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## **Engaging New Mexican communities in developing an equitable and just approach to siting advanced reactor facilities**

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### **ABSTRACT:**

Successful siting of an energy facility – be it in non-traditional energy markets, off-grid communities, or remote locations – depends on understanding community perceptions and receptivity to nuclear facilities. To date, however, reliable sub-national estimates of public acceptance for siting reactors, research facilities, transport routes, or disposal facilities have been very scarce. For facility developers, undertaking the data collection and analysis for assessing and comparing support across multiple potential host communities may be cost-prohibitive, time-consuming, and unreliable. As a result, it is very difficult for developers to anticipate local reactions to proposed nuclear facilities or compare options for siting. In some cases, sustained local support has proven to be a critical basis for the success of nuclear facility siting, while in other cases the failure to anticipate and address state and local opposition has contributed to the abandonment of the nuclear facility siting effort.

Environmentally just and economically viable siting of new energy facilities, especially a nuclear facility, requires alignment of consent across many scales – in the immediate community where the new facility will be sited, in surrounding communities that expect to be impacted by a new facility, and more broadly at the state level. Through this project, we seek to understand how individuals conceptualize what it means for an energy transition to be just, and more specifically, their sentiment towards nuclear energy playing a role in such a transition. We seek to (1) codify these conceptualizations of a just transition and sentiment toward nuclear energy across multiple spatial scales; (2) examine the extent to which there is alignment in sentiment across these scales, and (3) understand the causes of alignment or misalignment; and (4) understand how these aspects vary across different types of energy communities. The findings of this project will shed light on how technology developers and the DOE can explore and potentially pursue a clean energy transition with the informed consent and engagement of host communities, regions, and states.

The findings of this study will also more generally apply to the potential for equitably exploring both brownfield and greenfield sites for nuclear facilities. We will carry out this study in New Mexico across a diverse set of communities – (a) remote communities, (b) communities that may be interested in considering a coal-to-nuclear transition, (c) communities considering non-traditional and hybrid energy systems, and (d) energy justice communities. The study will focus on the potential for using small, advanced reactors in these different use contexts.

The objectives of this project are as follows

1. Understand sentiment towards a transition to nuclear energy in New Mexican communities
2. Carry out a community-driven techno-economic-environmental analysis of a transition to nuclear energy across diverse potential sites as described above
3. Understand how community sentiment towards energy transition broadly and transition to nuclear energy specifically varies across the state
4. Develop a nuclear sentiment analysis (NSA) tool that uses open-source data and is validated using survey data to generate information on sentiment towards the clean energy transition and nuclear energy across the state

