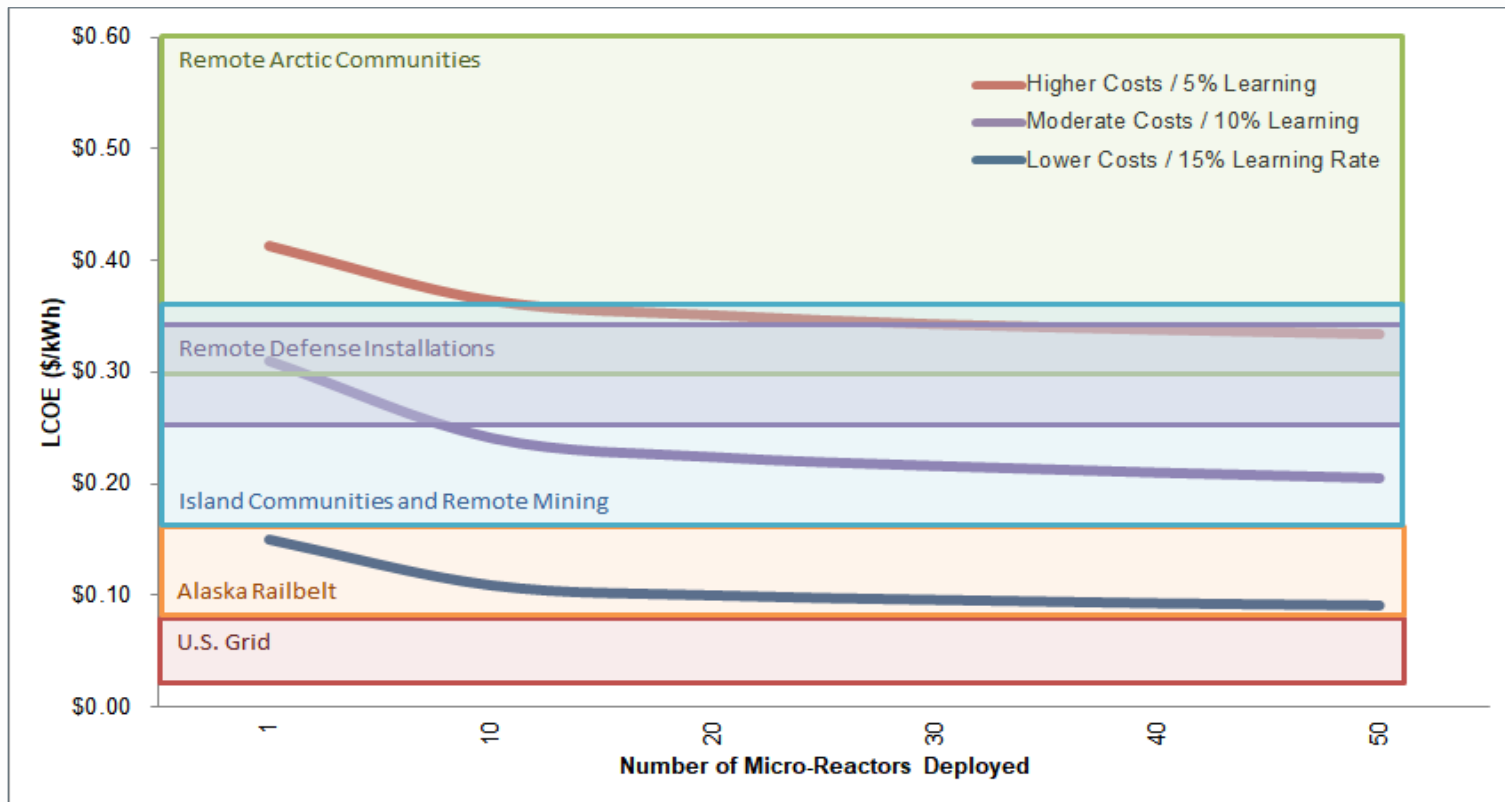


Current State – Demonstrations

Planned to be online in late ~2025 to 2027

Developer	Technology	Utility / Owner	Location	Size
Oklo	Micro Reactor	Oklo	Idaho	1.5 MW
Ultra Safe Nuclear Corp.	Micro Reactor	Global First (w/ OPG)	Chalk River, Canada	5 MW
Ultra Safe Nuclear Corp.	Micro Reactor	Univ. of Ill.	Illinois	5 MW
TBD (X-energy or BWXT)	Mobile Micro Reactor	Department of Defense	Idaho	TBD
TBD	Micro Reactor	Department of Defense	Alaska	TBD

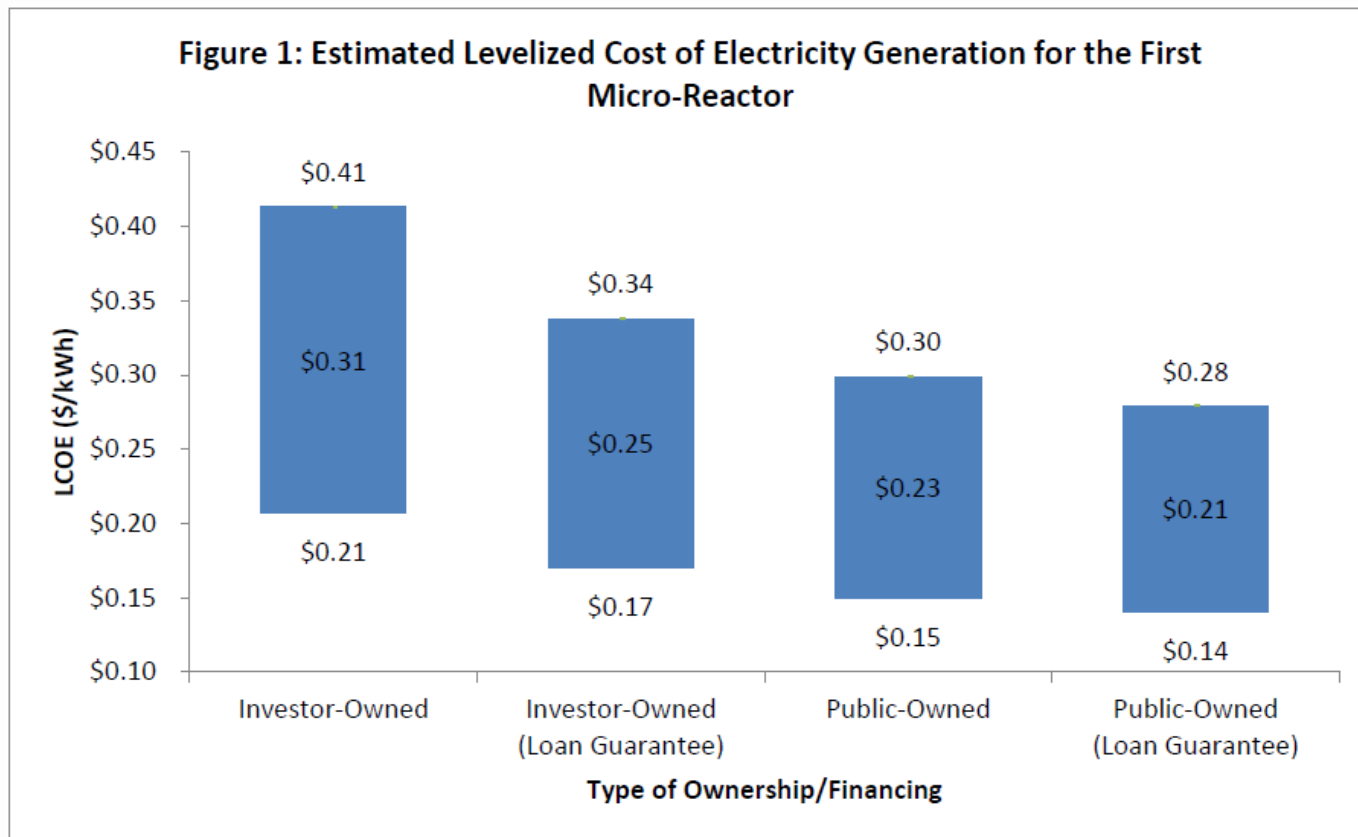
Micro-Reactor Cost Competitiveness



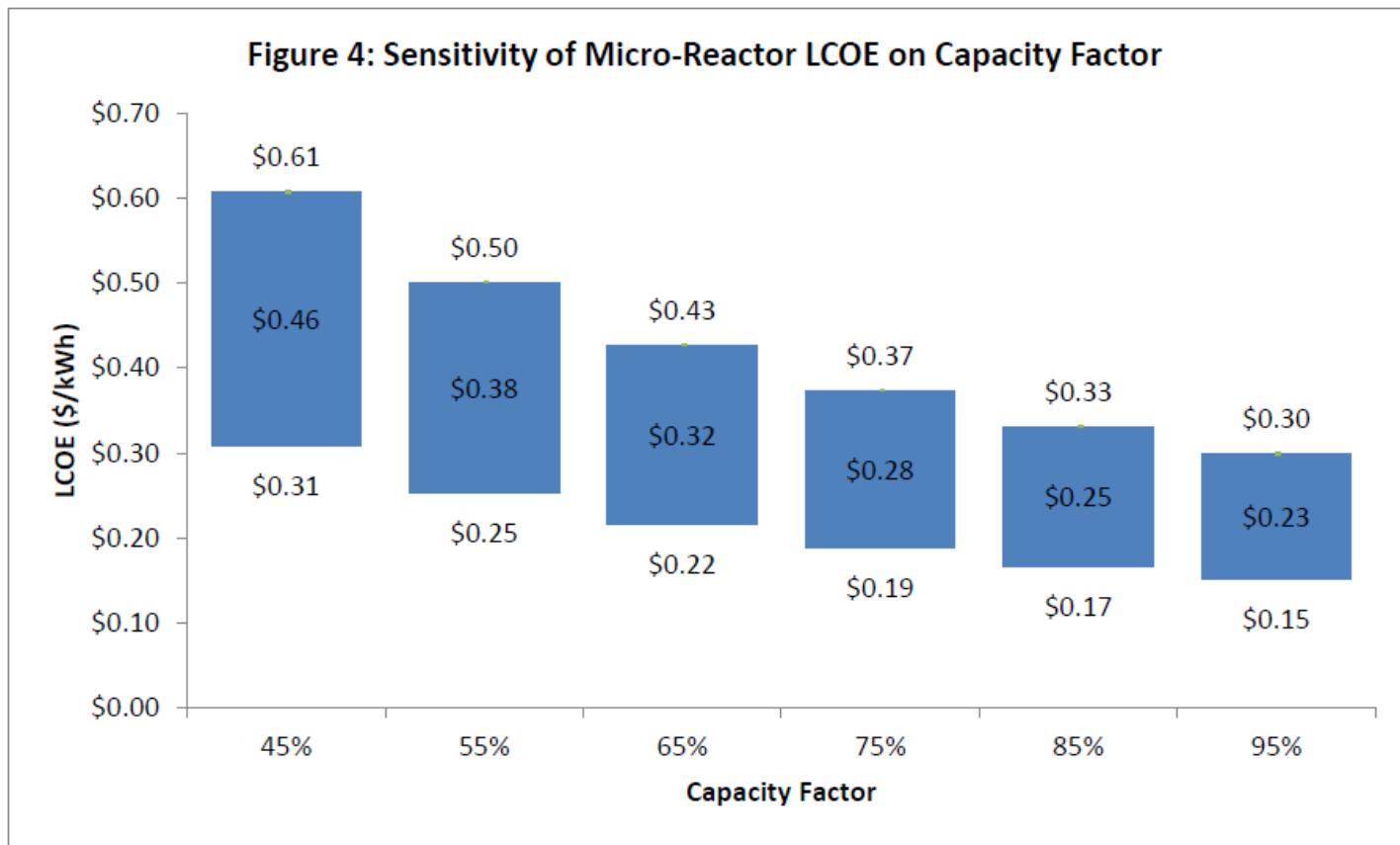
Source: NEI *Cost Competitiveness of Micro-Reactors for Remote Markets*, April 2019

<https://nei.org/resources/reports-briefs/cost-competitiveness-micro-reactors-remote-markets>

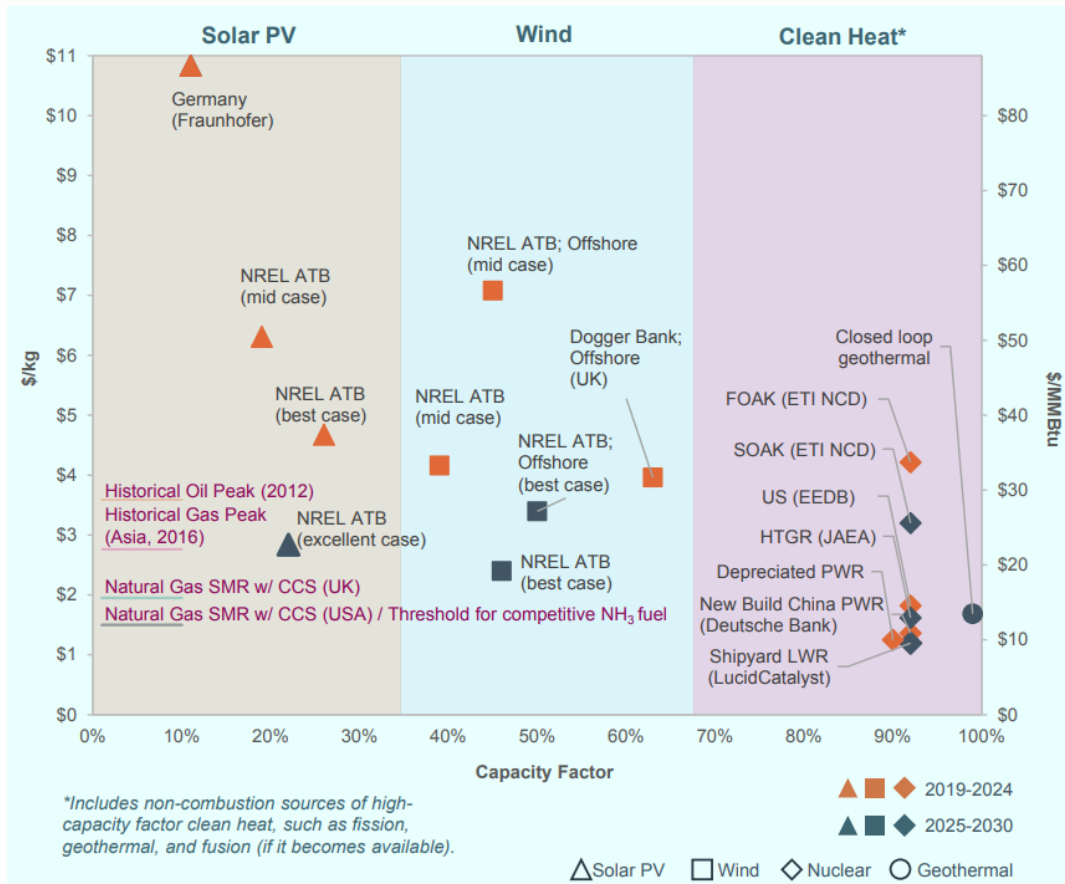
Ownership Type Influences Costs



Lowest Costs when Fully Utilized



Micro-Reactor Heat is Valuable



Utility and State Interest

State	Legislative Action	Utility Action
Alaska	Bills introduced to repeal legislative approval of site for microreactors	Eielson AFB site for first micro-reactor for DoD
Arizona	Clean energy standard under development	Utility interest in 25 MWe of UAMPS/NuScale
Idaho	Tax incentives passed	Host of UAMPS/NuScale SMR
Montana	Passed bill to study coal to SMR Repealed voter approval to site	NorthWestern Energy interested in coal to nuclear
Nebraska	Passed bill on SMR tax incentives	Broad support for SMRs in state
North Carolina	Passed decarbonization plan bill	Duke Energy includes SMRs in IRP
Virginia	Nuclear Energy Strategic Plan Clean energy standard including nuclear	Dominion includes SMRs in IRP
Washington	Clean energy standard including nuclear	Energy Northwest with X-energy demo Grant County PUD MOU with X-energy and NuScale
West Virginia	Repealed moratorium on new nuclear	Dominion and AEP interested in SMRs
Wyoming	Passed bill calling for coal retirements to be replaced with SMRs	Rocky Mt. Power siting for TerraPower demo

QUESTIONS?

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