

DOE-NE AMMT Workshop Panel: Potential Demonstrations

May 23, 2023





○ In-Space Power Systems for Lunar and Planetary Surface Presence

FROM CONCEPT TO REALITY

Design, build and test new nuclear



○ Nuclear Thermal Propulsion for Cis-lunar and Planetary Exploration



○ Reliable Commercial Microreactors in Remote Areas



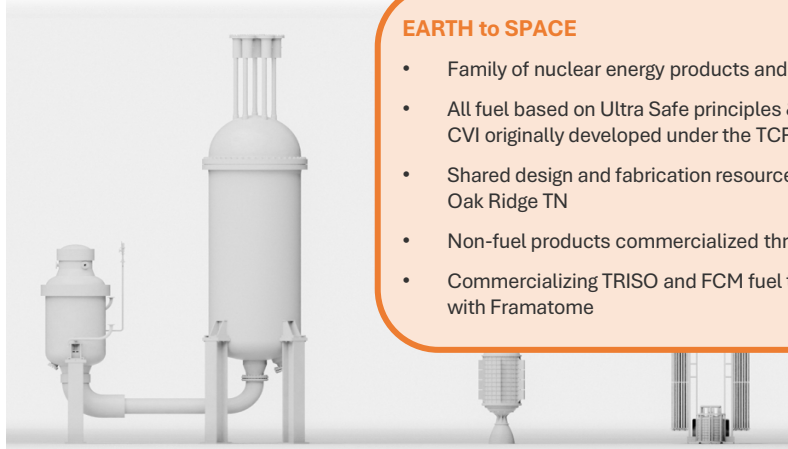
○ Transportable, Resilient Power Source for Military Base Power

Image of Copernicus spacecraft courtesy of ESA

Ultra Safe Nuclear – Reliable Zero-Carbon Energy Anywhere

EARTH to SPACE

- Family of nuclear energy products and services
- All fuel based on Ultra Safe principles & technologies (AM + CVI originally developed under the TCR program)
- Shared design and fabrication resources, PFM facility in Oak Ridge TN
- Non-fuel products commercialized through 3Dcarbide.com
- Commercializing TRISO and FCM fuel through joint venture with Framatome



MMR

Industrial
Micro-grid
Off-grid

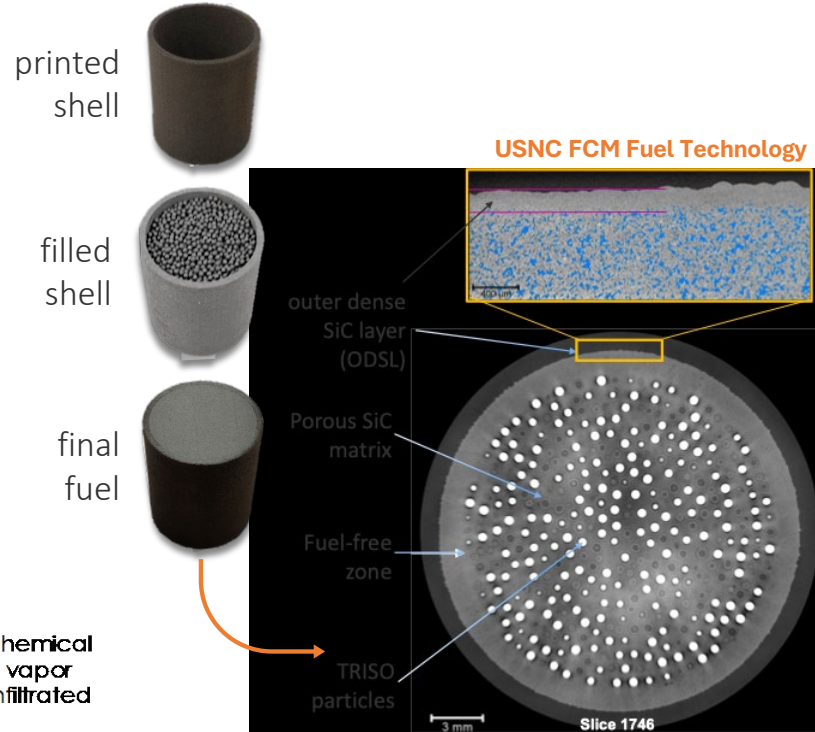
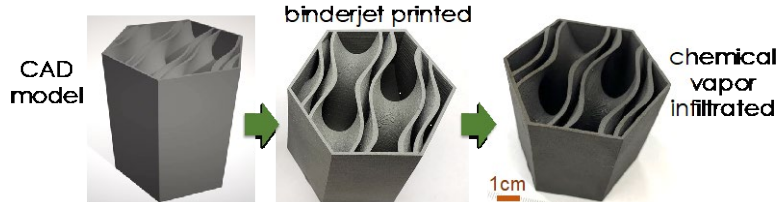
NTP

Space
Propulsion Engine

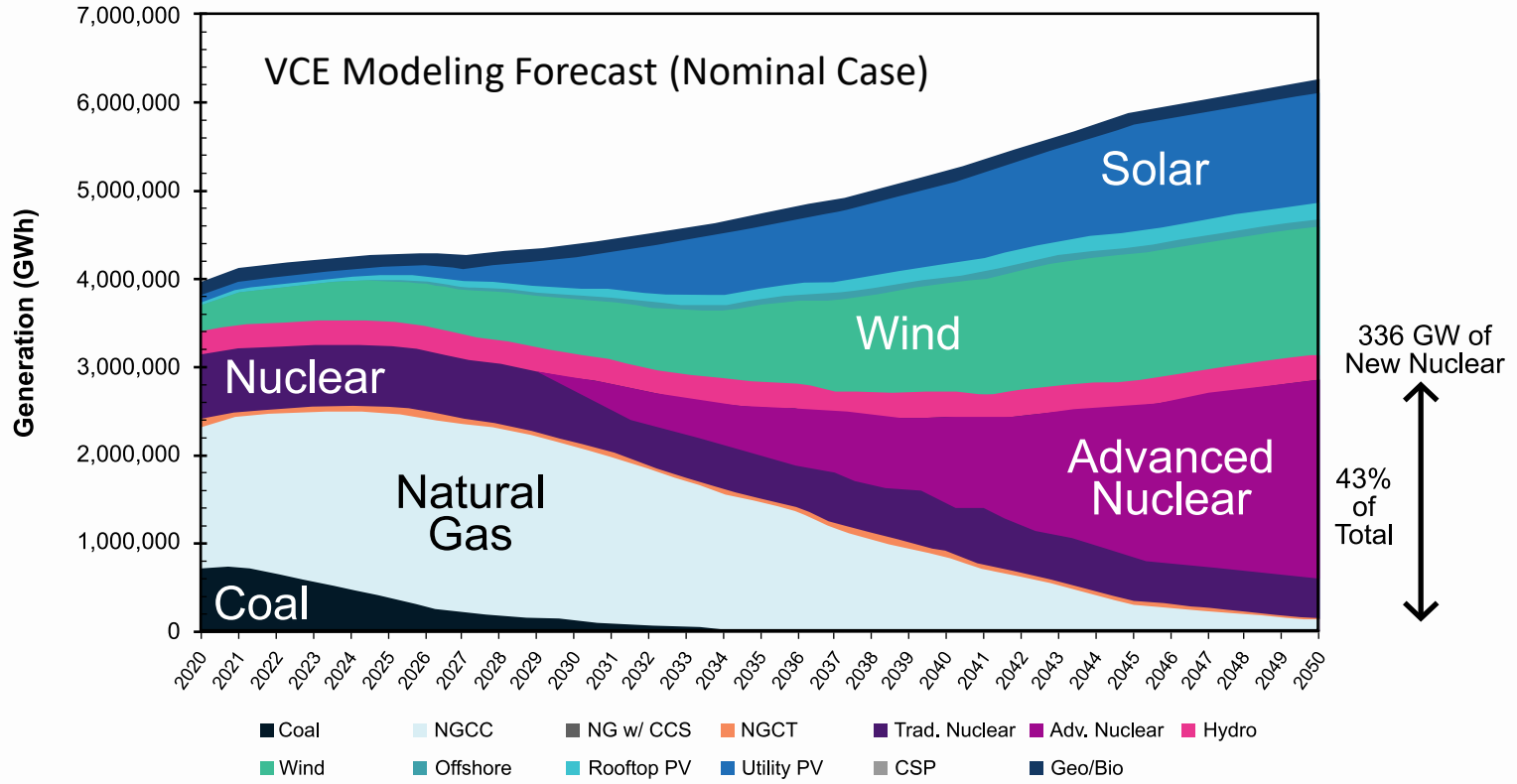
PYLON

Earth & Space

USNC AM + CVI Technology¹



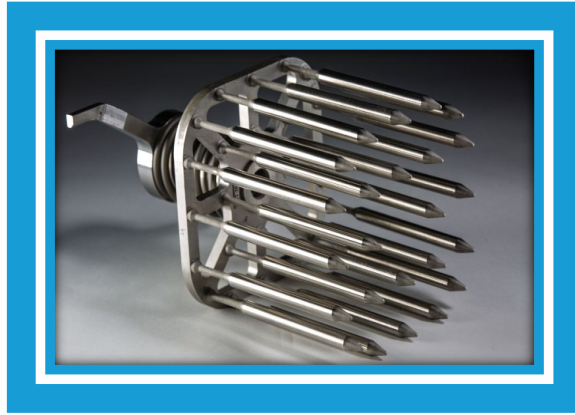
U.S. Market Opportunity for Advanced Nuclear



Source: Vibrant Clean Energy, *Role of Electricity Produced by Advanced Nuclear Technologies in Decarbonizing the U.S. Energy System* (June 2022), available at <https://www.vibrantcleanenergy.com/media/reports/>

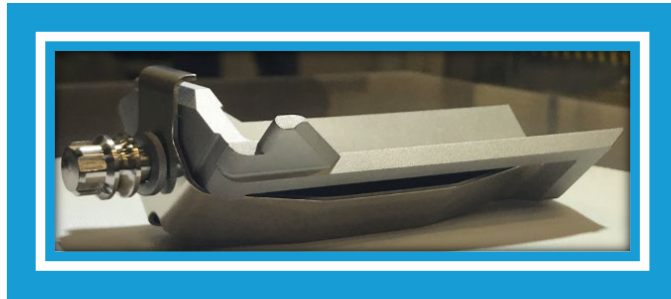
First of a Kind (FOAK) Deployments – Fuel Assembly Components

2020

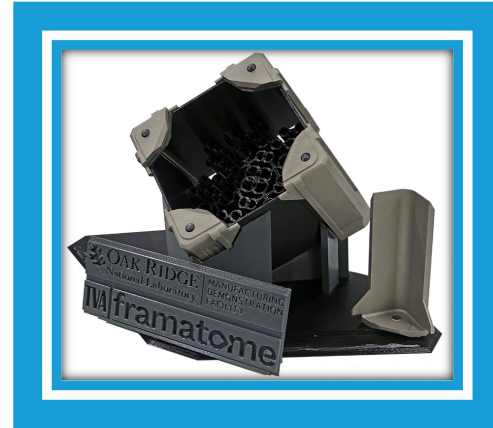


Courtesy: Westinghouse

2021



Courtesy:
Framatome



Courtesy: ORNL