# The Risky Economics of Small Modular Nuclear Reactors

## What are Small Modular Nuclear Reactors?

- Small modular nuclear reactors (SMNRs) are a new, untested nuclear reactor
- Utah cities and towns that are members of the Utah Associated Municipal Power Systems (UAMPS) are being asked to buy into a proposed first-of-its-kind SMNR project
- This project is being marketed as the Carbon Free Power Project (CFPP)

## Study Background

- HEAL contracted with Energy Strategies to conduct an independent study
- The study compares the cost of SMNRs to comparable portfolios of alternative resources that would similarly fill the projected electricity gap
- The alternative resources considered include wind, solar, energy storage, market purchases, and natural gas

## Key Findings

- Alternative scenarios were all roughly 40% cheaper than SMNRs
- Even at the lowest levelized cost for SMNRs, alternative portfolios are still less costly
- Alternative scenarios represented between $298M - $355M in savings over a 20-year period
- As costs continue to decline for solar, wind, and battery storage, the likelihood increases that these resources will be even less costly than SMNRs

## Conclusions

- SMNRs are an unnecessary, high-risk project that Utah towns and cities should not be asked to commit to 40 years of speculative investment in them
- There are cleaner, cheaper, and safer alternatives for these municipalities
- SMNRs will cost municipal ratepayers hundreds of millions more over a 20-year period and could cost these ratepayers billions more over the possible 80-year lifetime of SMNRs
- The study demonstrates the lack of cost competitiveness of the SMNR project
- UAMPS members should delay further investment in the CFPP until an objective, independent cost comparison study is complete that includes all renewable options as would be done in any major utility

*These policy conclusions are those of HEAL Utah. Energy Strategies conducted the cost analysis will respond to questions about the report's assumptions and methodology but they do not take a position on whether any community should or should not subscribe to the CFPP.*

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## Detailed Findings

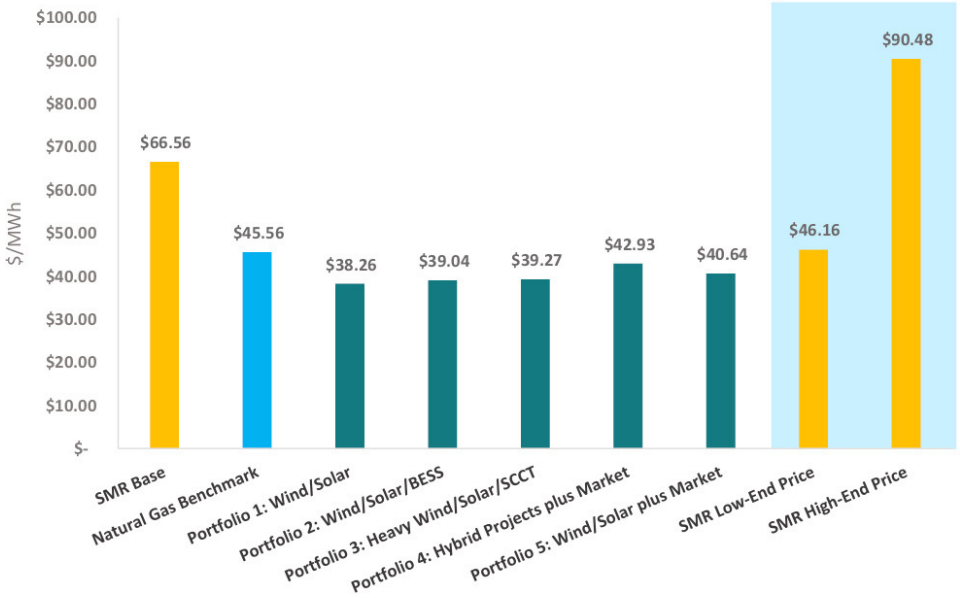
*Using data from Rocky Mountain Power's Integrated Resource Planning Document, public UAMPS information, and other sources, this study looked at replacing the 185 MW of electricity proposed for UAMPS members with alternative sources.*

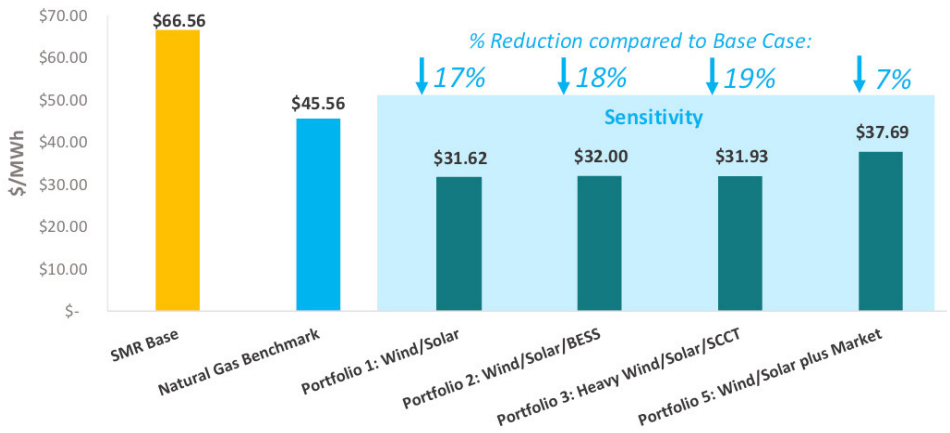

### Levelized Portfolio Costs

This includes the cost of energy and capacity resources and resource integration costs (does not include interconnection/transmission). Alternative portfolios were all roughly 40% ($24-$28/MWh) less costly than SMNRs.

### Levelized Portfolio Cost Sensitivity of SMNRs with Low- and High-End SMNR Resource Costs ($/MWh)

Even when the lowest levelized cost sensitivity for SMNR's was considered, alternative portfolios remained less expensive.




### Levelized Portfolio Cost Sensitivity with Deeper Declines in Solar, Wind and Storage Costs ($/MWh)

As costs of solar, wind, and battery storage continue to decline, the likelihood increases that these resources will be less costly than SMNRs.