

# Looking into Nuclear

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CEO



# AGENDA

Why Nuclear

What is MMR

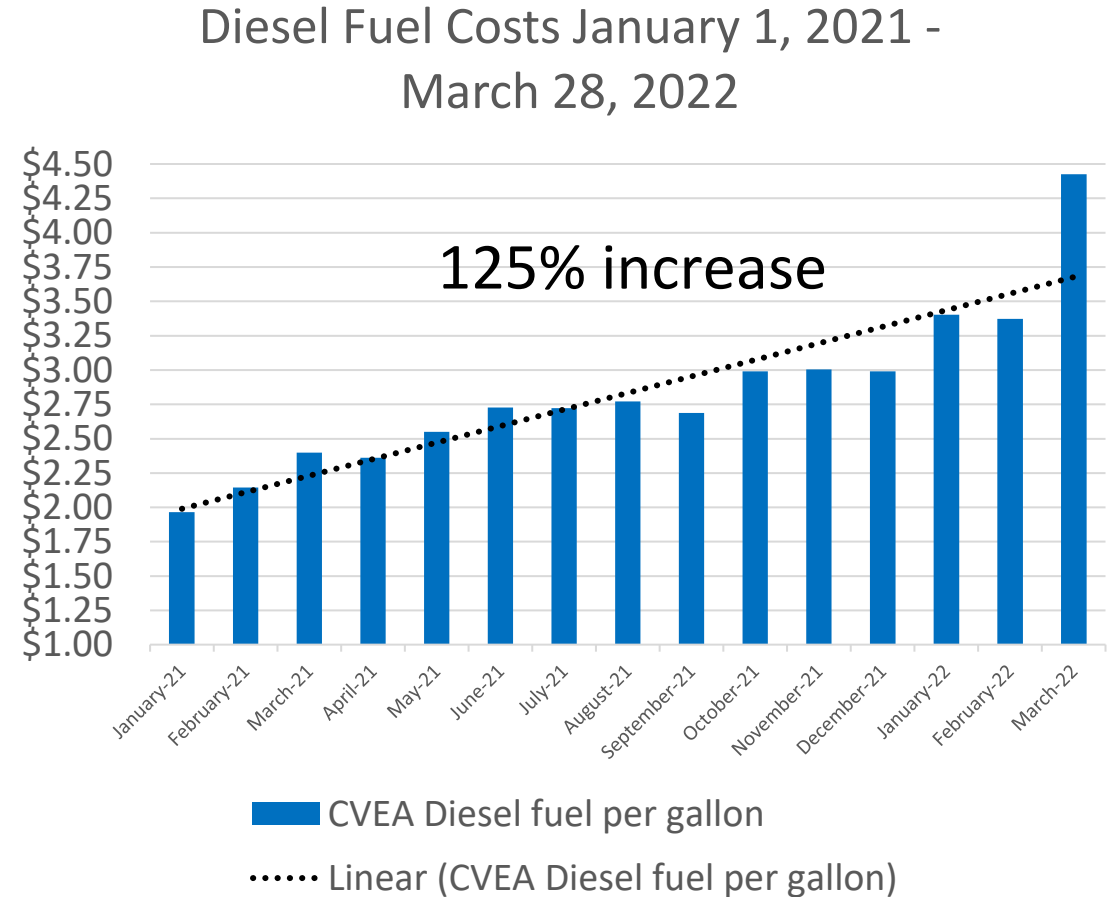
Environmental/Safety Concerns

Feasibility Study

Stakeholder Engagement

# WHY NUCLEAR

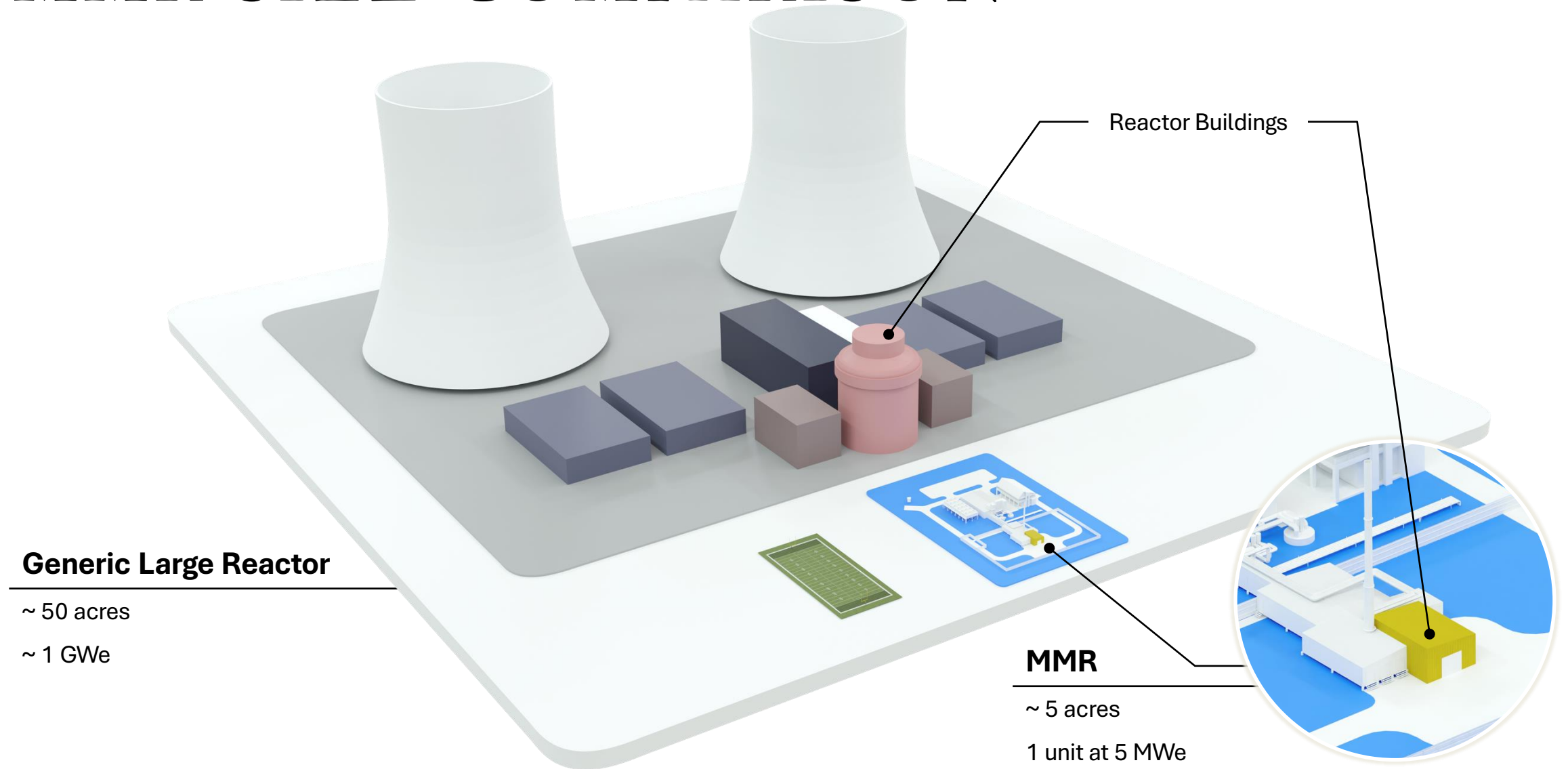
- Board Strategic Plan
  - Develop a plan to reduce use of diesel fuel
- Increasing, fluctuating winter energy costs
- Reduction in emissions from fossil fuel power plants
- Lack of solutions for winter energy
  - Wind, Solar, Geothermal, Biomass, Hydro, intertie, etc.



# MICRO MODULAR REACTOR (MMR)?



# MMR SIZE COMPARISON



# What is a microreactor and why?

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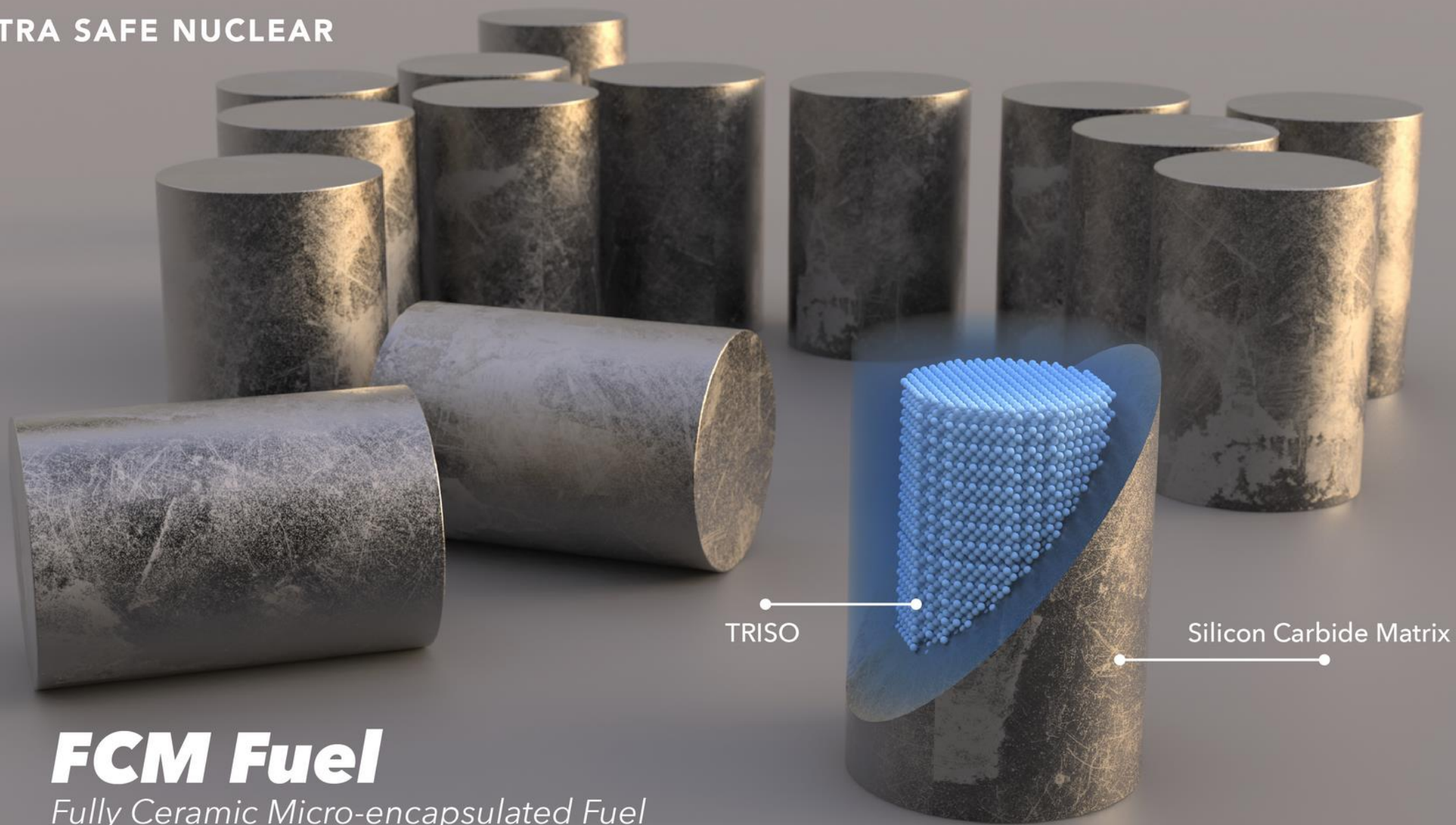
- A microreactor (MMR) is a small nuclear reactor that can operate as part of the electric grid, independently from the electric grid, or as part of a microgrid
- The MMR can generate up to 10 megawatts thermal energy
- MMR Can be used to generate electricity and provide heat for industrial applications
- It emits no carbon and provides reliable, resilient, demand driven power
- The reactor design is self-regulating so cannot melt down
- The refueling cycle is dependent upon how much energy is drawn from it, but on average will go for 15 years without a need for refueling







ULTRA SAFE NUCLEAR



**FCM Fuel**

*Fully Ceramic Micro-encapsulated Fuel*

# MMR™ Energy System REM

## 2-Unit Layout for Remote Energy Management

30 MWt (15 x 2)

Electrical Power

10 MWe (5 x 2)

Nuclear Plant

Adjacent Plant (non-nuclear)

Turbine

Air Cooled  
Condensers

Steam  
Generator

Molten Salt  
Heat  
Reservoir

Helium  
Circulator

Nuclear  
Reactors

Lifetime

40 years

Refueling

20 years





# Projects in Development



# CVEA/USNC Joint Feasibility Study

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- Is there anything that would prevent siting an MMR here?
- What are the preferred sites and their characteristics?
- What are the cost parameters and decision points?
- What are the benefits, concerns, and issues for the community?
- What operating specifics might apply in locating an MMR here?

CVEA and USNC are contracting a local engineering firm for the study that knows the area utilities, power grid, customers and community factors well

The feasibility study is expected to take 4 months and be completed by end of summer 2022

If selected, Valdez would be the Serial 003 MMR project (after Chalk River, UIUC)

# CVEA & USNC Engagement



- **Valdez**
  - City Council
  - Ports and Harbor
  - Police, Fire
- Prince William Science Center
- Valdez Fisheries Development Association
- **Copper Basin**
  - Greater Copper Basin Chamber of Commerce
- Public Information Meeting(s)
- CVEA Annual Meetings
- Alaska Native Corporations (3)
- Alaska Federation of Natives
- Alaska Native Village Corporation Association
- ANCSA Regional Association



# Questions?

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