

Creating the Conditions and Capacity for Communities to Willingly Participate in Collaboration-Based Siting

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Building Regional Communities
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EXECUTIVE SUMMARY

INTRODUCTION

One of the most important, difficult, and historically avoided questions facing the United States is how to store and dispose of the nation's spent nuclear fuel and other high-level radioactive wastes.

The difficulty lies not in the science and technology underpinning a safe solution but in social and political acceptability. Nuclear waste (spent nuclear fuel and/or high-level radioactive waste) is a subject the country prefers not to discuss. However, a variety of fiscal, economic, environmental, energy and national security drivers are now shifting the social and political dynamic, returning the nuclear waste issue to the forefront.

The Administration's recent 'Request for Information' (RFI) can potentially create conditions to help resolve the long-stalled effort to identify sites for nuclear waste storage or disposal. The Keystone consortium's investigations into making public engagement for the siting of such facilities more effective, highlighted the regional impacts of nuclear waste facilities, as well as the need to take account of states' and Tribes' interests alongside those of affected local communities. Our findings and recommendations, therefore, are uniquely pertinent to the current evolving nuclear waste policy framework.

Whatever arrangements the federal government eventually reaches with individual states, those states will still need to engage with communities, local and Tribal governments, and commercial, agricultural or other regional interests on the hosting of nuclear waste facilities. The RFI acknowledges this need, with its sections questioning how states intend to manage inevitable public concerns about hosting such facilities.

Our report provides insights into how best to equip all key parties to participate meaningfully in a siting process, and how best to structure and resource dialogue and decision-making processes for communities to make informed decisions. Informed decisions tend to deliver outcomes that are more widely accepted, and therefore more likely to survive the test of time. As history reveals, attempts to impose a "top down" decision on nuclear waste facilities tend to end in failure or prolonged and costly delays.

BACKGROUND ON OUR PROJECT

Over the past two years, we have been working with local communities, state organizations, Tribal government representatives, regional governmental organizations, industry, and academia to learn how to best conduct an effective siting process for nuclear waste facilities. We have also drawn on international experience, bringing in representatives from communities in other countries who are farther along in a repository siting process, and that bring lessons relevant to siting federal nuclear waste facilities in the U.S.

We did not seek to identify or to advocate for a specific community to host a nuclear waste storage facility. Instead, we focused on developing insights into how communities engage in dialogue and decision-making about contentious infrastructure siting projects. We wanted to find out what would give communities the civic capacities and confidence to willingly participate in discussions about hosting a nuclear waste facility: what skills and resources they required, the shape of an effective discussion and decision-making process, behaviors that built trust between participants, and practices that promote and nurture a more collaborative approach to finding solutions and resolving conflict.

Our goal was to help create a framework in which all parties felt they each had agency to participate meaningfully and to make informed judgements about their collective future. Our findings and recommendations are based on extensive conversations with a wide range of informed participants representing diverse interests and different levels of government.

THEMES

Our full report sets out dozens of findings and makes many detailed recommendations. However, certain key themes repeatedly arose with the different interests and groups with which we engaged.

Capacities

- Communities and public agencies often do not have the civic capacities to support and sustain their participation.
- Taking upfront time to build civic capacities, trust and support can save considerable time and costs downstream.

Community Autonomy

- Ensuring that communities retain both a clear "right of withdrawal" and a formal, final approval role in siting decisions is essential to secure their meaningful and sustained participation in the process.

Building Confidence

- Lack of public trust in government and the nuclear industry often means that even when information is accurate, it may not be believed. This suggests that the source of information often is the confounding factor ("it's the messenger rather than the message").
- Mis- and disinformation also undermine public trust but can be managed from the outset in ways that builds public confidence. Shared learning and the support of other communities with similar experience and knowledge can be more effective in building public trust and confidence.
- There may be more trust in an independent "siting authority" – similar to those in Canada, Switzerland and Sweden where nuclear waste sites (repositories, in these cases) have been identified – compared to a process led by the DOE.

Effective Community Engagement

- Evidence shows the effectiveness of proactive engagement, such as: listing community concerns in advance and committing to answering those issues; taking the discussion to the wider community rather than waiting for them to come to you; ensuring voices that are not normally heard can participate in the process. Many public dialogue processes fail by only engaging with self-selecting cohorts and not engaging with broader demographics who have other demands on their time (the "silent majority").
- Effective engagement is also about building relationships rather than simply imparting facts, and it is important that the siting authorities listen to the community, learn about their values and aspirations, and build a shared vision of the future.

Sustaining the Siting Process

- Nuclear waste facilities (whether for storage or disposal) take a long time to socially and scientifically assess, plan, construct and operate. All such siting processes have to survive multiple electoral cycles, as well as inevitable demographic and other changes.

RECOMMENDATIONS

We have categorized our recommendations into three broad areas, with multiple detailed recommendations within each category. A summary follows below.

Recommendation: Invest in Building Civic Capacities

Meaningful public participation requires that communities possess the civic capacities to engage substantively, evaluate technical evidence, deliberate effectively, and make informed decisions. Without such capacities, even well-designed engagement processes can be captured by well-resourced interests, exclude marginalized voices, or produce outcomes that communities later disavow. Building civic capacity is more than distributing technical information or funding. The siting authority should recognize that civic capacities are multi-dimensional. We have developed a taxonomy of such capacities, which includes leadership, resources, knowledge, civic efficacy, network benefit, and civic culture.

- Acknowledge that investment in sufficient civic capacities is a fundamental prerequisite for genuine community agency. Proceeding without them likely undermines the legitimacy of any siting outcome.
- Support communities in conducting systematic appraisals of their existing civic capacities; identify strengths and gaps.
- Provide sustained, adequate funding and support for communities to build the specific capacities they identify as necessary.
- Allot sufficient time for capacity-building before the formal engagement process begins. Rushing this phase consistently produces engagement failures; it should be understood as an investment, not a delay.

Recommendation: Co-Design a Regional, Stepwise, Fair, and Competent Process

Siting nuclear waste facilities is an issue of regional concern. All affected units of government should have influence over decisions. For the sake of efficiency, regional approval should be a prerequisite before advancing along each step in the process.

- Develop holistic strategies to engage state government and agencies, Tribal governments and communities, and local governments and communities.
- Establish a core, regional group representing diverse governmental, Tribal, and community interests to co-design the engagement process from its inception.
- Collectively establish clear guiding principles for the engagement process, with clarity about roles and responsibilities, how disputes will be resolved, and what can be decided upon and by whom.
- Commit to a deliberative model that prioritizes reasoned exchange of views, exposure to different perspectives/interpretations, and iterative learning.
- Hire independent, professionally trained facilitators with demonstrated expertise in multi-stakeholder environmental and public policy deliberation. Facilitators should be perceived as impartial and credible by all parties.
- Allow the process to unfold on a timetable that is appropriate for all parties. Artificial urgency imposed by regulatory or political timelines has been a leading cause of failure in past siting processes.
- Promote, fund, and co-design a credible independent information validation process that enables communities to evaluate technical and other information, rather than depending solely on data provided by the siting authority.
- Establish, at the outset, clear and agreed-upon mechanisms by which communities will express agreement or disagreement at each stage of the process.
- Do not overly prescribe a process but continuously review and assess progress and adapt as appropriate to changing circumstances.

Recommendation: Engage Inclusively, with Expertise and based on Best Practice

Draw upon established principles and practices of professional public participation organizations and independent experts. These include reaching out to all sub-populations, promoting mutual dialogue and learning, and treating everyone with respect.

- Proactively reach out to and engage with all interests in a region, especially hard-to-reach demographics.
- Address barriers to participation, either financial or practical, e.g., childcare, transportation.
- Federally recognized Tribes are sovereign nations and should be engaged as such, through formal government-to-government interaction. State-recognized and other Tribes should be consulted on how they should be approached and included.

- Adopt model trust-building behaviors, which include: honesty about uncertainty and risk, timely follow-through on commitments, candid acknowledgment of past failures, and genuine openness to community-defined terms of engagement.
- Engage in active listening. The siting authority should demonstrate their interest in what communities are saying and ensure that community input materially shapes decisions.
- Adhere to established best practices in public engagement.

FINAL OBSERVATIONS

Nuclear waste is an especially complicated and highly charged topic that can only be adequately managed by decisions collaboratively made between all parties, each fully equipped with the capacities they need to confidently participate in a lengthy process addressing complicated and controversial issues. In the absence of reasoned civic dialogue, the evidence is clear – fear and lack of trust drive strong public reactions with the capacity to delay or derail projects. The result will be wasted funds and cost overruns.

The evidence from across the United States, as well as internationally, indicates that attempting to impose a solution on an ill-prepared community (whether that be a county, state or Tribe) does not generate meaningful solutions. It merely ignites opposition, which, as we see with Yucca Mountain, can simmer for decades.

The strongest foundations for sustained public support are: facilitated dialogue, in which both the risks and opportunities of hosting nuclear waste facilities are assessed and evaluated by a wide, diverse local population; and equipping participants with the resources, skills and confidence that empower them to participate in dialogue and to make informed decisions. We have developed specific resources for Regional Government[1] and for Local Communities[2] to advise them on best practice.

Our report's findings and recommendations are based on the informed insights of many different cohorts, from states, Tribes, and local communities. We trust that this collective wisdom can help the nation engage more effectively when considering nuclear waste facilities and other large infrastructure projects.

[1] https://narc.org/advancing-regional-energy-planning/
[2] https://www.seri.org/news/a-guide-for-communities-considering-whether-to-host-nuclear-waste-facilities

ACRONYMS

CBS	Collaboration-based siting
COG	Council of governments
CSF	Consolidated storage facility
DFTF	Defense Facilities Task Force
DGR	Deep geological repository
DOE	Department of Energy
EPA	Environmental Protection Agency
FFTF	Federal Facilities Task Force
KPC	Keystone Policy Center
Nagra	Nationale Genossenschaft für die Lagerung radioaktiver Abfälle (Switzerland)
NARC	National Association of Regional Councils
NCSL	National Council of State Legislatures
NDCAP	Nuclear Decommissioning Citizen Advisory Panel
NGA	National Governors Association
NRC	Nuclear Regulatory Commission
NWMO	Nuclear Waste Management Organization (Canada)
NWS	Nuclear Waste Services (United Kingdom)
SERI	Social and Environmental Research Institute
SFS	Spent Fuel Solutions
SKB	Svensk Kärnbränslehantering Aktiebolag (Sweden)
SNF	Spent nuclear fuel
SOCEP	San Onofre Community Engagement Panel
WGA	Western Governors Association
WIEB	Western Interstate Energy Board
WIPP	Waste Isolation Pilot Plant

GOALS AND OBJECTIVES

The Nuclear Waste Policy Act of 1982, as amended, tasks the U.S. Department of Energy (DOE) with management and disposal of spent nuclear fuel (SNF). In 2021, Congress appropriated funds to DOE to support design of a siting process for consolidated interim storage of SNF as an integral component of a nuclear waste management system. DOE consequently established the Consent-Based Siting Consortia[3], awarding grants to support a dozen different teams in hosting collaboration hubs to inform an eventual collaborative approach to siting of SNF. The awardees brought a range of approaches to community engagement, inclusive stakeholder involvement, relationship-building, and development of innovative approaches to mutual learning related to nuclear waste management. Specifically, members of the Consortia were expected to: 1) develop and build new stakeholder engagement capacity; 2) strengthen existing stakeholder relationships with one or more communities; 3) conduct activities to identify equitable community decision-making processes; and 4) provide feedback aimed at increasing a collaborative relationship with DOE.

Our grant-funded team combined the capabilities, perspectives, and networks of:

- GDFWatch (www.gdfwatch.org.uk)
- Keystone Policy Center (www.keystone.org)
- National Association of Regional Councils (NARC) (www.narc.org)
- Social & Environmental Research Institute (SERI) (www.seri-us.org)

Our project centered the following goals:

1. To devise a framework within a collaborative-based siting (CBS) policy that has been "co-authored" by civic society. This joint development helps inform policy development from a community perspective, so that any final policy is more likely to command credibility with communities – thus enhancing the chances of willing participation in a siting process, and the successful siting of a consolidated storage facility (CSF).
2. To equip participating communities with enhanced capacity for effective civic dialogue, both within the community (i.e., among its members) and with siting agencies and developers.
3. To create community-to-community tools which build the confidence, capacity, and capability for communities to participate willingly and meaningfully in a CBS process.

EXPLANATORY BACKGROUND

Any successful CBS process will depend on the *active* and *constructive* participation of those communities affected. Our project was designed to identify the strategic and structural barriers to communities being able and willing to participate in a CBS process, and to having the civic capacities required to make informed decisions.

We believed that a systems approach would be required to address nuclear waste management issues effectively, and specifically to shape development of an effective CBS process. Rather

[3] Subsequently renamed "Collaboration-Based Siting Consortia."

than simply refine "tactical" local engagement activities, we set out to reassess the issues through a "civic society" prism, understanding and learning lessons from how communities have managed other contentious, large-scale, long-term infrastructure projects.

In the initial phase, we involved communities with no previous nuclear waste experience. This intention aimed to help foster an "open" approach to discussion rather than being hampered or distorted by pre-existing (and potentially "closed" or "defensive") ideas about nuclear power. We focused on understanding the systemic, strategic, structural, cultural, and sociopsychological hurdles communities face when considering any complex or contentious infrastructure project.

In later phases we focused on engaging U.S. communities with prior nuclear waste management history and experience, and on learning from communities outside the United States which have lived through a CBS process and made an informed decision about whether to accept a nuclear waste facility. We endeavored to identify common principles underpinning community willingness to participate in a CBS process and explored how those principles allow a community to make informed decisions.

METHODOLOGIES

PHASE ZERO. RECRUITMENT

STAGE 1. ESTABLISHED AND CONSULTED WITH EXTERNAL ADVISORY COMMITTEE

We formed a diverse, four-person group to provide strategic advice throughout the arc of our project. Reflecting key aspects of our initiative, this Committee included:

- A former U.S. government official with deep experience in past efforts to resolve the challenge of spent nuclear fuel (SNF) disposition;
- An enrolled member of an American Indian Tribe who leads Tribal and indigenous engagement efforts across a wide range of policy issues;
- The executive director of a regional council of governments (COG); and
- A former mayor of a European community which has agreed to host a deep geological repository (DGR) for SNF.

We consulted Committee members, collectively and individually, for:

- Input to final design elements, including criteria for community selection, protocols for community engagement, and criteria for grant-making to participating communities.
- Help identifying and enlisting communities interested in developing their civic capacity to consider whether to host *any* kind of potentially controversial facility.
- Input to the objectives and agenda of our project's culminating summit.

STAGE 2. RECRUITED AND SELECTED COMMUNITIES FOR ENGAGEMENT

We defined "community" as a group of people living in proximity to one another who share a combination of interests, cultures, or governance institutions. This definition includes towns, cities, counties, sovereign indigenous communities, and areas sharing a regional council of

government, a school district, or regional planning agency. In this definition, community is not defined by political boundaries alone but can span several units of local government. We approached the concept of "community" in regional terms due to the multi-jurisdictional, cross-sector nature of the complex decisions characteristic of transporting and storing nuclear waste, as well as of other often contentious siting issues.

Basis for selecting communities

- Willingness to participate from a broad range of local (or regional) stakeholders
- Evident capacity to use project grant funding for relevant capacity-building objectives and deliver on commitments with respect to those objectives.
- Rural or at least exurban settings, since these communities are often resource-poor and may be overburdened and/or underserved.
- Absence of recent heated debates that could be re-ignited and thereby harm the community.
- Evident willingness to reflect upon and build civic capacity.

PHASE ONE. COMMUNITY AND STAKEHOLDER ENGAGEMENT TO EXPAND COLLECTIVE CAPACITY

According to the US National Research Council, civic engagement is "a cluster of individual efforts and activities oriented toward making a difference in the civic life of communities and developing the combination of knowledge, skills, values and motivation to make that difference" (NRC 2014: 35). To "make a difference" in civic life means to participate in governance – i.e., policy and decision-making about a collective concern.

In Phase One, we engaged significantly with three regional communities which differed substantially from one another.

Table 1. Community work in Phase One

Regional community	Region of the United States	Defined by…	Point of entry	Mode of settlement
Lower Richland (South Carolina)	Southeast	Shared history and culture	Informal group of civic leaders	Mainly rural
Upper Arkansas Area Council of Governments (Colorado)	Rocky Mountain West	COG consisting of four contiguous counties	COG staff and board members	Rural
Connecticut River Watershed Partnership (New England	Northeast	River watershed	Coalition staff and executive committee	Mixed (rural, urban, suburban

In this phase, we tested and learned from specific approaches to building civic capacities in participating communities.

STAGE 2.1. INITIAL ENGAGEMENT AND SITUATION ASSESSMENT

INITIAL OUTREACH

Project team representatives visited each community to introduce project goals, the project team, and potential benefits of participation.

SITUATION ASSESSMENTS

These initial endeavours comprised in-person tours, informant interviews, and desk research to build a baseline understanding of the community's civic capacities, values, interests, and stakeholder groups. After acquiring informed consent, notes were taken during the interviews and abbreviated transcriptions were made. In each location, a summary "What We Heard" report was drafted and shared with interviewees. In stage 3.8 below, we used qualitative data analysis techniques to uncover key themes and findings in these documents.

STAGE 2.2. CAPACITY-BUILDING WORKSHOPS

We led teams from each participating community through experiential training programs to enhance civic capacities. These programs were customized to local culture and tradition so that they reflected and respected the interests and identities of a given community.

STAGE 2.3. COMMUNITY SUBGRANTS FOR CAPACITY-BUILDING

Communities were encouraged to apply for subgrants to enhance civic capacity, and grants were distributed with reporting requirements and follow-up conversations. In some cases, return visits to the community were made. We served as implementation partners for the subgrant activities and monitored progress and compliance on a monthly (or regular) basis. We served as consultants when appropriate, advising on grant administration and occasionally providing facilitation and other services in support of the grant-funded activities.

STAGE 2.4. INFORMATION INTEGRITY WORKSHOPS

In response to needs identified within several regional organizations (e.g., councils of government, planning organizations, economic development entities), we developed a workshop modality to build skills and impart resources to help mitigate negative impacts of mis- and disinformation in strategic collaboration regarding regional siting processes. We conducted a day-long workshop for leaders of such organizations based in Ohio, and a condensed version of the program for a national gathering of executive directors. (Additional subgrantees have requested this workshop for their staffs or partners.)

See Appendix B for more details about our work with each Phase One community.

PHASE TWO. COMMUNITY ENGAGEMENT AROUND COLLABORATION-BASED SITING (CBS) FOR A CONSOLIDATED STORAGE FACILITY (CSF)

STAGE 3.1. COMMUNITY IDENTIFICATION

We identified two regional communities interested in discussing approaches to collaboration-based siting of consolidated storage for SNF. One was the collection of New England communities of citizens engaged in nuclear power plant monitoring, decommissioning, and

long-term ISFSI (independent spent fuel storage installation) oversight. The second was the community around the decommissioned commercial nuclear reactor in San Onofre, CA. Through these networks, we eventually identified a range of individuals spanning a diversity of sectors, professions, and perspectives.

STAGE 3.2. PRELIMINARY INTERVIEWS

Brief interviews were held with individuals in these communities to gauge interest in collaborating on how DOE could best carry out a CBS process to site a CSF. Based on these interviews, workshop agendas were designed and shared with invited participants.

STAGE 3.3. WORKSHOPS ON CBS

In New England, a workshop was held at Clark University in Worcester, MA. For the San Onofre convening, a workshop was held at the Community Center in nearby San Clemente, CA. Both workshops focused on the question of how a given regional community could best engage with DOE in a siting process for a CSF.

STAGE 3.4. POST-WORKSHOP REPORTS AND FEEDBACK

Summary reports were drafted after each meeting and shared with the participants for their review. These documents characterized participant input without attribution. Feedback was collected and reports revised accordingly.

See Appendix D for more details about these regional SNF workshops.

STAGE 3.5. TRIBAL ONLINE WORKSHOP

Drawing on Keystone's existing relationships with dozens of Tribes in the western U.S., several individualized invitations were advanced for a half-day online workshop. The purpose of the workshop was to gather input from Tribal representatives as to how DOE or another agency could best engage with Tribal nations and Tribal communities about collaboration-based siting, whether regarding storage of SNF or another complex siting issue.

See Appendix F for a full summary of our Tribal engagement efforts.

STAGE 3.6. FIRST AND SECOND STATES ON-LINE WORKSHOPS

We opened conversations with the Western Interstate Energy Board (WIEB) and the National Governors Association (NGA). In consultation with those organizations, and with the National Association of Regional Councils (NARC), we invited a diverse group of state and regional-level actors (primarily but not exclusively from western states) to attend a virtual workshop consisting of two two-hour sessions The purpose was to gather input for how DOE or other siting authority – and regional communities – should engage states in a CBS about hosting a CSF.

This two-part workshop was followed by one-on-one calls to most participants. We were also invited to present to the Federal Facilities Task Force and received its members' feedback and observations.

See Appendix E for more details regarding the workshop on state-level considerations for CBS.

STAGE 3.7 INTERVIEWS WITH LEADERS OF REGIONAL COUNCILS OF GOVERNMENT

We conducted individual interviews with executive directors of four Councils of Government (COGs) concerning the siting of energy facilities in their regions. We designed an interview guide with open-ended questions, standardized to streamline the interview process, ensure consistency, reduce bias, and improve the efficiency of research efforts. During each conversation, we inquired about the role the COG is playing or might play in addressing the most pressing energy-related (or other) challenges in the area, how other contentious issues have been addressed in the recent past, strengths and gaps in the prevailing civic culture, and any state laws mandating or constraining the role of the COG in energy siting. Following the interviews, NARC synthesized the collected information gathered to build a publicly accessible guide aimed at integrating energy and energy projects into regional planning. The guide emphasizes expanding knowledge bases, navigating the regulatory landscape, and enhancing capacity-building to streamline processes with energy projects.

These COGs were encouraged to apply for capacity-building subgrants. Grants were awarded to three of the COGs for purposes like enriching a Community Economic Development Strategy, supporting Tribal engagement around environmental impact work, conducting civic learning sessions about complex or controversial topics, and mapping public values and goals to promote effective consensual decision-making.

STAGE 3.8 CODING OF WHAT WE HEARD

Drawing on our *What We Heard* reports and notes taken during interviews and other activities, we identified 195 findings and recommendations made by participants in our cases. We adopted a qualitative research methods approach of grounded theory to organize observations into findings. This was done by using an inductive coding process. Each of the 195 statements was treated as a textual vignette. In this method, a researcher reads each vignette and identifies a short label describing the gist of the content. The researcher repeats this process, reading each vignette and asking him- or herself whether it can be represented by an existing code or is more aptly characterized by a new code. All 195 statements were coded using Computer-Assisted Qualitative Data Analysis techniques. Following this, a secondary level of analytic coding was done to identify meta-categories. In this process, the researcher examines opportunities to collapse codes into meaningful and relevant categories simplify the number of codes while retaining essential, emergent meanings. This coding process continues with researchers often re-coding textual vignettes several times as the search for the most meaningful story in the data continues. The goal throughout is to reveal and simplify relevant findings, making 195 statements into a comprehensible story represented by a small set of "meta-codes" whose depth of meaning is captured in their sets of vignettes. All along, the researcher is building a story that explains how codes and meta-codes can be linked into causal and relational stories that carry relevant meaning. The results of this coding operation are presented in the section on Key Findings and Observations and Implications for CBS.

Throughout Phase 3 we continued to issue subgrants and to closely monitor progress among our grantees. See Appendix C for more information about our capacity-building subgrants to participating communities.

PHASE FOUR. COMMUNITY NETWORKING & LEARNING SUMMIT

STAGE 1. CULMINATING SUMMIT GATHERING

With the goal of bringing together people from the Phase 3 communities, we organized an in-person two-day meeting in Denver, involving State, Tribal, regional councils of government, community, activist, academic, and practitioner interests. We also invited representatives from communities in Canada and Europe who had experience of participating in a repository CBS process. A draft report of methods, findings, and recommendations was shared before the meeting. We asked the participants to:

- Review our initial findings and recommendations;
- Learn from communities in other countries farther along in their CBS process;
- Build new networks and spread awareness of resources, perspectives, knowledge, and interests among activated community members and stakeholder groups;
- Build trusted connections among the individuals, institutions, and governments of peer communities;
- Define a set of principles for CBS; and
- Identify community civic capacities needed to participate effectively in CBS dialogues.

See Appendix G for more information about the culminating summit.

PHASE FIVE: ASSIMILATE LEARNINGS AND FINALIZE OUTPUTS

In this phase, we reviewed what we learned, drafted findings and recommendations, conferred with participants, and finalized all work products.

STAGE 1: ANALYZED AND REFLECTED ON WHAT WAS LEARNED IN PHASE 4. DEVELOPED RECOMMENDATIONS.

The project team reflected on content from the Denver meeting as well as all earlier stages of the project and developed a comprehensive set of recommendations.

STAGE 2: DEVELOPED AND FINALIZED A COMPREHENSIVE REPORT

Documented results of each programmatic activity, project findings, and recommendations, including modifications to and use of the civic engagement framework and knowledge and collaboration hub design.

STAGE 3. DEVELOPED CBS RESOURCES FOR REGIONAL COMMUNITIES

Drawing on the knowledge gained in this project we crafted a guidebook to help communities achieve satisfactory outcomes from a CSF siting process. We also developed a web-based toolkit of tips, resources, and case studies to support regional communities (COGs, planning organizations, etc.) in complex and potentially contentious siting processes involving a wider range of energy facilities.

Community guidebook

The Guide for Communities Considering Whether to Host Nuclear Waste Facilities resource is intended to help local officials and community residents think deeply about the ramifications of

hosting a nuclear waste facility and to engage more effectively with federal and state agencies in a decision-making process. The guide is presented as a website here.[4]

The website is structured with several parts:

- An overview of the current policy context motivating the need for a website like this to help communities navigate their engagement with federal and state decision-makers;
- The importance of a consent-based siting process to ensure meaningful community engagement and power to make decisions;
- How a community can determine whether a particular government agency or other siting entity can be reliable and trustworthy partners in a process about hosting a nuclear waste facility;
- Guidance on the kinds of risks and benefits that a community should examine as they consider whether to participate in a process about hosting a nuclear waste facility;
- The capacities that a community will need to engage effectively in a process about hosting a nuclear waste facility; and
- A webpage listing additional resources.

In preparing this document we have:

- Talked with dozens of community leaders, officials, citizens, and stakeholders across the USA to learn what they want to know about how to participate effectively and how they want to find it out.
- Drawn upon lessons learned from past efforts to site hazardous facilities, including nuclear waste facilities.
- Drawn upon our team's decades of experience conducting research on public participation, assessment of technological risks, and nuclear waste management in the US and around the world.

Best practices for energy siting

NARC led the Keystone team in identifying an opportunity to strengthen support for regional councils in the areas of energy and energy planning. Many regional organizations were in the early stages of this work or were beginning to receive more frequent inquiries from member municipalities about energy-related issues. To help councils respond to these emerging needs, the team recognized the value of developing additional background resources and practical tools.

Building on this insight and acknowledging that energy challenges such as data centers, nuclear energy, and grid reliability increasingly require coordinated regional approaches, NARC saw the need for a broad, accessible resource tailored specifically to regional councils. In response, NARC led the development of *Advancing Regional Energy Planning*, an online resource guide designed to support the integration of energy considerations into regional planning. The site, available here, serves as a professional development tool for regional organizations such as councils of government and metropolitan planning organizations to:

[4] https://www.seri.org/news/a-guide-for-communities-considering-whether-to-host-nuclear-waste-facilities

- Support local governments on land use and energy siting;
- Equip planners with tools, case studies, and strategies for building needed capacities;
- Foster community dialogue; and
- Navigate federal and state policy frameworks.

The website includes the case for improved energy planning, a tutorial on how siting works, modules, case studies, tips, and various cross-tagged tools and resources.[5]

KEY FINDINGS AND OBSERVATIONS AND IMPLICATIONS FOR CBS

COLLABORATION WITH OTHER CONSORTIA

In South Carolina, we collaborated with the Clemson University-led consortium – NuWaDi (Nuclear Waste Dialogue). Both our consortia ended up funding the same local organization and working with many of the same community members in Lower Richland, SC. The lead from the Clemson University consortium attended many of the meetings we held in Lower Richland.

Some members of our consortium participated in a two-day workshop with the Arizona State University (ASU) consortium. We also attended the final presentations of the ASU consortium and contributed comments as they assessed and finalized the findings from their community workshops.

Similarly, members of our consortium attended a workshop in Vermont organized by the Good Energy Collective (GEC), and subsequently shared ideas with them about assessing and analyzing effective civic engagement as GEC reshaped its engagement and workshop program.

A representative from Native Nuclear, part of the consortium led by North Carolina State University, was invited to, and contributed to, our "culminating summit" in Denver.

We have had frequent informal discussions with the Energy Communities Alliance consortium, and with representatives of one of their funded projects in northwest Colorado.

One of the members of our consortium gave a presentation as part of the "Power Talk" lecture series hosted by the Boise State University-led consortium. We also stayed in frequent telephone contact with consortia from Boise State, Vanderbilt, and Clemson. Representatives of the Clemson, GEC, and Vanderbilt consortia participated in one of our workshops on collaborative problem-solving.

Most recently, we participated in several group meetings among the Boise State University consortium and the Vanderbilt University consortium where we discussed our respective findings and insights.

KEY FINDINGS

We gathered a wide variety of input using multiple methods from many different types of parties across the country. From Maine to southern California and Colorado to South Carolina,

[5] https://narc.org/advancing-regional-energy-planning/

we engaged with independent people active in community decision-making, stakeholder groups, local government officials, regional planning agency staff and leadership, state agency officials, Tribal government leaders and staff members, and public engagement specialists.

We extracted 195 different statements made by participants in our engagements about key features of a CBS process (see Appendix A). As Table 1 below indicates, we found it valuable to sort these statements into three categories: *civic capacities*, *process design*, and *engagement*. These were proposed as hypotheses in the project proposal.

Table 2. Categories used to sort findings with one example of each.

Three Main Categories	*Example*
Documenting and building civic capacities	Offer skill training and funding as an incentive for participating and as investments in meaningful, sustained engagement
Designing the process for engagement and decision making	Right-size the community engagement panel and make sure the right parties are included
Engagement principles and methods	Establish a trust-based, personal relationship with leaders in the community

Through our analysis we also identified the following cross-cutting themes that should be apparent in a well-designed CBS process, each of which applies to each of the categories above:

- Adaptability – The process should not be "one size fits all" but needs to be tailored to each place, group, culture, set of circumstances, etc.
- Accountability and trust – All parties need to demonstrate honesty, integrity, consistency, commitment, credibility, and show concern for others
- Competence – The activities in the process need to be done well
- Fairness and inclusivity – Activities in the process need to be fair to all and inclusive of those parties likely to be meaningfully affected by risks and/or benefits
- Transparency – Bidirectional information-sharing and transparency about intentions and limitations are necessary

Using these categories, we sorted the 195 findings into the cells in Table 2. The items in each cell in Table 2 are illustrative of the kinds of statements relevant to each category and cross-cutting theme.

Table 3. Intersections of categories and cross-cutting themes with examples

	Three Main Categories		
Cross-cutting theme	Civic capacities	Process design	Engagement
Adaptability	Conduct assessment to identify capacity gaps	Co-design the process with the community and other local stakeholders, including Tribes and state officials	Hold meetings in places people consider appropriate/safe

Accountability and trust	Cultivate trusted leaders	Build accountability into the process design	Behave in a trustworthy manner
Competence	Vet experts and expertise for qualifications, credibility, and reliability	Ensure process has opportunity for people to speak on issues they care about	Hire professional, independent facilitators
Fairness	Work to develop engagement capacities among all demographic groups	Provide all demographics and interests within a community the opportunity to participate	Ensure that opportunities are widely shared and lower barriers to people traditionally less engaged
Transparency	Share capacity assessment report and training opportunities widely	Track engagement and participation	Issue regular reports on what transpired in meetings and what the next steps are

This sorting process gives us a way to find patterns and additional meaning in our 195 statements. By noting statements that are grouped in the same cell or row or column, we are made more aware of the associations. This produces the deeper meaning that is not evident in just reading each statement as if it were independent of all the others. In the next three sections we elaborate on findings and implications of the three main categories: *civic capacities*, *process design*, and *engagement*.

CIVIC CAPACITIES

In this section, we explain the implications of our findings from all the community engagements on the topic of civic capacities. Appendix A.1 contains the list of 32 statements that were coded as relating to civic capacities. We drew upon these as well as the existing literature about civic capacities to develop the taxonomy shown in Table 3. This taxonomy is an original piece of work developed from this project.

Table 4. A taxonomy of six types of community civic capacities

Capacity	Explanation	Ways we worked to enhance
Effective leadership	People with influence or authority in the community. May be political leaders or laypeople who are viewed positively by many in the community.	Facilitation training, mentoring and coaching systems, reflective practices.
Available and accessible resources	Time, physical places to meet, money, technology, and analytical resources that support learning, participation, dialogue, and decision making.	Website development and maintenance (for defined community or coalition), funding for staff dedicated to collaborative engagement.
Available and accessible knowledge	Usable, relevant, and valid information including information about how to find and learn new knowledge. Includes multiple ways of knowing.	Informational sessions, teaching critical thinking, data analysis, implementing citizen science projects.
Civic engagement skills	Actors are motivated, have skills, and efficacy related to reasoning, problem-solving, consensus building, conflict resolution, and communication.	Training in consensus building, facilitating community meetings, building self-efficacy by advertising successes.

Social network benefits	Density of relationships characterized by trust, respect, reciprocity, shared values and goals, and deep connections.	Strategic planning retreat bringing together diverse parties and orienting them to collective action.
Civic culture	Shared perspectives on the collective identity, appropriate norms and practices, vision for the future, sense of community, and orientation toward the common good.	Emphasized the importance of community-building events and celebrations, social norm-forming activities.

We observed that:

- Capacity-building has been mentioned frequently as an important feature of collaboration-based siting by DOE but never defined. Many people presume it means: "educate the community about the technical aspects of the project." However, technical knowledge is only one part of one of the six types of civic capacities that communities need if they are to be able to participate meaningfully and effectively. A focus on education is narrow, and it can exacerbate tensions and distrust.
- Communities frequently lack the civic capacities needed for productive and meaningful public engagement regarding complex siting issues.
- The importance of community-level civic capacities for effective engagement in CBS needs to be acknowledged
- Deeper elaboration on the meaning of each of the six types of capacity and how capacities can be built is given in Webler & Tuler (2025).

RECOMMENDATIONS REGARDING CIVIC COMMUNITY CAPACITIES

Table 5. Recommendations to DOE about civic community capacities

The relevant authorities should:
Recognize that community civic capacities are essential to the success of the CBS process.
Encourage and fund communities to conduct a capacity assessment to characterize existing civic capacities and gaps.
Encourage and fund communities to develop a plan to support capacity-building that is commensurate with the needs of the project phase.
Make technical experts available but also provide funding for communities to hire independent expertise.
Support and encourage communities to develop a community of practice – a place (likely online) where they can engage with peer communities going through similar siting processes.
Offer trainings and support to help communities apply for funding.
Fund communities to build civic capacities including leadership, resource acquisition, knowledge, civic dialogue skills, network building, and culture identity strengthening.

Here we elaborate on each of the recommendations:

RECOGNIZE THAT COMMUNITY CIVIC CAPACITIES ARE ESSENTIAL TO THE SUCCESS OF THE CBS PROCESS

Communities need civic capacities to meaningfully participate. Municipalities and groups within a community are frequently overwhelmed and under-resourced to cope with existing statutory and other obligations, let alone engage in a complex and possibly contentious public policy issue which is inherently "unpopular." Given that they are both time- and resource-poor, they will need investment in any key capacities in shortfall if they are to have the ability to

participate in a way they feel is meaningful and empowering. Communities will vary greatly according to the key capacities they enjoy in abundance and those which are in shortfall. Such capacity building is not limited to a local community but will need to be extended to all state and region-level participants, including Tribes with stated interest or likely to be affected by a major siting decision.

THE SITING AUTHORITY SHOULD FUND COMMUNITIES TO CONDUCT A CAPACITY ASSESSMENT TO CHARACTERIZE EXISTING CIVIC CAPACITIES AND GAPS

Knowledge of the civic capacity of the community should be used to design the community engagement process. This information is relevant to the siting authority because it will determine the ability of the community to participate effectively and define the need for capacity building work. This could involve new staff hires or contracts with independent organizations that conduct capacity assessments. The siting authority should provide funding to communities to conduct these assessments.

THE SITING AUTHORITY SHOULD ENCOURAGE AND FUND COMMUNITIES TO SUPPORT CAPACITY-BUILDING THAT IS COMMENSURATE WITH THE NEEDS OF THE PROJECT PHASE

If certain needed capacities are in short supply, it will be necessary for the community to build those capacities before it can be expected to participate effectively. This could involve equipment purchases, experiential learning, new staff hires, or contracting with independent organizations that do various kinds of capacity-building work – e.g., technical expertise, strategic planning, designing and facilitating civic engagement. The siting authority might consider developing a template statement of work and performance guidelines which local communities can use to contract with independent parties to do capacity building work for the community.

THE SITING AUTHORITY SHOULD MAKE TECHNICAL EXPERTS AVAILABLE BUT ALSO PROVIDE FUNDING FOR COMMUNITIES TO HIRE INDEPENDENT EXPERTISE

Technical experts are a valuable knowledge resource and should be made freely available to communities to respond to community knowledge requests. However, communities may wish to also bring in independent expertise in addition to or instead of relying on subject matter experts supplied directly by a siting agency or private sector developer. The siting authority should make Technical Assistance Grants available to the community and organizations that represent its diverse interests. Independent reviews can ensure that parties' concerns are being addressed and that they accept the validity of assumptions and information (and models) used to inform decisions. Providing funding to critics, including community-based organizations and agency-established advisory boards, to assess and evaluate program elements can be a means for gaining trust and confidence.

THE SITING AUTHORITY SHOULD SUPPORT AND ENCOURAGE COMMUNITIES TO DEVELOP A COMMUNITY OF PRACTICE, A PLACE (LIKELY ONLINE) WHERE THEY CAN ENGAGE WITH PEER COMMUNITIES GOING THROUGH SIMILAR SITING PROCESSES

Community engagement will benefit from peer-to-peer exchanges among communities going through similar processes. The siting authority can help to create a community of practice by

funding an independent party to develop and support one. This is most likely to take shape on the internet (both synchronous and asynchronous modes of dialogue and collaboration), although face-to-face meetings would also be beneficial. Such a community of practice could be international to expand the scope of learning and could focus only on nuclear waste facility siting or could include experiences and insights from other complex siting and infrastructure issues.

OFFER TRAININGS AND SUPPORT TO HELP COMMUNITIES APPLY FOR FUNDING

Funding made available by the siting authority to communities will likely require communities applying for those funds and managing grants, i.e., keep track of expenses, produce reports. Communities may lack the capacity to do these things. Other federal agencies have held webinars and one on one consulting to communities. We learned that the US Fish & Wildlife Service gave required webinars and helped communities in the Delaware River Basin apply for grant funding. US EPA has run a technical assistance program through which EPA staff would meet with interested communities to help them write grant proposals.

THE SITING AUTHORITY SHOULD FUND COMMUNITIES TO BUILD CIVIC CAPACITIES INCLUDING LEADERSHIP, RESOURCE ACQUISITION, KNOWLEDGE, CIVIC DIALOGUE SKILLS, NETWORK BUILDING, AND CULTURE IDENTITY STRENGTHENING

Municipal budgets are seriously constrained and must be used for many competing needs, including schools, law enforcement, social services, etc. Effective engagement in a collaborative siting process is likely to place significant demands on community capacities. The siting authority should offer funding to communities so that their community budgets are not diverted from supporting day-to-day services.

PROCESS DESIGN

This section explains the implications of our findings for process design. These findings are based on our coding of several hundred statements which produced 126 statements relating concerns about the process design (Appendix A.2). A point of consensus among the individuals with whom we engaged is that SNF needs to be permanently managed in a deep geological repository. However, while our participants agreed that SNF needs to be put into a DGR, they did not all agree *when or how* this needs to happen or the role that a CSF should play in this process. Indeed, the academic literature is presently discussing the idea that there are different fundamental meanings of “public acceptance,” ranging from passive acquiescence or tolerance of an outcome, to attitudinal support for a specific option, to acceptance grounded in judgments about the fairness and legitimacy of the decision-making process itself (Stephanides et al. 2025).

Table 4 presents some of the concerns that we heard about how to design an effective CBS process. To be clear, we are offering the items in Table 4 as example findings of what we heard, not recommendations to DOE or another siting authority. We recommend designing an adaptable framework rather than building the process to suit a single primary concern. Diverse concerns may require multiple approaches to address, which can result in the need to make trade-offs on objectives. Instead, we recognize that the process should strive to meet as fully as possible the needs and expectations of many interested and affected parties.

Table 6. Concerns about CSF siting voiced by our participants

Primary concern	Implication for siting a CSF	Process design considerations (Note these are things our participants said, they are not necessarily our recommendations)
The number of added long-term jobs will not compensate for the burdens	Communities may be under-enthusiastic about expressing an interest in exploring hosting a CSF if jobs are unclear	Make accurate and clear promises about the number and type of jobs; emphasize community benefits agreement; do not over-promise
It is not clear what the federal government wants: a CSF, reprocessing, a DGR, or some combination	Communities may be hesitant to express interest if they don't know what they are signing up for	State clearly what the objective of the process is and what is in scope
SNF at nuclear power plant sites is prohibiting economic development	Removing SNF from orphan sites should be the first priority; find a CSF, anywhere, as soon as possible and move the SNF	Once legislation allows it, prioritize the siting process for CSFs; make it as expedient as possible
SNF is not safe in dry storage on ISFSIs in scores of locations across the country	Remove all SNF from ISFSIs as soon as possible	The process should focus foremost on safety
Need to build a DGR as soon as possible A CSF will become a *de facto* permanent storage site	A CSF would reduce the political pressure needed to get a DGR sited and built Communities will be hesitant to host	Begin the process, but permit the siting of CSF only after a DGR has been sited and license application made (this is the present law)
A rushed process premised on competition could prohibit accurate and full community understandings of benefits and risks	Incomplete understandings can lead to post-decision regret and conflict, creating conditions for legal and other objections to slow/halt delivery of a project	Go slow to go fast, take the time communities need to ensure as many people as possible have multiple opportunities to learn about benefits and risks, to underpin more durable support for decisions
A CSF will be sited in a disadvantaged community or region, furthering environmental injustice	Disadvantaged and economically challenged communities will require fewer benefits to accept a CSF	Take care to avoid creating situational coercion
Need to end nuclear power	A major factor stopping the expansion of nuclear power is that there is no solution to the waste problem; siting a CSF will give the appearance of having solved the waste problem	A prerequisite to process is national legislation that ends nuclear power.

There are many process design considerations, too many to elaborate in the space available here.[6] The findings in Table 6 represent a diversity of challenges for the process design and there is no single design that will be able to fully address all concerns. The siting authority and others will need a transparent process for acknowledging trade-offs and making choices.

Clearly, DOE's goal is to run a successful public participation process, but "success" will mean different things to different parties. To one person, a successful siting process might mean the CSF was not sited. To another it might mean the facility was sited. Rather than focus on a pre-

[6] For additional information, a good place to start is the National Coalition for Dialogue and Deliberation's Resource Guide on Public Participation, available at: https://www.ncdd.org/resource-guide.html.

determined “successful” outcome, the process design ought to aspire to be fair and competent, as that is more likely to produce an outcome which satisfies most people

RECOMMENDATIONS RELATED TO PROCESS DESIGN

Table 7. Recommendations related to process design

The relevant siting authority should:
Adopt a regional approach to defining “community”
Promote co-design of the process with Tribes, states, and regional communities
Ensure appropriate inclusion in the process
Use a stepwise process design
Design a process that meets overarching procedural criteria of fairness and competence
Encourage the community to develop an information integrity strategy
Develop a consensus on how to reach closure
Be willing to “go slow to go fast”

THE SITING AUTHORITY SHOULD ADOPT A REGIONAL APPROACH TO DEFINING “COMMUNITY”

For projects that involve benefits and risks with geographies that spread beyond the political borders of a host jurisdiction, a regional approach is likely to be perceived as fair by people outside of the host jurisdiction. It is productive to focus on regions rather than solely an individual municipality, county, or Tribe. In other words, it is better to use a broad definition of “community.” It has been widely documented in many types of studies that, when people perceive a decision-making process to be fair, they are more accepting of the outcomes of that process (Van den Bos, et al. 1998). A regional approach also promotes a sense of shared identity, which builds civic capacity and is partially responsible for more positive and productive interaction and satisfaction (Leach & Pelkey 2001). The siting authority should consider adopting this broad definition of community:

> A community is a collection of individuals, social groups, and institutions whose members recognize themselves as connected through shared place, governance, identity, or shared stakes in the facility’s benefits and risks. A community may encompass several governance units — such as Tribal lands, towns, cities, counties, school districts — as well as ecological and administrative units like watersheds, irrigation districts, or regional planning areas.

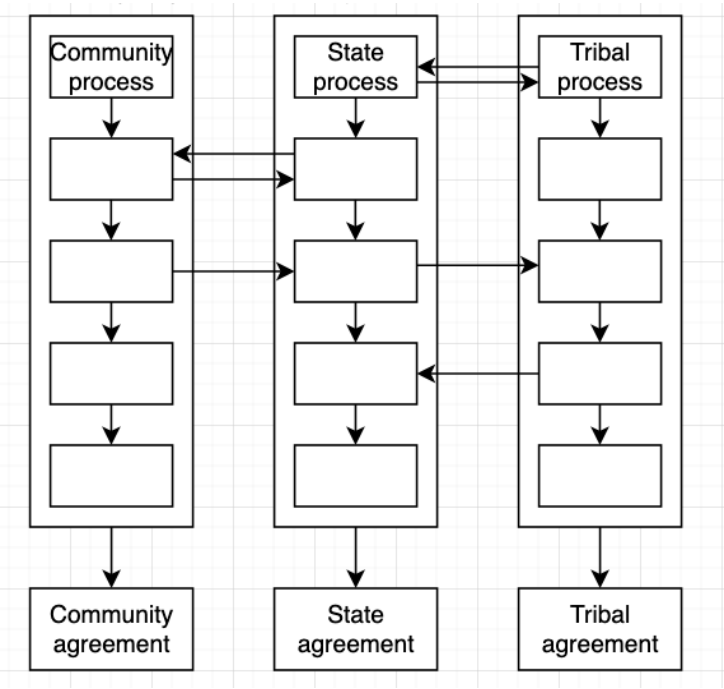
THE SITING AUTHORITY SHOULD PROMOTE CO-DESIGN OF THE PROCESS WITH TRIBES, STATES, AND REGIONAL COMMUNITIES

One of the most formidable challenges of creating and maintaining a legitimate CBS process is determining how to appropriately engage with states, Tribes, and the regional community – sometimes simultaneously. Our participants suggested a singular process would not be effective, and that independent parallel but intersecting processes would be needed. Figure 1 depicts this idea graphically. The figure conveys that the three processes advance stepwise but

there is crosstalk at certain intervals. The specifics are worked out among the participants of each process.

Figure 1. Conceptual diagram of intersections among stages in community, state, and Tribal processes

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There is no single right way to orchestrate these processes. Some states will have established ways of officially collaborating with Tribes. States may be asked to take the lead and to coordinate a multi-level process with or without the siting authority's assistance. What is most important to recognize is that states, Tribes, and regional communities may each have different expectations for the role they should play in the overall process. There is considerable evidence to support the conclusion that the outcome is likely to be more acceptable to those impacted by the decision if they believe they were treated fairly in the process. One way to ensure this is to have them help co-design the process so that it meets expectations for fairness.

As part of the co-design process, the siting authority should cooperatively discuss, resolve, and document all aspects of process design in a charter agreement that is then made widely available. A charter agreement should include: a joint definition of the regional community in question; roles and obligations of each key party; scope of discussion; key phases of engagement, learning, deliberation, and decision-making (noting important junctures for evaluation); types of information expected to be relevant and criteria for sourcing it; and an approach to involving other key interested parties (e.g., state, neighboring communities).

In addition, the following points should prove useful:

- Take advantage of existing units of regional government. This includes Councils of Government (COGs), regional planning authorities (RPAs), irrigation districts, school districts, watershed management organizations, and so on.
- Consider allocating Units of Local Government levels of influence relative to their affectedness. While many units of government need to have a role in decision-making, those that are closest to the facility and most impacted need to have a stronger voice in the decisions, but they should not have the power to force risks onto other local governments.

- Develop a strategy to engage Tribal governments in parallel to community outreach. Federally recognized Tribes are sovereign nations and should be treated as such. Other Tribes lack this official standing but still should be respected for their unique history of living and caring for lands, waters, and life over thousands of years. Tribes differ (e.g., in their cultural history and values, organization, capacities) and the siting authority will need to adapt the CBS process appropriately.
- Develop a strategy to engage state governments in parallel to Tribal government outreach and community outreach. The 10th Amendment to Constitution affords to States all rights not delegated to the federal government to states or the people. States differ and the siting authority will need to adapt the process appropriately.

Box 1. Strategies for Tribal, state, stakeholder, and public inclusion

To be seen as fair, the process needs to be appropriately *inclusive*. Most Tribes, states, and local communities have traditional or established ways to determine inclusivity in collective decisions. However, these may be challenged in contexts for nuclear waste facilities, given the intergenerational timelines, the large areas potentially impacted, and the high value saliency of the issue. It is possible that a process may find itself overwhelmed by the number of parties wishing to participate. Here are some ways to think about inclusivity. We urge DOE and the project sponsor to consult with key parties in making choices about this issue.

One approach is to not restrict who can participate and to decide that the process needs to adapt to the demand. This may make it difficult for the sponsor to estimate timelines and staff resource needs; however, it may lead to higher levels of public trust in the process and its sponsor. Moreover, it is frequently the case that participation falls off rapidly after the first few meetings.

A second approach is to limit engagement to those who are affected by the decision. However, affectedness is partially socially constructed and it is not easy to discern who is sufficiently affected and who is not.

A third approach is to determine affectedness geographically. For example, the Swiss draw a circle the center of which is located at the proposed site and claim that anyone in that circle is "affected" and thus should be involved in the regional conference.

A fourth option is to choose participants by random selection. This approach is used in mechanisms such as citizens' juries (Atwood & Bozentko 2026) or citizens' assemblies (Giraudet 2026) and justified by selecting participants to be representative of a larger public (the process of sortition). The argument behind this approach is that, in theory, every person in the community has an equal chance of being randomly selected, and, assuming that the participant pool is large enough and there is no systematic self-selection happening, the resulting pool will be representative of the community. A downside of this approach is that it may end up excluding some people or interests that rightly feel they have a strong stake in the outcome and have a right to be included.

A fifth approach is to have stakeholder groups or local governments appoint or elect representatives to the process. This addresses critiques that an approach based on sortition may not recruit qualified individuals and local people better know the individuals who would be accepted, competent, and effective. However, it is also possible that elected officials may not select – and elections may not elect – people who represent all relevant parties in the community and result in participation of only those who are likely to pursue the officials' desired outcomes.

A final approach is a hybrid. For instance, the process could begin by being open to anyone and latter stages or events could be carried out with a more limited pool of participants. Regardless of the approach adopted, it is important to check in with the parties involved to ensure the design meets their expectations.

THE SITING AUTHORITY SHOULD USE A STEPWISE PROCESS DESIGN

A stepwise process design recognizes that a collaborative siting process involves progressing from general to more specific ideas and from a low level of community investment to a higher commitment of time and effort (Pescatore and Vari 2006). It also involves the project sponsor investing more resources and effort into the process as it moves along. For instance, site evaluation work is expected to become more detailed and costly as the feasibility of siting

becomes more likely. Accordingly, the seriousness of the regional community's decision to host a facility or not becomes more consequential as the process advances.

A stepwise process achieves several functions. ***First***, it removes the anxiety and pressure of a single final go/no go decision. By requiring all parties to periodically confirm that they wish to continue the process, the interests and commitments of the parties to each other are repeatedly sharpened. ***Second***, producing a written record of the existing points of understanding and agreement promotes a sense of progress and clarity about the remaining issues to address. ***Third***, the external pressure of making stepwise go/no go decisions builds coherence among the engaged parties. Partly, this is achieved by negotiations among the parties as they clarify their interests and values and what compromises they are willing to make. ***Fourth,*** it allows time for people to learn about what matters to them and what they want to know to inform their decisions. At the beginning of the process people might not know what questions to ask or what information would be most helpful, but as they learn and the process evolves, their understanding becomes more nuanced and complex.

From a design perspective, a stepwise process conveys a sense of progress, although, as in adaptive management, this progress can involve revisiting past points of discussion or agreement. It is not purely linear. However, along with the sense of progress comes an implicit agreement that the emerging partnership between DOE, the host community, and the other interested and affected parties (Tribes, states, stakeholders, communities) is growing and in a manner that is satisfactory to the participants.

THE SITING AUTHORITY SHOULD DESIGN A PROCESS THAT MEETS OVERARCHING PROCEDURAL CRITERIA OF FAIRNESS AND COMPETENCE

A fair and competent process will achieve more legitimacy and better outcomes than a process focused on achieving a particular outcome (Renn et al. 1995; Renn et al. 2025). Fairness means the process is broadly inclusive; it offers all interested and affected parties multiple opportunities to learn and deliberate about design proposals as equals, and it includes a means of reaching closure that is accepted by the participants as legitimate. (For strategies on how to achieve inclusion, see Text Box 1).

Competence means the process works to ensure information needs are identified, information is gathered and proofed (facts are validated), understandings are made to be complete and accurate, and the best available knowledge is put to work to solve the policy problem at hand. (For strategies on validating information, see Text Box 2.) The principles of fairness and competence have been repeatedly supported by the US National Academies of Sciences (Stern and Dietz 2008, Fineberg and Stern 1996). A process in which the proponent invites public input, trusts the public to participate responsibly, and respectfully listens and duly considers public input is more likely to achieve the overarching principles of fairness and competence and lead to social acceptability of the outcomes.

Box 2. Designing an information integrity system

A competent process must include the means to separate facts from fiction. More specifically, it must employ reliable and effective techniques to examine factual claims and to validate them, invalidate them, or assign appropriate limitations to the claim. There are many cognitive shortcuts that humans employ. These include things like confirmation bias, availability bias, and the bandwagon effect, to name a few. All of these heuristics and tendencies contribute to the spread of poor-quality information. This process is accelerated with social media and its algorithms.

A competent public engagement process must include the means and opportunity for participants to scrutinize, challenge, and evaluate knowledge claims. If claims are highly technical, then independent expert committees are commonly used. If claims are experiential or focused on local knowledge, then the local participants themselves must adjudicate conflicting assertions. Local governments often rely on ad hoc citizen committees to examine a body of claims. Mediators have the skills to lead groups through joint fact-finding processes. In some contexts, culturally different ways of knowing can create apparent conflicting claims. Canada's NWMO developed workshop formats that sought to respect both indigenous knowledge and knowledge gained through western science.

Deeper consideration of how to design an information integrity system in the context of CBS are provided in Appendix I.

THE SITING AUTHORITY SHOULD DEVELOP A CONSENSUS ON HOW TO REACH CLOSURE

100% consensus is often unachievable, and compromises will need to be made. Conversations in community engagement processes seek to reach a point of *closure*, at which an agenda item is completed. This closure can be formal (as when a vote is taken) or informal (as when the facilitator asks, "is everyone okay with moving on from this point?"). A fair and competent process is one where closure is achieved according to principles embraced in advance by the participants. To counter strategizing, the participants should clarify *upfront* how important decisions will be made. One of the most common tensions in public participation processes is when most people want to move on from a topic, but a few insist on lingering. This tension can result in people exiting the process out of frustration, either because they believe they are wasting their time or because they believe the conversation was cut off prematurely. Skilled facilitators have ways of mitigating these two risks.

THE SITING AUTHORITY SHOULD BE WILLING TO "GO SLOW TO GO FAST"

A siting program that produces durable outcomes depends on creating the opportunities and allowing the time that the public need to learn about the benefits and risks, to reflect on their collective values and visions for their community, to negotiate a satisfactory benefits agreement, to then consider, contemplate, discuss, debate, and deliberate, before finally using some pre-agreed mechanism to reach closure and express the "opinion of the community." This takes time and cannot be held to an artificial timetable. The oft-used phrase, "Go slow to go fast," is highly instructive for nuclear waste management (Boudet et al. 2025). Naturally, the siting authority, any project sponsor, and the federal government generally would like this process to be fast and inexpensive. However, moving at a speed faster than the community can bear has in the past generated resentment and opposition. A siting process should move at a speed appropriate to the community. There may be starts and stops. Tribal, state, and local

governments are busy with essential ongoing business and frequently understaffed. Unelected citizens have multi-dimensional lives, including work, domestic chores, attending or organizing children's sports events, community festivals, book groups, bowling leagues, parent-teacher conferences, and so on. Attempts to speed up the process run the following risks:

- Lack of attendance at meetings. If people need to choose between attending a middle school basketball game or going to a government-convened meeting about nuclear waste, attendance will be biased toward those who stand to benefit from the government-proposed activity. This could leave the siting authority with a distorted view of community opinion.
- Insufficient opportunity for community members to learn about the benefits and risks. If the meeting schedule is compressed, the agenda may also need to be compressed. This could result in some topics being stricken from the agenda. The result could be that people do not have an opportunity to learn and to develop a full understanding of the benefits and risks.
- Disrespect that engenders mistrust. If the siting authority sets expectations for community engagement which people see as unreasonable, they may come to feel disrespected and that can lead to mistrust. The siting authority should not come across as pushy and rushing this decision.

This is not to say there may not be a rare example of a community which genuinely is equipped to move through a CBS process quickly. However, a hurried approach to CBS which is too rigid and impatient to allow for local election cycles, to provide time and space for activated citizenry to test assumptions and interrogate any of their own misinformed reasoning, to navigate iterative stages of concerns and hopes – runs the very real risk of causing a given community which might have worked its way to an eventual "yes" to instead arrive at an early "no." It takes as long as it takes.

ENGAGEMENT

This section explains the implications of our findings for engagement – the actual interaction facilitated by the process. This includes interaction within and among all three of the processes – community, state, and Tribe – shown in Figure 1. Appendix A.3 contains the list of 61 statements that were coded as relating to engagement.

Eleven of these statements mention trust. For instance, these statements from community members offer advice to DOE or any siting entity:

- Show up in person. Be honest. Be trustworthy. Be transparent about your intentions and limitations. Make personal connections. Trust is built through deeds, not words.
- Be patient with not being trusted, especially in the early stages.
- Outreach efforts such as door-to-door canvassing, neighborhood discussions, and building relationships with trusted local leaders were recommended as effective ways to engage people and build credibility.

Other statements emphasize being respectful of the public, not talking down to them, listening actively and taking what people say seriously. Many mentioned DOE's and industry's tendency in the past to provide credentialed experts who then lecture the public, suggesting their definitions and understandings are complete, correct, and ought to be embraced by all. But the science and practice of risk communication have long faulted that strategy as ineffective, demeaning, and counterproductive (National Research Council 1989).

RECOMMENDATIONS RELATED TO ENGAGEMENT

Table 8. Recommendations related to engagement

DOE or the relevant authority should:
Ensure that dialogue among all parties is the predominant mode of interaction
Engage in and highlight trust-building behaviors
Recognize and address political risk
Co-create and then articulate principles of engagement collaboratively with participants
Establish a community of practice (COP) among peer communities
Understand trust as a quality of civic discourse

ENSURE THAT DIALOGUE AMONG ALL PARTIES IS THE PREDOMINANT MODE OF INTERACTION

Practitioners and scholars of public participation have long emphasized the importance of engagement processes capable of addressing issues that are both technically complex and normatively contested (Dietz & Stern 2008). A consistent finding across theory and practice is the need for respectful, open dialogue among all parties. Processes that enable sustained deliberation are associated with more positive participant evaluations and perceived legitimacy (Beierle & Cayford 2000). A key feature of such dialogue is attention to the interests underlying stated positions. Exploring these underlying interests can clarify sources of impasse and reveal shared values that are not initially apparent.

Dialogue entails reciprocal communication: participants articulate perspectives, listen to others, and respond. Common public hearing formats—emphasizing brief, one-way comment periods – offer little opportunity for such interaction and tend to incentivize performative lecturing. By privileging prepared statements over exchange, they tend to reinforce advocacy and position-taking rather than joint exploration or learning. Participants often leave with more entrenched views and fewer opportunities to reconsider assumptions.

Designing dialogue-based engagement requires three foundational commitments. First, participants are treated as fundamentally equal in standing: no individual or institution has inherent primacy in defining problems or acceptable solutions. Second, diverse forms of knowledge, experience, and values are recognized as relevant to the discussion. Farmers, nurses, and laboratory scientists may enter with different expertise and preferences, but each is afforded equal opportunity to contribute to defining goals and evaluating options. Third, dialogue remains oriented toward shared standards of reasoning and evidence. Claims about facts, interests, and values can be examined for accuracy, consistency, and broader implications. Misrepresentations and contradictions are subject to scrutiny and revision in the course of deliberation. These conditions support mutual learning and more robust collective judgments.

THE SITING AUTHORITY SHOULD ENGAGE IN AND HIGHLIGHT TRUST-BUILDING BEHAVIORS

A particularly thorny issue in public participation is how to encourage people to act appropriately for the purposes of a constructive and productive dialogue (Tuler & Webler 2010). Here we highlight a few of the important dimensions of this issue with suggestions for what can be done.

All parties need to act with *sincerity*. For example, the project sponsor needs to be explicit and transparent about its goals and limitations. Yes, it is unreasonable to expect that all politics will be left behind. Stakeholders will bring their political agenda to the setting and may decide that sincerity and honesty do not suit their objectives. However, the process should be designed to unveil misrepresentations. Using an analytical process such as value-tree analysis is one of many ways to achieve this.

All parties should act in a *trustworthy* manner. Although trustworthiness includes honesty and openness, it is also broader than that. It includes integrity, reliability, credibility, consistency, caring, and competence (Metlay 1999). The siting authority can police its own behavior by foregrounding these values and scrutinizing its behavior in public engagement settings. While a siting authority cannot police other participants' behavior, independent facilitators can be effective in establishing and helping groups adhere to protocols for constructive engagement. Also, a co-created charter for a CBS process can articulate expectations for all participants' trustworthy behavior.

A fair and competent process relies on people *treating each other as equals*, affording each other basic respect, and listening openly to people. Fairness is about affording everyone equitable opportunities to speak and be heard. Competence is furthered by building sound understandings and innovative solutions, which is done by integrating knowledge and input from all participants under the adage that "two heads are better than one." To listen openly, and to be able to hear others' emotional responses, one needs to be self-aware of confirmation bias and other cognitive shortcomings that prevent people from entertaining arguments and information that appear to be inconsistent with pre-existing beliefs. These attributes can be spotlighted in ground rules and in active facilitation by trusted, independent facilitators.

THE SITING AUTHORITY SHOULD RECOGNIZE AND ADDRESS POLITICAL RISK

Political risk refers to the possibility of harm to local governmental institutions, local governmental officials, other political actors including NGOs, or politically engaged citizens at all scales (local, regional, state, national). These parties may be harmed by engaging in a CBS process if they suffer a "loss of legitimacy" by virtue of being associated with the process, being seen as condoning the process, or being seen as promoting DOE's preferred outcome in spite of local community harms.

This risk can be triggered by the creation of the impression that the individual or institution they represent is:

- Working against the community's best interests
- Compromising on key values
- Prematurely taking sides or indicating likely decisions before engagement is complete

- Being manipulated, coerced, bribed, or tricked into acting against the community's interests

The negative consequences of these risks are loss of legitimacy, loss of employment, loss of elected office, reputational decline, or the loss of friends or family connections.

Experienced elected officials are often attuned to these risks, but governmental staff and NGO representatives might not be as aware. Government employees often have their behavior scrutinized by residents. NGO representatives may be similarly watched by members of the NGO.

To engage effectively, the siting authority should recognize the political landscape that people find themselves in and set realistic expectations for their participation. To help build this understanding, the siting authority could invoke a process to characterize the decision landscape (Webler et al. 2015) or perform a social arena analysis (Renn 1992). There are some ways to engage political actors while minimizing their risks. For example:

- Avoid any "secret" or non-public meetings with elected or appointed officials, limit all engagement to open public meetings
- Encourage officials to send temporary surrogates in their place, to give them arm's length distance from the process
- Ensure that any funding is negotiated and approved by a citizen/stakeholder group that stays at arm's length from local government; ideally this group would be the same group engaged in co-design of the engagement process

THE DOE SHOULD CO-CREATE AND THEN ARTICULATE PRINCIPLES OF ENGAGEMENT COLLABORATIVELY WITH PARTICIPANTS

A principle of good practice in engagement is to start with reaching consensus on principles for engagement. The Canadian NWMO, for example, started by identifying 13 guiding values. **The siting authority should propose a set of values or principles that will guide the CBS process.** During the course of a CBS process, there are many decisions that will need to be made about who can participate and in what way, how the agenda will be set, how the process will be run, and how closure will be reached. Guiding values help all parties in making these decisions. When trying to use these values to guide decisions, some may lead to conflicting directions. At this point it is important to consider the intention behind the chosen values. Here are some key values, but there are more.

Voluntariness. In a voluntary process, all parties have the option of choosing not to participate or ceasing their participation if the engagement has already started. Moreover, in a voluntary process, participants can choose to participate to the degree they desire. Voluntariness is perhaps most vital when it comes to reaching closure on the final decision, where community acceptance is required for a project to move forward.

Fairness. This means that all participants in a project have equitable opportunities to participate, speak, argue, persuade, and be heard. Clearly, some people will speak more than others or will be more persuasive than others. Fairness means that everyone has a proper opportunity to participate in the process, have their opinions heard and considered, and shape the final decision. Democratic values usually insist that majority vote is used to reach closure, but there are good reasons to adopt other mechanisms as well.

Competence (or excellence). This means that the engagement and decision processes are run as well as reasonably possible. For example, an able professional facilitator should be hired to guide dialogue, and expert input should be considered. Part of a competent process is captured in the **"go slow to go fast"** phrase discussed above.

Collaborative co-design. A process of community engagement that is co-designed with the community will be more successful because it will be tailored to meet the community's needs and preferences.

Listen respectfully. DOE should start by listening to public concerns and strive to understand community identity and aspirations. This allows risks (real or perceived) to be addressed in parallel with discussion about the benefits of hosting a facility (from the community's perspective, not that of the siting authority).

Serve the public good by ensuring safety. The siting authority can serve the public good by promoting a project that will reduce the risks associated with SNF storage at nuclear power plant facilities. At the most general level, the siting authority should articulate that safe SNF management is a national need, clarifying why this is a problem that needs to be solved and that safety is the most important objective.

Transparency is noted to be a democratic value meant to serve principles of deliberation quality, accountability, legitimacy, and trust. It allows the public to oversee administrative decisions made by appointed or elected bodies. But it has been argued that this is not a matter of "more is better." Rather, transparency in early phases of deliberation when preferences and trust relationships are forming is not always helpful. Too much transparency at this phase can lead to strategic speech-giving and "posturing for the cameras." Transparency can also have negative effects on trust if it reveals internal disagreement without giving sufficient context. Some might take this as a signal of incompetence. According to democratic theorists, transparency is most critical is in the decision justification stage (Elster 2015).

Accountability is a relational principle: accountable to whom or to what? It requires both an actor with authority to act in others' interest and a group who has the right to have their interests protected (Bovens, Goodin & Schillemans 2014). **Transparency** is one element of **accountability**, but only one. Others are responsiveness, answerability, and reflexivity. Sheila Jasanoff has argued that political institutions cannot acquire accountability simply by being transparent (Jasanoff 2005). As a principle of public participation, **accountability** requires that decision-makers be obligated to explain how public input informed their decisions and in what way those decisions can be questioned or revised.

THE SITING AUTHORITY SHOULD UNDERSTAND TRUST AS A QUALITY OF CIVIC DISCOURSE.

Many values are related to the concept "**trust**." Trust is a complex idea that is often misunderstood because it comprises different elements including: caring, competence, commitment, predictability, integrity, openness, reliability, fairness, and credibility. However, Metlay (2013) found that these many ideas are captured under two general attributes. The first six qualities listed in the former sentence all grouped under a category he called **affective judgments about institutional behavior.** The second attribute was **competence** and by that he

meant that people perceive the organization as having the necessary skills to do the job with sufficiently qualified personnel.

Trust is a quality that enables civic discourse and all parties need to earn it from each other. Trust is not a currency that the siting authority earns and then can "spend" to get a community to do what DOE wants. Trust develops during engagement, as individuals and institutions demonstrate their trustworthiness. Collaboration, active listening, caring, acting with integrity, being reliable, honest, and participating in shared learning are all ways to demonstrate trustworthiness. This will contribute to the building of trust over time. This trust is fragile and will be hard to regain if lost. At the onset it is best to expect DOE, a corporation, or another designated siting authority will be distrusted. This is all the more reason for the siting authority to give priority to acting in a trustworthy manner and co-designing an engagement process in which community members have confidence.

THE SITING AUTHORITY SHOULD ESTABLISH A COMMUNITY OF PRACTICE (COP) AMONG PEER COMMUNITIES

The Community of Practice (COP) is intended to build a peer support community among those considering voluntarily hosting a nuclear waste facility. Toward this end, a competitive siting process may be parasitic to collaboration across peer communities. There is a high degree of collaboration internationally in the nuclear sector at engineering, geology, safety, regulatory, governmental levels – but not at community level. An inter-community COP could:

Source, share and verify Information. Mis- and disinformation are rife, and "sticky" in the low-trust environment of contentious siting processes. Key parties to a collaboration-based siting process should jointly develop an "information strategy" at the outset of engagement – e.g., anticipating mis- and disinformation, and agreeing on criteria for sourcing and evaluating key information. Such a strategy should anticipate and prepare for inaccurate or misleading information and identify widely trusted messengers.

Make room for multiple ways of knowing. Establishing the relevance of different ways of knowing (Traditional Ecological Knowledge, lived experience, etc.) expands the breadth of knowledge considered and recognizes the value of different cultures.

Improve collective efficacy. Communities may get "stuck" in the process for any number of reasons. Contact with peer communities can help to overcome these challenges.

CHALLENGES AND IMPLICATIONS

Early on, it was challenging to find communities that would engage with us or even show interest in receiving funding to build civic capacity. For our "Phase One" efforts we sought out communities which wanted to focus on civic capacity building in a context which had no notable history of deliberations or conflicts about nuclear technologies, including energy generation and waste disposition. We sought communities that were: a) regional in identity; b) not presently engaged in deliberation about nuclear energy issues, c) prepared to discuss recent experiences with complex and/or contentious siting issues; and d) interested in building capacities for civic engagement. (See Appendix B for detailed information about Phase One communities.)

Specific difficulties we encountered included:

- Distrust – When we mentioned that our funding was linked to DOE and nuclear waste storage. This distrust often manifested in specific fear of being "targeted" for an unwanted nuclear waste facility, or that accepting subgrant fundsing would oblige them to DOE in some manner.
- Misunderstanding – some communities we approached often seemed, in retrospect, to not comprehend *why* we were interested in helping them build civic capacities.
- Lack of capacity – Paradoxically, some of the communities we approached to do capacity building work in also lacked the capacity to be effective partners. For instance, in one instance the community lacked sufficient government ability to accept a grant from us. In another location, they lacked the staff time to participate.

We overcame the first two of these challenges over time through persistence, trust-building behaviors, and willingness to consider a wide assortment of entry points. We overcame the latter by patiently working with a core group to begin to build capacity and, in one instance, partnering with a new NGO which could receive and manage funds.

One of our consortium's partner organizations – the National Association of Regional Councils (NARC) – enjoyed pre-existing relationships with regional governance organizations in many states across the country. We reached out via NARC's network to find willing community partners. A Colorado-based Council of Governments (COG) was willing to engage with our team, largely due to strong interest in capacity-building assistance. Later in the project we engaged several other COGs interested in capacity-building subgrants. The late surge of interest was likely the result of NARC's continued and personalized outreach to trusted Executive Directors.

TRUST-BUILDING BEHAVIORS

We stated clearly, repeatedly, and in writing that our scope of interest including capacity-building for civic engagement, and that our remit did not include finding a community interested in hosting a CSF. We also demonstrated willingness to go slow at the outset, gradually earning trust of expanding circles of community members. In one instance, we hosted a community dinner and conversation, introducing ourselves and answering candid questions about our experiences and intentions. In another, we met several times for exploratory conversation with members of a regional coalition's executive committee before they were comfortable supporting the engagement as a group. We put into practice what ethnographers have long known: one can earn trust by showing up repeatedly and spending time really listening to the community.

VARIETY OF ENTRY POINTS

In addition to NARC's membership network, we learned to utilize networks of existing relationships to find individuals who could serve as local or regional champions for our proposed engagement. The DOE Consent-Based Siting Consortia proved to be a very fruitful network, as our first partner community came to us via a referral from another Consortia member.

Additionally, we realized that a given community may, in effect, lack the capacity for substantial capacity-building. With one Year One community partner in particular, our team invested

substantial time advising community members in locating an appropriate fiscal agent and preparing to administer subgrant funds.

IMPLICATIONS FOR A CBS PROCESS FOR SNF

As explored elsewhere in this report, the siting authority should anticipate:

- Distrust of its intentions and/or its ability to deliver on stated intentions (e.g., due to changes in federal policy priorities, or inability to secure support of state government).
- The very real possibility that attempts to "go fast" will confound an effective CBS process – e.g., due to the siting authority having insufficient time to gain a community's trust; to layers of interrelated negotiation with community, state, and Tribe(s); to local capacity constraints; or to changing political will or public sentiment. A more deliberate approach, on the other hand, can afford time to involve all parties who can help speed downstream activity, thus delivering a project more quickly and cost-effectively overall.
- A need to take a regional approach rather than focus on a specific local unit of government, given the regional extent of impacts
- The need for a credible, independent community of practice of communities (not just of municipalities/elected officials) to share experience and learning, as a key tool in addressing mis and disinformation, so that communities can make informed decisions
- Significant complexities related to multiple intersecting issues, priorities, and concerns in a community. This dynamic should be expected especially at a regional level, but it may arise also at the level of county or municipality. Impacts can "spill over" into other domains – e.g., planning, development, politics.

PROJECT METRICS

Table 9. Community engagements

Engagement	Date	Location	Brief description	#
First community visit	4/24	Lower Richland, SC	Introductory meeting with community representatives, immersive tour of community, interviews with 12 individuals	25
Meeting of the semiannual Tribal Materials Radioactive Committee (TRMTC)	6/24	Denver, CO	Presented about Keystone's CBS project to representatives of 16 Tribes, as well as representatives of DOE, DOT, and National Laboratories	30
Annual meeting of the National Transportation Stakeholders Forum (NTSF)	6/24	Denver, CO	Presented about Keystone's project to members of the Southern States Energy Board	25
Lower Richland community capacity-building retreat	9/24	Greenville, SC	2 ½-day gathering for community organizing, skill building, narrative development, priority setting ***Community subgrant funded**	45
Capacity-building workshop for Upper Area Councils of Government	12/24	Salida, CO	Building skills, resources, civic infrastructure for regional coalition of planners, officials, and civic sector partners (Preparatory interviews with 20 individuals) ***Community subgrant funded**	18

CBS & corporate engagement workshop for Lower Richland community leaders & advocates (collaboration w/ NuWaDi)	1/25	Columbia, SC	Elicited perspectives on effective CBS; facilitated values-based community planning for engaging with industrial neighbors or agencies proposing development, expansion, etc.***Community subgrant funded**	15
Intensive capacity-building workshop	1/25 & 2/25	Virtual	Provided collaboration skills, techniques, resources for representatives of participating communities (COGs, CRWP, Lower Richland)	12
CBS Tribal Roundtable – reps of 3 Federally-recognized Tribes	2/25	Virtual	Facilitated conversation on topics inc. building trust, culture, inter-Tribal collaboration, contextual approaches to consent / agreement	6
New England CBS workshop	3/25	Worcester, MA	Facilitated conversation with representatives of communities living with SNF	25
San Onofre CBS workshop	3/25	San Onofre, CA	Facilitated conversation with representatives of communities living with SNF	20
Planning retreat for Steering Committee of the Connecticut River Watershed Partnership	5/25	Grafton, VT	Facilitating capacity-building and goal-setting for large leadership group of 4-state partnership – conducting 20-30 preliminary stakeholder interviews ***Community subgrant funded**	25
States Issues workshop in partnership with Western Interstate Energy Board & National Governor's Association	6/25	Virtual	Two-part discussion with state-level working officials re: considerations, motivations, & process suggestions for state involvement in CBS	16
National Association of Regional Councils' workshop on information, trust, & collaboration	7/25	Columbus, OH	Goal was to test & share resources, techniques, and guidance for integrating accurate information from credible sources into complex regional planning	30
Culminating project summit	9/25	Denver, CO	Convened key project partners, advisers, and SMEs to provide feedback on preliminary findings & recommendations. Emphasizing participation of representatives of diverse communities (inc. non-U.S. communities with experience of SNF siting processes), and integration of Tribal perspectives	30
National Association of Regional Councils-Executive Director's Conference	10/25	Portland ME	Presentation regarding preventing, preparing for, and handling misinformation and disinformation. The session was designed for executive-level local government officials.	70
Inter-Tribal Council of California annual meeting	10/25	Wheatland CA	Annual convening of council members from tribes in CA. Members share regional needs around capacities and plan for future collaboration.	30
Connecticut River Watershed Partnership (CRWP)	10/25	Greenfield, MA	Keystone team members recently co-facilitated a CRWP Partnership meeting with legislators which advanced plans for a four-state compact for watershed stewardship and established a unique working group of regional planning organizations and councils of government in the region.	25
CRWP Executive Board/Steering Committee and Partnership meeting	12/25	Virtual	Continue to provide facilitation support to work plan subcommittees and the Partnership as a whole.	20

OPPORTUNITIES FOR ADDITIONAL LEARNING

We see the following opportunities to advance the practice of collaboration-based siting (CBS).

First, we note that, while CBS is largely a term that has been used in the nuclear field, there are several other areas in which it may be relevant. Namely, it could be relevant in the siting of any controversial infrastructure – landfills, refineries, highways, airports, data centers, dams, jails, etc. The list is long. The type of infrastructure will determine the parties who could play a role in the practice of CBS. These include the federal agencies that may be in the position of leading a process. It also may include private corporations, NGOs, Tribes, states, and regional or local governments. In other words, the field of CBS may advance in many different contexts.

Second, engagement is a valuable way to advance the practice of CBS. Learning by doing is often efficient, but it is especially valuable if attempts are made to document the learning and then to institutionalize the advancements in guidelines, protocols, or rules of engagement. For many years, EPA's Office of Research focused on improving the techniques EPA employed for dialogue with communities. Over time there was marked improvement in the public engagement practices led by EPA. Creating an administrative unit to curate knowledge and practical skills of CBS would go a long way toward improving the practice. This is particularly true for processes that are likely to transpire over many years.

Third, dialogue is the key. Collaboration depends on effective communication and the apt employment of consensus-building techniques. Dialogue involves speaking and listening, to be sure. But it also involves coordinating speaking and listening toward mutually agreed-upon goals. In other words, dialogue is not talk for the sake of talk. It is effective communication for the sake of ensuring that all parties have sufficient opportunities to:

- Become adequately informed;
- Make their interests, values and preferences known to their peers and other stakeholders;
- Persuade others in the dialogue through the force of better, principled argument alone;
- Scrutinize claims made by any party to the conversation; and
- Work toward common understandings and transparent resolution of different opinions.

Throughout all of this, the focus needs to remain on doing what is best for all, not what is best for one party. Independent, impartial facilitators are vital ingredients to success. While there are many fine third-party facilitators, there is still opportunity to train local citizens or stakeholders to take on more of these mediative functions.

There are obstacles and challenges to achieving the goals of dialogue. Research into CBS should focus on identifying these and testing mitigative response strategies that help to bypass or overcome these challenges.

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APPENDIX A: LISTS OF FINDINGS

1. STATEMENTS MADE ABOUT CIVIC CAPACITIES

Comment
Build the capacity communities need to communicate, build networks
Work together with communities over time to build the capacities they need to participate with confidence, meaningfully and sustainably, in a CBS process
Capacity-building needs to be sustained over time. Not a one-shot event.
Need to build the local capacity to gather and validate knowledge.
Make and fund a hub
A network of communities would help in the sharing and validation of data and information, to better address community concerns in each location.
Pay stipends to volunteers, hire paid staff to support communities. (Markelle is vital to the CRWP)
Have a plan to build the needed capacity in all the groups that need to be engaged (this is what USFW did in the Delaware River Watershed)
Quality of leadership is vital for CEP effectiveness, integrity, and credibility
Hire a firm to do community visioning process (e.g. Places of the Heart, or Take Charge, there are others…)
Need paid and volunteer staff to do outreach to many different kinds of groups. Look for bridging nodes in the social network
Build a Hub that then assembles a cohort of independent and trusted experts and shares vetted information
Resource community to feel confident they can negotiate all aspects of engagement and final settlement
Work towards building a community panel that is not only competent and effective but also working in the best interests of the wider community's well-being.
Help empower communities to scrutinize and validate information
Train people how to scrutinize knowledge sources and seek out contradictory information
Establishing a collaborative network where communities can share information, experiences, and best practices was seen as an essential component of a successful consent-based siting process
Generate trusted knowledge with community through participatory research
Communities need some trusted mode of effective coordination (e.g., for civic dialogue, disaster response)
Some capacities are pre-existing from other government programs, i.e. EPA TICTACs, Blow Foundation. Find and use these!
Communities need capacities to engage
Building civic capacities requires more than making TAGs available
Many communities lack the capacity to apply for a TAG or to administer one appropriately
Many community leaders and planners would welcome and value a trustworthy means of communicating with each other - strong interest overall in concept of an intercommunity "hub" for

offering mutual support, accessing vetted information from credible sources, possibly finding other needed resources
Even though SONGS CEP is a national leader, they have little contact with other communities, and only just starting to learn from other countries.
It is very hard to make progress consistently and in a timely manner when relying on volunteers who are already busy
Many of the interested and affected groups that communities will want to engage will lack the capacity to engage.
A clear, widely shared, empowering community narrative is a positive capacity. It is unifying. It builds cultural capital.
Need for community panel and representatives to have negotiation skills
Participants noted that communities, particularly marginalized and underserved ones, often lack the resources, knowledge, and access to participate effectively.
Establishing a collaborative network where communities can share information, experiences, and best practices was seen as an essential component of a successful consent-based siting process

2. STATEMENTS MADE ABOUT PROCESS DESIGN

Decisions about CISF need to be made at a regional level, not just local host community
Communities and DOE need to establish an information strategy at the onset (distinct from a communication strategy oriented toward convincing)
Move at the speed at which communities can operate at, not some imposed timetable
People need a neutral space in which to gather
Let communities find their own experts
Process needs to have some way to help ensure communities don't select faux experts
Process needs to be focused on what is good for all, not just one party - justice and equity
Process needs to engage all segments of the population - procedural justice, recognition justice
Focus on siting, licensing, and opening one or more repositories before searching for a CISF. Alternatively, prove that the process to site a repository is sufficiently underway.
The interested and affected parties ought to consider the degree of collaboration they believe is best
Document the process and how it responds to changing priorities from political higher-ups (change to Tribal Council, State Assembly, Governorship, Congress, President)
Don't expect the silos to go away, so have a plan and the capacities to cope with them.
Right size this board and make sure the right parties are included
Be wary of this Board being captured by industry forces
Revisit size, mission, membership periodically
Diverse representation on panels helps establish credibility (elected officials, universities, local Tribes, environmental NGOs, business community, etc.)
Establish joint emergency response planning to tighten formal connections and facilitate communication
Invite industry to bring their resources and connections to bear on this process
Engage a professional team to develop measurement metrics and fund the data collection and analysis over the lifetime of the project. Publish period reports publicly. Make adjustments if participation by groups declines.
Consider physical access (time, location) and prayer/meal.

Co-create a charter
DOE should acknowledge this and have a clear plan to ensure it will be different this time
Co-design the participatory process with the community
DOE needs to make a solid safety case. It needs to have clear, justifiable criteria for site-selection that are shared now, not later. Don't waste people's time if the facility can't go there anyway.
DOE siting effort could begin by approaching states and then working only with states that agree not to oppose the siting.
Include Governors and state legislators from the start
Federal government should not have a well-developed plan when starting these conversations, might benefit by starting with communities, legislators, state agencies, federal people, all at a roundtable.
Initiate siting process through independently facilitated state-wide discussions, involving partners identified by a key stakeholder analysis.
Co-design process with local community, retain core principles but allow for local characteristics
Leverage interest in reprocessing by talking about whole fuel cycle, not just discuss CISF in isolation
Re-articulate national need for a waste facility, aligned with new Administration's case for nuclear, to account for the whole fuel cycle, with SNF as an asset rather than a burden.
Focus on wider socioeconomic benefits rather than number of jobs at a facility.
Allow time for those benefits to emerge while states, Tribes, and communities consider risks of hosting a facility
Apply a low threshold for disclosing information, even when not legally required
Establish an independent agency responsible for CISF siting
Involve local safety officials (police, fire, EMS) to help address misinformation and other community concerns
Corporate culture and management should be designed to reflect different stages of CBS process lifecycle
DOE should focus on having existing nuclear communities host the CISF
The community's right to withdraw must be enshrined in a legal enforceable agreement
Panel must hold, and be seen to be holding, authority to account.
Allow community to co-design decision-making process, making clear what can be influenced and what cannot
Conduct benchmarking exercise of these panels, which can provide additional insight and guidance.
EMS representatives should be engaged from start
Plan for more than 2 years. It's hard to get off the ground
Budget sufficient time to present, explain, and discuss facts
Allow communities to select their own experts (with some condition to prevent them from selecting unqualified experts)
Put as much information as possible on the internet and make it easy to search and find
Do not use "national security" as an excuse to withhold information
Make monitoring data about operations available in real time
Give the community power to help shape the design and operation of the process
Participants discussed the need to create tools and frameworks that ensure governmental and industrial actors are held accountable to communities. Suggestions included developing a mechanism for communities to make legal or contractual demands/contracts to protect their interests and ensuring that community voices are not overshadowed by external economic or political interests.
Contracts must be comprehensive, covering health, environmental standards, and ensuring communities have a say in decisions that impact their wellbeing. Several participants suggested

establishing clear performance standards and accountability processes that would allow communities to hold federal agencies and companies responsible for not fulfilling their promises.
Independent oversight and monitoring should be required to prevent companies from undermining safety measures for economic gain.
The State - not DOE - should fund assessment of economic impact. It is important for credibility that it be independent of funding source.
The state should provide funding for community to hire lobbyists for the state house and pertinent state government agencies
It should maintain a neutral stance, panel should not advocate or oppose, unless based on facts. Instead, it should ensure appropriate engagement with community, and community's concerns are addressed.
Have clear indicators of when the process is going off-track and what actions can be taken to address those issues.
There must be real consequences for DOE moving the goal posts. There need to be strong consequences to dissuade DOE or Congress from meddling.
Communities closest to a proposed site should have greater influence than those further away. This can be done with weighted decision-making.
Give citizens and communities control over the contents and operations of the Hub, require majority decision making or stronger.
The Hub should be impartial and fair, not try to push the community in one direction or another.

3. STATEMENTS MADE ABOUT ENGAGEMENT

Build trust. What did we learn about how to do this? a) Start by learning about a community, cultural history, values, cultural calendar, and capacities. b) Be ready to encounter distrust. May need to prioritize building trust/confidence in a co-managed engagement process and invest in much longer process of building trust in institutions and individuals.
Find or create safe spaces for everyone to be heard.
Create a space where people can talk about pros and cons without constraints.
Interactive and engaging information-sharing approaches rather than formal education.
Take time to learn about and understand the local culture and history.
The process may need to acknowledge past injustices appropriately and address some of these. Details taken up by the community to decide.
Go to the community, don't expect them to come to you. Meet them where they're at and when they're available. (Expect to go frequently, over a sustained period of time which could last several years.)
Establish a trusted, personal relationship with leaders in the community.
Do not expect consensus, but treat all perspectives with respect.
Allow all opinions to be aired, using credible expert testimony to address misunderstandings or misinformation, and allow the public to make up their own minds.
Need to spend time doing personal outreach to communities to help support them through the process.

Work to build agreement about fundamental values and goals among the interested and affected parties. This will involve both public meetings and one-on-one meetings
Share successes as a way of building efficacy (make the Look Book).
Offer skill training as a gift for participating.
Outreach, outreach, outreach (Set up a stand at the Sweet Potato Festival).
Take information to communities - going out to where the community meets and congregates rather than expecting them to come to meetings you organize.
Invite local industry owners and workers to meetings, personal invitations.
Industry reciprocates by hosting field trips to visit facilities.
Avoid portraying local industry as a boogieman.
To maintain participation, the process may need to make progress on these groups' agendas, not just focus on the siting of a CISF.
Need to offer transient populations opportunities to be engaged.
Spend time learning about local customs, cultures, and practices.
DOE should answer questions, not tell people what to think.
Show up in person. Be honest. Be trustworthy. Be transparent about your intentions and limitations. Make personal connections. Trust is built through deeds, not words.
Actively encourage questions, and respond to every community concern, no matter how tangential or seemingly irrelevant - put all information on the table and let people make up their own minds.
Connections with other communities may help provide positive activities and experience during a local information as community awaits outcome of technical assessments, etc.
Partner with trusted local organizations (e.g. Surfriders, Sierra Club, local universities) to independently verify data to address local community concerns.
Be patient with not being trusted, especially in the early stages.
Recognize that DOE experts may not be trusted.
Collaborate with NGOs that serve the public good.
Therefore, outreach efforts such as door-to-door canvassing, neighborhood discussions, and building relationships with trusted local leaders were recommended as effective ways to engage people and build credibility.
Draw on professional science communicators that are not linked to the nuclear industry.
Endeavor to reach out to local press and support their continued engagement.
Effective strategies for combating false information include collaborating with trusted local organizations, using social media and other communication platforms to share accurate information, and providing communities with the resources needed to critically evaluate claims made by external actors.

For a collaborative siting process, you've got to get people in the community (and state agencies) to care enough about the issue that they will show up to meetings. What will motivate them? Facts are seen as important but an insufficient motivator. Also needed are stories that activate emotions. "Facts don't change people's minds."
Trust is best built at the local level.
This is not a STEM exercise to teach.
Is this better framed as a recommendation: Don't be arrogant or pejorative, treat others with respect all people are due?
People are often skeptical that they will be heard or that their input matters.
Existing and past conflicts, including race and ethnicity, can persist and inhibit collaboration.
Communities may not respond to unsolicited invitations made via email.
Rarely does the community speak with one voice.
It is hard to get off the ground without some widespread agreement on the fundamental values and goals. (Their Executive Board has not bought into a shared vision of the Partnership).
Satisfaction is key to motivating people to show up.
Some organizations may need incentives to participate.
Inspire the local community to care.
Weave local industry into community identity.
Some subpopulations are harder to engage and keep engaged.
Some subpopulations are transient - how should they be engaged? (Ft. Jackson, Lower Richland).
Skepticism of DOE will be contagious to anyone who takes money from DOE or who is perceived as doing DOE's bidding.
People are concerned about their safety, the safety of workers, the safety of people in other communities that might be affected, and in the safety of future generations.
Trust is fundamental to successful community engagement and collaboration-based processes.
Information will be challenged all the time, and information voids will allow misinformation to be spread.
The public values science and wants factual information.
Polarized information causes people to want to opt out and leave decisions to the industry and government.
Having good relationships with the press can help communities get access to and interpretation of information.
Mis and disinformation can be a real problem.
People at the state or the community may not be sufficiently motivated to show up.

Interested states, Tribes, and communities could consider lobbying congresspeople or state representatives to do something simple like pass a resolution that dealing with nuclear waste is an important issue.

APPENDIX B: PHASE ONE COMMUNITY ENGAGEMENT – CAPACITY BUILDING

LOWER RICHLAND, SOUTH CAROLINA

INFORMATION ABOUT THE COMMUNITY

Lower Richland is a rural, mostly African American, and largely unincorporated community of approximately 80,000 people in the eastern portion of Richland County, South Carolina. Called "Lower" Richland because water in Richland County drains into the Wateree and Congaree Rivers that make up the eastern and southern borders of the county, the area is prone to flooding. It is known for the Congaree National Park – the only national park in the state).

This regional community includes only one incorporated municipal town; the rest of the region is under county governance. Churches and schools are the major social institutions binding people together. Several industries make their home there including a paper factory, a large solar farm, a coal-burning power plant, a fiberglass manufacturing facility, and a Westinghouse nuclear fuel fabrication site. There is also an EPA superfund site.

Lower Richland has one of the highest rates of Black/African American land ownership in the country.

POINT OF ENTRY

The Keystone Consortium was invited to learn about Lower Richland by a community activist who headed a couple of non-profit organizations and at the time was campaigning for State representative. Our primary point of contact was referred to us through a chain of introductions involving both NuWaDi (Nuclear Waste Dialogue, another Consent-Based Siting Consortia awardee) and the South Carolina Thriving Communities Technical Assistance Center (TCTAC). Our contact initially was seeking grant funds to support a capacity-building retreat for an ad hoc group of local civic leaders focused on community self-advocacy and prevention of environmental and health risks in the region, with a particular focus on clean water and climate resilience and response. We established together that Keystone's goal of building civic capacity would be consistent with that focus as well as with other initiatives ongoing in Lower Richland, and that our team could helpfully provide consultation and facilitation services as well as funds to support a capacity-building collaboration between the Keystone team and the community.

The Keystone team was invited to visit Lower Richland to begin learning about the community. Specifically, we engaged in an extensive guided tour of the region, we hosted a dinner with several community leaders to build trust and learn more about values and personalities, and we conducted a dozen (mostly in-person) interviews with community members spanning different professions, perspectives, ages, and neighborhoods. The interviews and various informal conversations allowed us to learn about Lower Richland histories, cultures, capacities, and interests. We then drafted a "What We Heard" summary of that input and circulated it to interviewees for review and feedback before finalization.

Priority topics of interest or concern stressed through interviews and group engagement include:

- Weather and climate-related threats such as floods and wildfires.

- Historic and ongoing pollution – Lower Richland is home to approximately a dozen heavy industrial facilities, including a fiberglass manufacturing plant, a paper manufacturing plant, a nuclear fuel fabrication facility, a coal-fired plant and accompanying coal ash landfill, and a four-acre EPA Superfund site.
- Civic engagement capacity – Ability of community members to organize and advocate effectively for community interests with corporate neighbors, state and federal agencies, private industry, developers, etc.
- Healthcare and food – Most residents live far from the closest hospital and grocery store. There is strong interest in locating urgent care and elder care clinics in the community, and many residents advocate for more healthy lifestyle promotion and support.
- Jobs and economic development – particularly around local resources like the Congaree National Park and Biosphere Reserve
- Housing and urbanization – Housing developers based in nearby Columbia are signaling strong interest in expanding into Lower Richland. While there is ample room for housing, homes tend to be smaller, older, and in need of repair. Public or affordable housing is a need.
- Racial differences – White residents generally are clustered in the northern, less rural part of the region. Civic life, including church affiliation, appears generally segregated along racial lines. Elected officials predominantly are black.
- Education and workforce development – Quality of local schools, structured opportunities for youth to socialize and work, opportunities for residents to gain employment at local industrial facilities

Our team engaged with local community activists (including retirees with extensive professional careers), church leaders, educators, small business owners, farmers, local service providers and behavioral interventionists, local government officials, and others.

COMMUNITY CAPACITY-BUILDING

The Keystone team utilized our capacities taxonomy to assess civic capacities in the region – those present in abundance and those in shortfall – with an eye toward what would be most useful in current and future engagement with industry and government.

We then worked closely with a local planning team in the following ways:

- To design and facilitate a two-day, in-person capacity-building retreat for a cross-section of Lower Richland. The event was intended to "empower and equip community leaders, activists, residents, and other partners with the tools and knowledge necessary to address environmental justice issues in the Lower Richland area, on the way to building a community that is resilient, cohesive, self-directed, .and vital." More specifically, to:
  - Establish an effective hub for intra-community communication, learning, and mobilization (such as in response to a natural disaster)
  - Increase community cohesion and trust, and help residents get to know one another – their interests, values, and assets – among generational families, newcomers, and returnees
  - Commence development of a positive shared narrative for the community
  - Create a structured plan to continue forward momentum

- To design and facilitate a day-long workshop on strategic corporate engagement. The event focused specifically on:
  - Identifying tools and strategies for effective, values-driven engagement with Lower Richland's many industrial neighbors (e.g., paper manufacturing plant, solar energy facility)
  - Preparing for future negotiations with government agencies or corporations proposing to site, expand, or extract something in the area.
- To provide Impart conflict management skills and resources to a number of community leaders. A few community members participated in intensive skill-building programs conducted by Keystone Policy Center; three individuals attended a workshop on collaborative problem-solving, and two attended an adaptive facilitation workshop

OUTCOMES OF ENGAGEMENT

- Web portal for community-wide communication and coordination: A dynamic website centralizing community information, promoting local events, hosting important resources on environmental and social issues affecting Lower Richland. (See: (www.lrspeaks.org)
- Improved fiscal stewardship: Elevated local knowledge and capabilities for grants management.
- Focus and structure for collaboration:
  - The capacity-building retreat launched the Lower Richland Nuclear Group, a community task force which since then has worked to understand and address the operations and proposed expansion of the nearby facility manufacturing uranium fuel pellets. That group now meets regularly with the South Carolina Department of Environmental Services for technical guidance and other support.
  - The core team of community organizers planned and convened a Food Security Forum, emphasizing the importance of food sovereignty, sustainability, and nutrition to community wellness and resilience.
- Local facilitation capacity: Community members sufficiently skilled in facilitation and collaborative process design to plan and conduct multiple events, including a second capacity-building retreat and a "town hall" meeting to finalize a community needs assessment, without our team's direct participation.

Community perspectives on this engagement

"These meetings empowered residents with the technical knowledge needed to speak confidently and knowledgeably in public forums."

"Together, we've made strides in environmental justice, civic engagement, food security, and leadership training — all aimed at equipping the Lower Richland community with the tools and knowledge to advocate for itself and shape its future."

UPPER ARKANSAS AREA COUNCIL OF GOVERNMENTS (UAACOG), COLORADO

INFORMATION ABOUT THE COMMUNITY

The Upper Arkansas Area Council of Governments (UAACOG) serves as the regional convenor for Colorado Planning and Management Region 13, which includes Chaffee, Custer, Fremont, and Lake Counties. The four-county region has a combined population of approximately 82,500 residents across 3,673 square miles. UAACOG is a voluntary coalition of county and municipal governments formed to provide regional services that are not practical or efficient to deliver at the individual county or municipal level. The organization administers programs, projects, and services that extend beyond individual jurisdictions and benefit from cross-jurisdictional coordination.

The UAACOG region is largely rural and geographically expansive, creating interconnected challenges related to workforce recruitment and retention, housing availability, childcare access, and transportation. These factors reinforce one another: limited housing and childcare options constrain the ability to attract and retain skilled workers, while long travel distances, limited public transit, seasonal road conditions, and tourism-related congestion further restrict access to jobs and services. Housing shortages affect households across income levels, including essential workers. At the same time, homelessness and mental health needs are increasing, while regional service capacity remains limited.

The region includes a mix of small municipalities with varying governance structures (which are dependent upon the size of the municipality), financial resources, and local political priorities. The region also has many strong nonprofit organizations and public health departments that are active in addressing human service needs in their communities. Political cultures and priorities differ across counties, contributing to uneven collaboration. While there is broad recognition of regional interdependence, ongoing political and cultural differences between counties, and between levels of government and the civic sector, have historically complicated sustained regional cooperation, and continue to have an impact today.

POINT OF ENTRY

The Keystone Consortium was introduced to UAACOG leadership through one of its partners, the National Association of Regional Councils (NARC). Keystone partnered with UAACOG because of its established role in regional coordination and governance, as well as its experience navigating cultural differences, political dynamics, and long-standing tensions among counties. UAACOG regularly convenes elected officials, municipal and county staff, and nonprofit leaders across the four-county region, positioning it as a trusted intermediary for regional collaboration. COG leadership expressed strong interest in the proffered capacity-building assistance, especially regarding skills and resources for collaborative decision-making.

ENGAGEMENT APPROACH

Engagement began with in-depth interviews conducted in summer 2024 with 20 individuals holding key leadership, governance, and implementation roles across local government, regional entities, and the nonprofit sector. Interviews focused on identifying shared regional

challenges, existing civic capacities, and gaps related to leadership, resources, communication, organizational infrastructure, and civic culture.

To secure participation, Keystone clarified that the engagement was not related to identifying potential sites for a consolidated storage facility (CSF). Instead, the effort was explicitly framed as an exploration of civic capacity and regional governance strengths, weaknesses, and needs.

COMMUNITY CIVIC CAPACITY-BUILDING

Community civic capacity in the UAACOG region reflects both notable strengths and persistent gaps. Strengths include committed local leaders; professional staff within municipal governments and UAACOG; active nonprofits addressing food security, homelessness, and childcare; and UAACOG's expanding role in grant writing, housing initiatives, and intergovernmental coordination. At the state level, Colorado's Department of Local Affairs provides an important source of technical and financial support to local and county governments.

At the same time, chronic staffing shortages—driven largely by the lack of affordable and available housing—limit administrative and programmatic capacity. Grant administration capacity, particularly for federal funding, is uneven across jurisdictions. Communication and collaboration tend to occur on a project-by-project basis and are often not sustained over time or across policy domains.

Civic efficacy capacities are similarly mixed. Many leaders and organizations report effective interpersonal relationships and established communication pathways that support trust and collaboration. However, concerns about psychological safety and public harassment—both online and in person—discourage some residents and leaders from participating openly in civic life. While physical meeting spaces and internet access are generally available, public communication is frequently strained by contentious public meetings, social media conflict, and open records concerns, reflecting broader civic culture challenges.

POLITICAL AND CULTURAL CONTEXT

Political cultures vary significantly across the four counties, and ideological divisions continue to shape public discourse in parts of the region. Fundamental differences in views about the role of government can inhibit consensus on policy matters and complicate regional decision-making.

Despite these challenges, most stakeholders expressed strong interest in continued collaboration and in using regional governance to address shared socioeconomic challenges. Many interviewees emphasized that more frequent, structured, and facilitated communication could strengthen trust, reduce conflict, and improve problem-solving across jurisdictions.

OPPORTUNITIES AND OUTCOMES OF ENGAGEMENT

The project identified opportunities for capacity-building through targeted grants, training, and workshops focused on collaboration, communication, leadership development, and cross-jurisdictional problem-solving.

Keystone worked with the UAACOG planning team to design and deliver a two-day capacity-building workshop focused on strengthening regional collaboration. The workshop supported a shared, preliminary understanding of regional civic capacity and elevated communication and collaboration as priority areas for improvement.

A key outcome was strong interest in improving strategic communication and coordination across the four-county region. Nearly all interviewees expressed willingness to participate in future steering or advisory efforts to guide next steps in regional capacity-building. The engagement also surfaced concrete areas for future action, including strengthening communication norms, addressing ongoing intergovernmental tensions, and building leadership and administrative capacity over time.

An initial implementation concept included the creation of a regional coordinator position to support cross-county communication and alignment with state partners. Leadership transitions at UAACOG and changes in fiscal arrangements delayed access to subgrant funds, which were ultimately no longer available when the region was ready to proceed. This outcome reinforces the concept that stable leadership is key to readiness for capacity building and community engagement. In addition, each community will have its own timeline and pace of progress in the engagement process and working within this flexible timeline is key to effective movement towards goal achievement. Nevertheless, momentum from the workshop and overall engagement contributed to more consistent leadership convenings and reinforced shared norms for regional dialogue and collaboration.

CONNECTICUT RIVER WATERSHED PARTNERSHIP (CRWP)

INFORMATION ABOUT THE COMMUNITY

The Connecticut River Watershed spans four states and 403 communities, from Long Island Sound to the northernmost reaches of New Hampshire. The Partnership (CRWP) is not a non-profit corporation, but simply a network of over 70 public and private organizations working collaboratively on multiple policy goals in the watershed.

Current partners include organizations and agencies of all sizes and types, including regional planning commissions, state and federal agencies, land trusts, watershed associations, educational organizations, museums, and others working and living in the Connecticut River Watershed. Like similar partnerships, the structure employs a Steering Committee and Committee/Working Group model with an Executive Committee providing decision-making authority and a director who is responsible for coordination.

POINT OF ENTRY

The Keystone Consortium was invited to learn about the Partnership through a member of our consortium who had previously collaborated with them. Two in-person meetings with the Executive Director and attendance of an all-partners meeting in October 2024 led to our consortium being invited in February 2025 to propose capacity-building ideas to the Executive Committee.

ACTIVITIES

Our consortium conducted interviews with 19 members of the Partnership's Executive Committee and Steering Committee. These conversations revealed clarity about existing strengths as well as several shared needs and concerns for additional civic capacity among members of the Partnership. Together, we agreed that the CRWP and the Keystone Collaborative had a shared interest in experimenting with civic capacity building, and an MOU was signed in April 2025.

A core collaborative team was established involving Keystone Consortium and key leadership from the CRWP. Together, it was agreed to begin by focusing on creating network benefits and building a common vision/sense of collective identity. When asked what this had to do with our funding from DOE on collaboration-based siting, we replied that nuclear waste facilities have regional effects (benefits and risks). Thus, the siting process would lead to more satisfactory results if the host and nearby communities established a collaborative partnership. Both communities and the partnership would be more effective participants in a siting process with DOE if they had a clear sense of collective identity and shared vision for what they value and want to be. Hence, we believe we can learn lessons that will be relevant to DOE from working with the CRWP.

It was agreed that the Keystone Consortium would host a retreat for CRWP Executive Committee (N=7) and the Steering Committee (N=25). The planning team agreed that the event should focus on developing an immediate and midterm action plan, prioritizing implementable tasks rather than aspirational goals. A two-day event was planned and held in Grafton, VT.

OUTCOMES

The retreat emphasized the interconnections across states, communities, and interest groups in the watershed. It was recognized that a watershed-wide identity would build awareness not only among the public, but among state legislators and federal and state officials. To further build this identity, the retreat participants developed several ideas including:

- Gather 410 stories – one for each mile of the CT River – about life in the Watershed
- Have local breweries name beers after the river
- Recruit speakers to make presentations at local libraries, schools, civic associations, and colleges.

The Keystone facilitator led a visualization exercise. The task was to envision life 20 years from now in a watershed with vibrant and engaged communities, a healthy natural environment, and an ecologically sustainable economy. While discussion generally focused on a two-year planning horizon, this longer-term visualization articulated a "North Star"-like scenario likely to endure as a consistent planning guide. The retreat:

- Established a working group to assemble a watershed-wide resource guide to outdoor recreation. This guide would help people realize that they are recreating in the CT River Watershed. Eight months on and this group is still meeting monthly and moving the effort along.

The retreat also put considerable focus on understanding network benefits as a type of civic capacity. A presentation focused on building connectivity and alignment on values and goals before any coordinated action could be expected. Toward this end, the retreat produced:

- A meeting that brought together, face-to-face, state legislators, Council of Governments, and Regional Planning bodies from across the four states with the goal of establishing a regional compact for purposes of regional, cooperative watershed stewardship and forming a new working group of regional planning agencies and councils of governments pursuant to more impactful and efficient regional strategy.

This gathering occurred in October 2025 and was attended by over two dozen people from all four states.

After the gathering of legislators, COGs, and RPA's the Executive Director noted:

"We heard a lot of positive feedback that this group is ready to come together to tackle community resilience issues impacting our region and we're eager to keep our momentum going"

CAPACITY-BUILDING ACTIVITIES

One of the major challenges for the Partnership is that it is fiscally starved. It is not a non-profit corporation therefore it cannot raise funds or accept gifts. Instead, it is dependent on the goodwill of Mass Audubon, which acts as its fiscal agent. There was discussion about establishing a 501(c)(3), but the downside of that is that it would limit the group's ability to lobby states and Congress.

To demonstrate how civic capacity could be built in a regional umbrella organization, we responded to the Partnership's need for an assistant to the Executive Director. This individual would build network benefits by managing the website, organizing meetings, and conducting regular one-on-one outreach to partners. This also adds capacity because it leaves more time for the Executive Director to coordinate activities in the strategic plan.

FINDINGS RELEVANT TO CBS OF A CSF:

- There are many types of regional governance organizations across the country. As DOE begins to engage with communities about hosting a CSF, it may find value in working with regional groups as well as groups that are singularly focused on one community. In fact, Switzerland, in its process to site a DGR, constructed a new partnership of communities around the proposed site. We investigated the capacity needs and capacity-building activities of this partnership and propose that our findings are relevant to a regional partnership set up around a proposed CSF.
- A community interested in CBS may not necessarily have a community-based organization well-suited to serve as fiscal agent for capacity-building funds – in terms of grant writing expertise, grant management experience, widely trusted within the community. The fiscal agent may need to be a nearby nonprofit trusted by and willing to be accountable to the community, a member of a coalition with an interest in the outcome, or a local agency or foundation.

APPENDIX C: CAPACITY-BUILDING SUBGRANTS

The intent of Keystone's community subgrant program was to provide support for communities who wanted and needed to build civic capacities for regional collaboration regarding siting, infrastructure, or economic development possibilities. This looked different in every community we funded; however, each set of grant goals corresponded to the capacity framework.

2024: Total funded: $93,859

The Blow Foundation: Lower Richland, SC. Funded a kickoff capacity building retreat and also funded ongoing community engagements as well as facilitation training for two lead team members.

Upper Arkansas Council of Governments (UAACOG) in central Colorado. Worked with the region leaders to plan, fund and conduct a two-day regional capacity building retreat which surfaced the need as well as a potential model for regional collaboration on shared issues.

2025: Projected disbursements: $543,129

Connecticut River Watershed Partnership (CRWP). Capacity building retreat of Partnership Steering Committee members. Goal was to create a more cohesive and productive partnership and gain momentum in regional collaboration. We also funded a new Outreach Coordinator position to further the Partnership's ability to engage with communities in their watershed.

West Michigan Shoreline Regional Development Commission (WMSRDC). Funding for this project will assist WMSRDC to strengthen internal and external communication through a comprehensive communications plan, well-defined policies and procedures, and tailored strategies for each core program area. The project will also include staff training to enhance community engagement and facilitation skills, along with an independent website assessment and full update to improve public access and input

Inter-Tribal Council of California (ITCC). Funds were used to support their annual General Council meeting in which Keystone served as a resource for regional collaboration. From that convening they began working collaboratively on regional priorities across the state.

Arrowhead Regional Development Commission (ARDC). ARDC used the funds to support three objectives: 1) to enrich the comprehensive Community Economic Development Strategy (CEDS) for the region with increased engagement by hiring a consulting firm and engaging the University of MN in an Economic Analysis Study, 2) to support tribal engagement in the CEDS process and around environmental impact work, through staff education around key environmental impacts and culturally appropriate engagement and with culturally specific meeting engagement, and 3) to create increased civic engagement through website enhancement and updates increasing functionality and learning and networking opportunities through NARC membership.

Timbisha Shoshone Tribal Documentary: The collaboration of Tribal elders, Tribal community, Tribal Engagement Coordinators, directors and cinematographers will create a documentary which will surface overlapping public concerns around Traditional Ecological Knowledge, cultural identity, and heritage preservation while providing viewers with guidance on appropriate Tribal consultation and engagement.

Southwest Michigan Planning Commission (SMPC): SMPC will use community grant funds to update their Comprehensive Economic Development Strategy (CEDS) using innovative methodologies that create meaningful, inclusive engagement.

APPENDIX D: PHASE TWO COMMUNITY ENGAGEMENT – COLLABORATION-BASED SITING AND COMMUNITIES LIVING WITH USED NUCLEAR FUEL

INFORMATION ABOUT THE COMMUNITIES

The first phase of our project had explored how communities debate about and make complex and potentially contentious (non-nuclear) decisions focusing on their capacity to participate in dialogue and decision-making. Given the potential for wider nuclear-related issues to distort findings, in this first phase we selected communities with no experience of nuclear, so we could focus on underlying civic issues rather than be distracted or diverted by broader community concerns specific to any part of the nuclear fuel cycle.

However, it was also important to hear and harness the experience of communities which not only had experience of living with nuclear facilities, but which also had extensive experience of engaging with residents, neighboring communities, and other stakeholders on issues related to the storage and disposal of spent nuclear fuel and other high-level nuclear wastes. This was the focus of our project's second phase.

Keystone Consortium members were aware of two distinct clusters of communities with experience of living with spent fuel, and also with experience of structured community engagement and participation relating to the decommissioning of nuclear sites and the subsequent storage of spent fuel awaiting final disposal. The first of these regional communities is in New England, associated with the Yankee Group of nuclear power plants, as well as the Seabrook and Pilgrim nuclear power plants; the second is in Southern California around the San Onofre Nuclear Generating Station (SONGS).

In New England, community engagement in the decommissioning process has and continues to be managed through Nuclear Decommissioning Community Advisory Panels (NDCAPs). The Seabrook plant is still operating, and participants from that site are focused on local independent radiation monitoring. Regarding the San Onofre site, a Community Engagement Panel (CEP) had been established and continues to liaise with the local community. Although there are variances in the ways each of these bodies operate, they each support facilitated dialogue with the community, and raise issues of community concern with the site operators.

The NDCAPs and CEP provide the best available analogues for the sort of community panel or board which will likely be required to help manage a CBS process for future nuclear waste storage or disposal facilities. Panel members also have a tremendous amount of knowledge about nuclear power, nuclear waste, relevant laws and lawsuits, the Nuclear Regulatory Commission (NRC), the DOE, and many state agencies and NGOs. Some panel members have been involved in these issues for over four decades, and others have given evidence to Congress. It was this community-based knowledge and experience we sought to tap.

POINT OF ENTRY

NEW ENGLAND

One of the Keystone Consortium members, the Social and Environmental Research Institute (SERI), already maintained relationships across New England with a wide range of community organizations, regional government, decommissioning advisory panels (NDCAPs), and activists campaigning on decommissioning issues.

Through this relational network, we identified over 30 people interested and willing to attend a day-long workshop to discuss the issues, to share their experience, and to offer their advice and informed insight. Between them they covered the sites at Rowe, MA, Vernon, VT, Seabrook, NH, Plymouth, MA, and Haddam Neck, CT. One person who planned to attend from Wiscasset ME had to cancel at the last minute. The workshop was held at Clark University in Worcester, MA, in April 2025.

SOUTHERN CALIFORNIA

The Keystone Consortium established contact with Spent Fuel Solutions (SFS), a multi-stakeholder/cross-community group based in southern California, the purpose of which is to encourage the federal government to provide off-site storage and permanent disposal solutions for the spent nuclear fuel at nuclear sites in 34 states across the nation, through a collaborative siting process with input from stakeholders and engaged communities.

SFS introduced Keystone to members the San Onofre Community Engagement Panel (CEP), and to other individuals and organizations who are members of the SFS group or otherwise interested in the disposition of spent nuclear fuel. Over 20 people were initially identified, encompassing members of the CEP, local business executives, and representatives of environmental and community groups. With the generous and proactive assistance of SFS staff and CEP leadership, a day-long workshop was held in San Clemente CA, in May 2025.

WORKSHOP STRUCTURE AND OBJECTIVES

Both workshops were structured in the same way, with the same foundation-setting presentations, engagement format, and initial discussion questions. This was done to ensure consistency of approach and to provide a common framework for evaluating responses.

After initial introductions, both workshops provided an opportunity for a general discussion about collaboration-based siting, so that anyone could make preliminary comments before the workshop focused in on the agenda.

The workshops then had four key sessions:

1. Understanding risks and benefits – how communities come to understand the risks and benefits associated with nuclear waste storage and how communities could make informed decisions about collaboration-based siting.
2. Making sure agreement is voluntary – ensuring that community agreement to store SNF/HLW is truly voluntary, determining who should be involved in the process, what

structures are needed to ensure fairness, and how communities can effectively reject or consent to proposed projects.

3. The concept of a "Hub" – a civic mutual support network allowing communities to learn from each other, share experiences, and access or share essential resources, so that isolated communities can avoid repeatedly dealing with the same issues and enhance their confidence to participate in a CBS process by strengthening their capacities alongside other communities in whom they have trust.
4. Summary of advice – each workshop participant was asked to write down three to five priority things that they thought would help ensure that a collaborative siting process is informed and voluntary.

Representatives from both workshops were subsequently invited to our culminating event in Denver. It emerged that the two groups, on geographically opposite sides of continental USA, had never previously shared experiences with one another. They have now started a process of sharing experience and exploring how they might work collaboratively in the future.

OUTCOMES OF ENGAGEMENT

Although examples used to illustrate or amplify points raised varied between the locations, there was no substantive difference between the two workshop cohorts in terms of opinions expressed, observations and recommendations made. There was a high degree of consistency in the experiences shared and lessons learned in both workshops. The following are some of the main findings of these two workshops:

a) Lack of confidence, or trust, in the federal government's ability to deliver an effective CBS process, and preference for a new independent organization to oversee and manage any future siting processes for the storage and/or disposal of SNF.
b) The need for a clear path towards one or more disposal repositories before communities should be asked to host a "temporary" consolidated storage facility.
c) Enshrined community "right of withdrawal" from the siting process.
d) Community consent should not be based solely on a local referendum or an agreement with one community or a small group of stakeholders; the process must involve meaningful input from all affected parties, including state, Tribes, and local governments.
e) Necessity of a co-designed CBS process tailored to local circumstances and underpinned by legally enforceable contractual arrangements.
f) Adequate independent funding, alongside investment in community civic capacities, so that communities can engage meaningfully in a CBS process and build the trust and confidence they require to willingly enter into, and sustain participation within, a CBS process.
g) Access to independent information and expertise, and independent funding of the community's capacity to challenge and interrogate information provided, to help the community more confidently make informed decisions.
h) Proactive engagement of all demographics and of all opinions within a community, ensuring concerns of all parts of the community are addressed.
i) Effective strategies for combating false information include collaborating with trusted local organizations -- establishing a collaborative network (a "Hub") via which communities can share

information, experiences, and best practices was seen as an essential component of a successful CBS process.

j) The importance of involving state agencies in a CBS process, to balance federal power and to provide an additional layer of protection for the community's environmental and socioeconomic well-being.

k) Any community panel established under a CBS process should maintain a "neutral" stance – it should neither advocate nor oppose a facility, but ensure appropriate engagement with the community, and that the community's concerns are being appropriately addressed.

l) Membership selection for the panel is crucial, and sensitive – it cannot be seen as being "captured" by the government or private sector developer or operator; membership should reflect diversity of the local community, drawing on community groups as well as public officials.

m) Why would a community volunteer? – general agreement that a more compelling narrative and proposition was required to gain communities' interest in potentially hosting a facility, and that this narrative will need to be kept under review as the process advances, and kept relevant, and appropriately messaged, for each demographic within a community.

n) The challenges of sustaining a community dialogue over the long timescale of a CBS process require long-term engagement planning and funding.

APPENDIX E: STATE-LEVEL STAKEHOLDER ENGAGEMENT

INFORMATION ABOUT STATE LEVEL REPRESENTATION

Individual communities have historically been at the center of policy for the collaboration-based approach to the siting of Spent Nuclear Fuel (SNF) facilities. However, individual communities do not exist in isolation. The potential siting of an SNF or any other nuclear waste facility will inevitably raise concerns in neighboring communities and amongst communities of interest in the region (e.g. commercial and agricultural interests). Moreover, the impact of a nuclear waste facility, in environmental and supporting infrastructure terms, has wider regional – not just local – implications.

Even when individual communities have expressed their willingness to host a facility, the historical record reveals the de facto, and very effective, "veto" power of Governors and/or state legislatures. Many state legislatures have approved bans or moratoria on the siting of nuclear waste facilities, and many Governors have also expressly made clear that any such facilities would require their written approval.

Therefore, when considering how to develop and conduct a collaboration-based siting (CBS) process, it is not only *necessary* to take account of wider state-level concerns and interests, but *vital* to develop an integrated engagement and decision-making process that involves all tiers of government, as well as Tribes, local community and other interests. Such an integrated, inclusive and collaborative approach would mitigate against the complexities and risks of securing the individual approval of different governmental tiers using more traditional, separate discussion processes with each tier of government. This should help deliver faster, and more durable, decisions.

POINT OF ENTRY

The Keystone Consortium recognized the regional, in addition to local, dimensions of the issue from the outset, and included the National Association of Regional Councils (NARC) as a key partner in the consortium.

At subsequent networking events, we made contacts with the Western Interstate Energy Board (WIEB) and the National Governors Association (NGA). The NGA and WIEB worked with the Keystone Consortium to help develop a program of online dialogue and individual bilateral meetings, introducing the consortium to representatives from the National Council of State Legislatures (NCSL), the Western Governors Association (WGA), the Federal Facilities Task Force (FFTF), and to state officials from Arizona, Idaho, Nevada, New Mexico, Oregon, South Carolina, Utah, and Wyoming.

NARC also supported the program's development, involving representatives from their regional government networks in Maine, Massachusetts, Michigan, Ohio, and Texas.

OUTCOMES OF ENGAGEMENT

A two-part online workshop was convened, supplemented by interviews with several individuals. The key issues raised in these events included:

- **Ensuring a flexible/adaptive approach** – Since no two states are the same, a discussion and decision-making framework needs to be co-designed that is tailored to the interests and circumstances of any given state.
- **Recognizing the effective state "veto"** – While the choreography of such engagement may be complex, involvement of Governors, the State's congressional delegation, and State legislators is vital at an early stage; otherwise, any siting proposal arising from an individual community is likely to meet with state government opposition, regardless of the enthusiasm of an individual host community.
- **Creating "safe space" for discussion** – Bringing all relevant statewide, Tribal, and local interests to a roundtable for an initial, and commitment-free, discussion at which risks, opportunities, and concerns could be identified and a co-designed process for addressing them developed.
- **Working collaboratively** – Recognition that collaboration within states needs to be enhanced and that, while some states may have existing frameworks to facilitate such discussions, others may need support to build such a framework from scratch – e.g., to empower local regional councils to act as a facilitating group, or to adapt the existing framework so that it more actively includes all relevant parties, not just industry and government.
- **Emphasizing the importance of a nuclear waste solution to the U.S**. – Rearticulation of the need for spent nuclear fuel storage and disposition is required, as some state legislators do not understand why they need to share responsibility for a federal obligation, and the brief tenure for many elected officials means there is a constant need to engage state elected officials.
- **Benefits package** – In addition to a benefits agreement for the local host community, states will also expect a benefits package.

Following the workshops and bilateral interviews, representatives from those engaged in the discussions were invited to a "culminating summit" which brought state-level representatives together with representatives from U.S. communities, Tribes, regional government, practitioners and academicians. The event allowed the different cohorts to discuss issues collectively and collaboratively rather than unilaterally, bringing diverse perspectives to the table at the same time. (See Appendix G for more information about the summit.)

APPENDIX F: TRIBAL INVOLVEMENT IN A COLLABORATION-BASED SITING PROCESS

BACKGROUND

The Funding Opportunity Announcement issued by DOE in 2022 stressed the importance of the siting process respecting Tribal sovereignty and self-determination. Accordingly, we sought appropriate opportunities to benefit directly from a diverse range of Tribal perspectives pursuant to understanding how a collaboration-based siting (CBS) process could be fair, culturally aware, and mutually beneficial.

POINT OF ENTRY

The composition of the Keystone Consortium attracted some early conversation partners who proved instrumental in brokering helpful introductions among Tribal representatives. Parties closely involved in or deeply knowledgeable about past efforts to devise a nuclear waste solution reached out to our team early in the grant period, either because of Keystone Policy Center's reputation as trustworthy facilitator or commitment to culturally aware Tribal engagement, or because of the involvement of social scientists widely respected for their contributions to research regarding collaborating siting.

Still, our team struggled at first with the slow pace of relationship development and planning, likely due to a combination of Tribes' capacity constraints and our own need to clarify intentions and refine our approach. We conducted exploratory conversations with coordinators or members of existing coalitions of Tribes – such as the Tribal Radioactive Materials Transportation Committee (TRMTC) and the Coalition of Large Tribes (COLT) – yielding useful tactical advice and validated our project's guiding assumptions (e.g., think regionally, focus on building civic capacities). We eventually worked through KPC's existing networks to invite dozens of Tribes with a historical relationship to Colorado to participate in a Tribal roundtable on collaboration-based siting.

MODES OF ENGAGEMENT

Through Keystone's consultation work with Tribes in Colorado and other western states, we convened a day-long virtual dialogue in February 2025 about Tribal and indigenous considerations in and advice for a collaborative siting process. Individuals participated from the Timbisha Shoshone Tribe, the Southern Ute Indian Tribe, and the Comanche Nation. We offered participants a $250 honorarium, and also the possibility of grant funding for capacity-building purposes.

During the meeting, we asked about Tribes' interests, concerns, and capacity needs, and participants inquired about the DOE's programs and policies regarding nuclear waste disposition. The discussion explored:

- How a collaboration-based siting process applicable to a wide range of potential facilities or infrastructure could best be designed to be effective, fair, and reflective of a Tribe's or a community's values and interests; and
- What kinds of capacities Tribal Nations might need to engage in such a process with confidence.

Through a combination of relationships built through the Tribal roundtable, the DOE Consent-Based Siting Consortia, and KPC's networks, representatives of five Tribes participated in our project's culminating international forum in Denver in September 2025: Prairie Island Indian Community, Shoshone-Bannock, Timbisha Shoshone, Ute Mountain Ute, and Yak titʸu titʸu yak tiłhini (Northern Chumash). Their participation brought a diversity of Tribal perspectives to the deliberations, and helped anchor discussion of how Tribal laws, authority, and interests can be incorporated into a collaboration-based siting process.

SUMMARY OF INPUT

TRIBAL INVOLVEMENT IN DELIBERATION AND DECISION-MAKING:

Tribes with a stake in the outcome of a CBS process – e.g., with potential to enjoy benefits and/or to bear risks, or with a relationship to the land in question – should be closely involved from the outset, engaging with both relevant federal agencies and local/regional government. Tribes, like the other aforementioned levels of government, should have the opportunity to accept or reject a proposed storage facility, and so should be equipped with knowledge and insight to make a principled, confident decision. A Tribe likely would need direct and ongoing dialogue with each of those tiers of government.

Tribal decision-making generally considers both present and future generations, so timely insight into the interests and concerns of both local community and state will be needed.

TRIBAL IDENTITY AND AUTHORITY

It's important to be aware that some (574) American Indian Tribes and Native Alaskan entities are federally recognized, many others are state recognized, and some are neither. Some states give greater rights and influence to state-recognized Tribes than do other states, and some states have no state recognition process at all. Some due diligence can be necessary at the outset to ensure a given claim of Tribal rights is legitimate and that the Tribal entities being engaged are the appropriate ones for a given region. There are examples – in California, for example – of groups unduly claiming tribal rights in pursuit of economic opportunity.

A recognized Tribe has rights and expectations as a sovereign nation. (In the case of a government-to-government consultation, an appropriate federal agency should be asked to make first outreach to a federally recognized Tribe.) The implementing authority should send the highest-level representative possible – not a junior or mid-level staff person – to meet with elected Tribal officials. Tribes should not be considered "stakeholders" of an agency, local community, or discrete issue. If using the term "stakeholder" in the course of a given engagement initiative, its application should be clearly defined.

It's important to note that the treaty-protected rights and expectations of a given Tribe may extend beyond the physical boundaries of a reservation. A Tribe may have an historical relationship with and/or maintain a profound responsibility for land outside the reservation.

Affected Tribes should have veto power if a state chooses to participate in a CBS process.

UNDERSTANDING EACH TRIBE ON ITS OWN TERMS

The CBS process should be grounded in principle but adaptable for the circumstances of a given Tribe, state, or regional community. A highly prescriptive plan is likely to be limited in its applicability, inviting costly shortcuts and perceptions of heavy-handedness on the part of government or industry. DOE or another siting entity therefore must do the work necessary to learn about a given Tribe – its rights, history, culture, and specific interests.

Ways in which Tribes vary include:

- Leadership culture and structure. Collaboration can be complex due to political dynamics, capacity constraints, cultural calendars, and varying priorities. Tribal Councils often oversee financial decisions, and processes for doing so vary by Tribe.
- How they define consensus or collaboration.
- Their experiences with a given agency or technology.
- How they prioritize different kinds of benefits and risks.
- In their concerns, capacities and political processes.

EVALUATING AND INVESTING IN A TRIBE'S RELEVANT CIVIC CAPACITIES

Both DOE and participating communities in a CBS process will need to understand the capacity needs and constraints of a given Tribe. Just as with a local or regional community, a Tribal Nation or Tribal community may not have sufficient resources, expertise, personnel, etc., to sustain productive involvement in a complex siting process.

Capacities a given Tribe might need include:

- The ability to receive and administer funds – e.g., sheer staff capacity, or grant-ready bookkeeping procedures, or a mutually acceptable fiscal agent.
- Staff person/people with relevant experience and expertise, and "bandwidth" to stay involved in a complex and time-intensive engagement process. (Limited staff capacity is a frequent challenge. Staff positions may be vacant for years.)
- Access to credible, reliable technical expertise. (Participants stressed the challenge of finding appropriate experts, especially in narrow disciplines like corrosion and fracture flows, who might not bring significant bias to a CBS process. A preponderance of relevant experts based in the US have already done significant work for DOE. Some Tribes are trying to build internal capacity, sometimes in partnership with universities.)
- Access to legal expertise. (Several participants suggested funding the Native American Rights Fund to support Tribal participants in a CBS process.)
- Adequate broadband access.
- Mapping of sacred sites, along with important cultural history and traditional practices.
- Ability to communicate, coordinate, and share experiences and resources with other Tribes.
- Need to build and maintain a knowledge base of relevant information (e.g., a repository of knowledge), to be kept current and accessible to any Tribe.

Also, a CBS process should be prepared to support affected or potentially affected Tribes in communicating and coordinating with one another. They may be able to share experiences, vetted information, expertise, etc. Standing groups like TRMTC, the Nuclear Energy Tribal Working Group (NETWG), and COLT can help with this.

COMMUNICATION AND OUTREACH

- Make it clear why SNF presents a societal problem which needs to be resolved.
- Use clear, unambiguous language. Be direct, including about what is and is not in the federal government's scope of consideration.
- Provide guidance for Tribal representatives regarding what they should expect – from the siting process, from the federal government, from state government, etc.
- Provide accessible ways for the Tribal community and Tribal leaders to learn about the full range of implications of projects. Holding multiple community meetings, offering honorariums, facilitating youth involvement, and utilizing technology (e.g., virtual meetings, social media) can enhance outreach and deepen meaningful participation.
- Avoid or carefully explain jargon and acronyms. Anticipate the need for language translation (in meetings, of documents).
- Be prepared to educate and orient…and do so again. Many Tribal leaders and community members lack technical expertise on such issues, and high turnover in leadership positions can hinder continuity. (Formal leadership may change over as often as annually as a matter of custom.)
- Explore ways of braiding together indigenous and Western ways of knowing. (Examples suggested include learning from NWMO's approach in Canada and helping Tribal members gain science education and technical expertise.)

ECONOMIC CONSIDERATIONS

- Some Tribes might be motivated to consider a given project as an opportunity for economic development, especially non-gaming tribes, but decision-making is often deeply tied to land preservation and other critical cultural values. An outside agency or corporation should not assume maximizing financial gain (short-term or otherwise) to be a given Tribe's highest value.
- A potential partner must build trust and engage in transparent communication rather than simply promoting financial incentives. It's important to keep in mind that, even with financial incentives, this is often a very difficult choice for Tribes to make.
- In considering needs of future generations, a Tribe may wish to take the "seven generations" approach and set aside money in something like a sovereign wealth fund. Future generations should inherit the resources to deal with any problems that arise from today's decisions.

ADDITIONAL ADVICE FOR MEANINGFUL ENGAGEMENT

- Trust building, transparency, and cultural considerations are critical for effective communication. Clarify expectations for trust-building behaviors at the outset.
- Come in person, come early and come often, and be patient with an engagement process likely to take years and involve numerous pauses. Demonstrate willingness to travel to and meet on Tribal lands in ways that honor Tribal customs.
- Take care to develop relationships within the Tribal community, with consistent and respectfully senior representation from the siting entity. (That is, not a "revolving door" of representatives, individuals new to Tribal engagement, or staff without the authority to drive actual change.)
- Speak with and listen to the elders, and the Tribal council (which may not include all elders at a given time).
- Seek appropriate ways of consulting with youth.
- Ensure accessibility of meetings, proceedings, and learning opportunities.

- Demonstrate long-term commitment to repairing historical damage and building confidence in the agency's good faith. (For example: inquire respectfully if it would be appropriate to ask an elder to provide a blessing; avoid holding meetings at ceremonial times of the year; consider holding engagements on Tribal land, with meals, childcare, translation services, and other accessibility measures provided to foster open dialogue and trust.)
- Be prepared for the possibility that a given Tribe might not have deeply considered this particular siting scenario before.
- Transportation considerations should be integrated into CBS process.
- Address the full fuel cycle, including prospect of new mines and damage done to past mining communities.
- Help ensure clear education on risks and benefits.

QUESTIONS TO ASK EARLY ON IN CUSTOMIZING A TRIBAL ENGAGEMENT PROCESS INCLUDE…

a) What is the Tribe's history with this issue, agency, technology, etc.?
b) What is the cultural significance of the land? Of age? Of sharing a meal? Of bodily contact (e.g., touching a person or beadwork)?
c) How does the Tribe prefer to make important decisions? Manage conflicts?
d) What important capacities will the Tribe need for this engagement? Which ones does it already have, partially or in abundance?
e) What kinds of knowledge/information might the Tribe need access to? What factors likely will influence whether Tribal members consider sources of information to be reliable and credible?
f) What key individuals and groups within the Tribe should be involved in this engagement process? And what role(s) should they play? (For example, be kept informed, be heard from at key junctures, be understood as part of the decision-making group.)
g) How can the engagement process itself be trustworthy?
h) What changes would Tribal members most welcome? (E.g., supports and services, assurances, economic growth or opportunity…)
i) What changes or risks do Tribal members most wish to avoid?
j) How can the engagement process meaningfully consider the interests of future generations as well as the present generation?

APPENDIX G: SUMMARY OF CULMINATING SUMMIT

From our original grant application, we intended to hold a "culminating event" at which we would bring together experts and representatives of the communities and stakeholder cohorts we'd previously engaged, to review and challenge our draft findings and recommendations.

This event was also intended to include community representatives from other countries which were further along in a CBS process, to identify if there were learnings that could be applied, or needed to be taken account of, within the U.S. context. This was also an opportunity to test the Community of Practice (or "Hub") concept by bringing community/civic society reps from different countries together to explore the potential value and the range of services such a network might offer.

The event was held in Denver, Colorado in September 2025, with over 30 participants from across the United States, and four other countries. The U.S. participants were selected from those who'd been involved in our other workshops and engagements, with a focus on ensuring all key cohorts were represented: states, Tribes, regional government, communities, academia, and engagement professionals.

The overseas participants were selected from a network managed by one of the Keystone consortium's members, GDFWatch. They were selected on the basis of the cultural similarities between the political decision-making systems in the U.S. and their countries (Canada, the UK, Sweden, Switzerland), along with each individual's command of the English language, so there could be robust and relevant exchange of information, experience and opinion.

EVENT STRUCTURE

The event had four core sessions, each with a substantive presentation of findings, followed by smaller breakout discussion groups, and then an in-plenary review and analysis of what each breakout group had discussed.

The breakout groups were structured to ensure that there was at least one 'representative' of each cohort (state, Tribal, regional, community, international, and expert). Membership of these breakout groups was changed each session, to allow participants to work with as many fellow attendees as possible. This allowed issues to be debated on a cross-cohort, multilateral basis, so that all perspectives could be heard in each discussion, and they could collaboratively and collectively contribute to resolving an issue.

The four half-day sessions were based around the following themes:

- Civic capacities – the foundation of our project, and an opportunity to set out our provisional findings, test their veracity and efficacy, and refine on the basis of feedback.
- International experience – short presentations from the four participants from other countries, followed by a Q&A panel session, before going into breakout groups, highlighting community experience with a CBS process, and the common principles underpinning "success" in terms of active community participation in making an informed decision.

- States and Tribal issues – building on capacities and international experience, discussions around how a collaboration-based process might be implemented within the U.S. taking account of the roles and requirements of states and Tribes, and for regional coordination.
- A community of practice (the "Hub" concept) – exploring how communities might proactively learn from and support each other, building confidence and trust in the siting process, and more effectively countering mis- and disinformation.

OUTCOMES OF ENGAGEMENT

There were different key messages from each session of the event.

COMMUNITY CAPACITY

The discussions ranged beyond capacities, to the need to understand communities and how they deliberate rather than to just "educate" them:

- Willingness of communities to participate in a CBS process requires investment in their capacity to engage effectively, and the required capacities will vary between communities.
- Proactive engagement is vital. The siting entity must "go to where the people are," and leverage local social and media networks to reach beyond the "usual" participants; proactively engaging diverse interests/groups within a community builds trust and confidence in the process.
- If you can't have "trust," have "contracts"; a co-designed process supported by a contractual framework may help deliver more durable decisions and be accepted by more people.
- Low levels of public/community trust, in both DOE and the industry, inhibit willingness to participate in a CBS process, suggesting the need for an independent body to oversee the siting process in order to more quickly and effectively build the required trust and willingness to participate in the process.
- Focus on "feelings," not exclusively on facts; listen to community members, understand their values and ambitions, use plain English not jargon, address their concerns no matter how 'irrelevant' they may seem, and beware coming across as "patronizing" or "intellectually arrogant."

INTERNATIONAL EXPERIENCE/LEARNING

Common principles underpinned the affirmative siting decisions of communities in other countries. Although these non-US deliberations pertained to a geological disposal repository rather than a more "interim" consolidated storage facility, the principles were considered valid for either scenario in the US.

- Guarantee a right of withdrawal prior to seeking volunteer communities, so that communities have confidence there is an "off-ramp" and are assured they are not entering a process which has a foregone conclusion.
- Clarity of roles and responsibilities for all participants, and within the decision-making process, setting clear rules of engagement.
- Clarity of scope, setting expectations about what can and cannot be influenced or decided upon by the community.
- Community confidence in the decision-making process is enhanced if the process is codesigned by all parties, with clear rules and roles, so that even if a specific decision is disagreed with, the process by which the decision has been reached is perceived as fair by participants.
- Dedicated additional funding for the community to have a local project management and support team, with a budget to conduct their own activities. Community participation in the CBS process

should be separately funded, and there should be no use of, or diversion of, existing local municipal budgets which support the delivery of everyday public services.

- The importance of having local leaders participating in the CBS process who are respected and trusted by their community. These leaders may come from within the community and are not necessarily elected officials.
- Access to independent expertise and advice, so that the community can be confident and reassured that they are able to challenge and validate any contested issue and come to their own conclusions.
- Proactive outreach to engage all opinions sustainably over the long duration of the process.
- Create a dialogue based on community values, ambitions, and vision for the future, rather than start with a binary proposition of whether they wish to host a facility or not.

CONSIDERATIONS FOR THE ROLE OF STATES & TRIBES

- The necessity and benefits of taking a regional approach, rather than focusing on a single community, since any waste facility will impact on neighbouring communities and Tribal lands – both of which may cross state borders – and on other commercial, environmental and social interests.
- States and Tribes need to be involved from the very beginning.
- States and Tribes may, like communities, require investment in their capacity to participate.
- Recognition that Tribes are sovereign nations – formal governments with legal standing.
- Regional councils of government already facilitate infrastructure discussions across jurisdictions and could be a viable channel for facilitation of statewide or regional discussions.
- States, Tribes, and communities may each need their own engagement processes, but these should be integrated and coordinated within a coherent CBS process.
- There must be both an immediate and long-term value proposition for those states, Tribes and communities agreeing to host a facility.

A COMMUNITY OF PRACTICE (THE "HUB" CONCEPT)

Although many questions remained unanswered about the structure, funding, credibility and sustained independence of such a network of communities hosting or considering hosting a nuclear waste facility, there were broadly agreed benefits of having such a community of practice.

- Sharing of experience by communities more advanced in a CBS process, with new entrant communities or those communities considering entering a process, would help reduce anxiety and enhance confidence/willingness of those new entrants to participate.
- Creating a "repository of community knowledge" to preserve learning and spare every community from having to start from scratch and continually "reinvent the wheel" – particularly important given long duration of each CBS process and the consequent potential for economic, demographic, and leadership change within each community.
- Addressing knowledge gaps and countering mis- and disinformation through the building of a pool of trusted, credible experts, and of an archive of technical/scientific issues previously assessed and/or validated by other communities.
- Shared resources and learning can help communities develop capacities more quickly and effectively.

APPENDIX H: LEARNING FROM EXPERIENCES OF NON-U.S. COMMUNITIES

VALUE OF LEARNING FROM INTERNATIONAL EXPERIENCE

At the very core of our project from the start was the intention to explore what could be learned from communities elsewhere in the world to inform the development of an effective CBS process for the United States.

Community representatives from countries more advanced in CBS processes were invited to the forum we organized in Denver, CO on September 8-10, 2025. They were asked to share their experiences with representatives of U.S. communities, among other participants. Attendees were then asked how these lessons learned might be applied in the U.S. context.

The international participants were selected from a network managed by one of the Keystone consortium members, GDFWatch. They were selected on the basis of the cultural similarities between the political decision-making systems in the U.S. and their countries (Canada, UK, Sweden, Switzerland), and each individual's command of the English language, so there could be robust and relevant exchange of information, experience and opinion.

INTERNATIONAL LEARNING SESSION STRUCTURE

Following a short explanatory introduction by our team, the floor was handed to the international representatives, and the discussion chaired and facilitated by the Keystone team. The session included:

- Short presentations from each of the community representatives. These were not country-by-country case studies, but focused on different aspects, e.g., the lifecycle of the process, cross-jurisdictional and complex stakeholder engagement, community volunteer participation, and behaviors/culture of the siting "implementer" organization (i.e., SKB, Nagra, NWMO and NWS).
- U.S. attendees then asked questions of the presenters.
- Attendees were then separated into 4 break-out groups, with each group tasked to focus on answering one of the following questions:
    - Given "one size will not fit all" in the U.S., what are the common principles that should underpin any CBS approach adopted in the U.S.?
    - What key issues will need to be addressed to support enhanced regional/cross-jurisdictional in a U.S. CBS process?
    - What characteristics and behaviors will be needed by whatever organization oversees the U.S. CBS process, i.e., what capacities will it require?
    - How should the community discuss benefits and risks?
- In plenary, groups shared their findings, which fostered further discussion and learning.

For clarity this report summarizes key themes from all the discussions in the international session. Note: All the international participants had experience with CBS for a deep geological repository for permanent disposal of SNF while the charge we were given was to advise DOE on a CBS process to locate one or more federal consolidated storage facilities.

KEY THEMES

TRUST BUILDING AND TRANSPARENCY

- Community representatives consistently emphasized the need for radical transparency and truthful communication.
- Trust takes time to develop and requires sustained, authentic engagement rather than superficial public meetings.
- It is important to meet people where they are and not expect them to come to formal venues at set times (often when most people can't attend).
- Trust in information comes from trusting the messenger. ("People trust information from people they trust.") This highlights the centrality of relationships over technical information alone.
- The implementer must understand community dynamics – for example, that there are opinions and sentiments beyond the loudest voices who attend public meetings/events.
- Engage and involve all voices, even (and especially) those opposing. Leave no sincere question or concern unanswered.

COMMUNITY AUTONOMY AND DECISION-MAKING

- Communities must retain the right to withdraw at any stage.
- Roles and responsibilities of all parties should be clear from the outset.
- The engagement process should delineate clearly what communities can and cannot influence or decide.
- Communities should maintain control over their own processes rather than being passive recipients.
- Communities may need specific funding to engage effectively.

LONG-TERM PROCESS MANAGEMENT

- Recognizing that just agreeing to location of a nuclear waste disposal site is a multi-generational challenge (20 years minimum, based on the examples explored), with permitting and construction potentially taking up to another 10-30 years.
- Challenges of maintaining engagement and leadership continuity over such extended timeframes.
- Challenges of accounting for demographic change within a community (deaths, births, migration, young people reaching adulthood, etc.).
- Need for succession planning and knowledge transfer as community members change.
- Acknowledge, accept, and allow for inevitable ebbs and flows in a long-term process.
- Expect and be prepared to adapt to external factors and influences – e.g., change of government, shifting public sentiment on nuclear, new legislation.

EXPERT NETWORKS AND INDEPENDENT INFORMATION

- Difficulty in identifying truly independent experts versus those with industry connections.
- Even meaningfully independent experts may have their own agendas, and there is a risk that communities may recruit experts who simply confirm a community bias.
- The importance and value of local supporters or influencers from within the community.

INSTITUTIONAL AND ORGANIZATIONAL CHALLENGES

- Widespread skepticism about DOE's ability to lead a credible process due to failures of past siting efforts.

- Discussion of alternative organizational structures to oversee and implement CBS process (independent agencies, third-party entities).
- Need for legal authority, contracts, and mandates that can survive political transitions and the electoral cycle.
- Successful siting organizations require:
  - Radical transparency and truth-telling capabilities
  - Humility and patience – acknowledging they don't have all answers
  - Community-reflective composition matching local demographics
  - Willingness to fail, acknowledge failure, and learn from setbacks
  - Technical expertise combined with social/cultural understanding
  - Successful nuclear waste siting requires fundamental shifts from engineering-dominated to socially informed approaches, with patience for multi-decade processes and genuine community partnership rather than consultation

REGIONAL AND CROSS-JURISDICTIONAL COMPLEXITY

- Coordination challenges across multiple communities and jurisdictions.
- Need to enhance capacity for statewide collaboration; not all states have effective frameworks.
- Communities often feel more challenged and imposed upon by state rather than by federal government. Relationships may need to be mended and trust may need to be rebuilt.
- Regional councils of government may offer a solution to collaborative working, as they have existing relationships, structures, and “soft” power at the intersections of different sectors and tiers of government.
- Special considerations for Tribal sovereignty. Even if a proposed site is not on Tribal lands, there may be historical ties, or simply geographical proximity.
- As sovereign nations, Tribes may prefer government to government consultation but may also need to build relationships with local non-native communities.
- Geographic scale differences between US and international examples needs to be recognized and accounted for.

FINANCIAL AND COMPENSATION FRAMEWORKS

- Various compensation models were explored. In Canada, different amounts were negotiated by two final candidate host communities (South Bruce payout amount, Can$418million and Ignace Can$160million), plus a still unrevealed amount negotiated by the tribal community; Switzerland's still being negotiated package which could be anywhere between $0-800 million range; Sweden's shared funding approach in which the “losing” (i.e., not selected) community receives greater investment than the host community.
- Emphasis that financial compensation alone isn't sufficient; it must align with community vision/hopes/ambitions/aspirations.
- Risk that financial benefits could be perceived as bribery rather than fair value exchange.
- Benefits go beyond mere economic compensation – e.g., environmental enhancements, public services provision, quality of life, community well-being, generational responsibility.

RISKS AND BENEFITS ASSESSMENT

- Recognition of multiple types of risk (technical, social, economic, environmental, psychological, temporal).

- Need to frame discussions around community visions rather than just facility impacts.
- Risks, impacts and benefits will change over time.
- Immediate versus long-term value propositions – community vision may change over time so should be revisited and refined as appropriate.
- Importance of addressing risks and costs of inaction alongside risks and costs of action.

SCIENCE/FACTS AND TECHNICAL SPECIFICATIONS

- While not on their own sufficient, science/facts are necessary; people will want to base their decisions on some evidence, not just opinion.
- Other countries have based their site selection search on clear geological criteria (e.g., UK, Japan, Germany, Switzerland).
- While criteria for a CSF will be different from those for a repository, DOE needs to provide geological criteria rather than just ask for volunteers.
- It seems likely that initially most of the U.S. would be deemed "suitable" pending more detailed local analysis; therefore, no communities would feel unfairly targeted.
- Clear criteria also help in transparency when site testing is conducted.

INTERNATIONAL LESSONS

SWEDEN'S SUCCESS FACTORS

- Strong civil society and collaborative culture
- Local municipalities with comprehensive responsibilities and power – fewer tiers of government
- A national legal framework that provided stability across political changes
- Integration of critical voices including environmental groups, funded by government

SWITZERLAND'S REGIONAL APPROACH

- Geology-based initial screening followed by community engagement
- Industry-funded process legally required
- Regional conferences balancing technical and community perspectives, with 50% elected officials and 50% volunteers from community
- Vision 2050 planning that connected repository siting to broader regional development goals

CANADA'S CHALLENGES

- No funding for independent community organizations
- Disconnect between NWMO on the ground and NWMO HQ
- Breakdown in relationships with local First Nations
- Personal costs for community leaders who invested heavily in the process
- Process appears driven by NWMO's timetable, not those of the participating communities or First Nations
- Trust built over years was lost in a moment due to perceived lack of respect shown to community leaders on NWMO's exit from the community not selected to host the repository

UK ISSUES, OPPORTUNITIES TO IMPROVE

- Developer's risk aversion; constrained information release for fear of later legal challenges or manipulation by anti-development activists

- Community's need to develop a long-term vision for how their participation will secure long-term wellbeing and success for current and future generations.
- Community's underestimation of their power to influence and challenge.
- Community scepticism based on observing a history of failed siting initiatives.
- Difficulty of defining "the community"; perceived disenfranchisement of people living outside the immediate location of the proposed facility.

COMMON PRINCIPLES FOR U.S. APPLICATION

Despite agreement that "one size won't fit all," participants identified universal principles from international learning:

- Community right of withdrawal at any stage until final decision.
- Science-first approach. Start with transparent geological criteria and open discussion with the community about buildng a safety case in the local geological conditions.
- Developer needs to listen to the concerns in the community. People may take for granted that stringent disposal safety case requirements will be addressed, but the public may be more interested in the impacts of heavy construction traffic, impacts on local nature and wildlife, the influx and housing of workers, etc.
- Sustained funding for community capacities to support engagement participation and to do their own fact finding and information analysis.
- Inclusive approach, addressing all community concerns on a systematic basis.
- Long-term vision alignment – connecting the potential facility to community aspirations over generations

CHALLENGES FOR THE UNITED STATES

The U.S. context of jurisdictional complexity presents unique challenges with federal-state-Tribal-local relationships, particularly regarding:

- Tribal sovereignty and government-to-government consultation requirements
- The need for cross-jurisdictional coordination across large geographic areas
- The ability of Governors, state legislatures and other state-level agencies to impede or support siting processes

APPENDIX I: INFORMATION, TRUST, AND COLLABORATION

CONTEXT FOR THIS WORKSTREAM

Throughout both Phase One and Phase Two engagement, we met with evidence of how the importance of trust in information was critical to successful collaboration in siting processes.

Whatever the focus of a complex siting scenario (e.g., nuclear fuel, solar energy production, windfarms, data centers, housing developments, etc.), representatives of communities, Tribes, or state agencies must decide – under pressure of time and/or politics – what information to trust and why, in order to make informed decisions.

During the course of our project, we frequently heard from community leaders about the frequency and negative impact of misinformation (inaccurate information) and disinformation (intentionally misleading information) in many regional planning and decision-making processes. In the context of nuclear energy and spent nuclear fuel (SNF), we additionally encountered widespread distrust in both the federal government and the nuclear industry as reliable – or sufficient – sources of needed information.

We ultimately came to recognize the importance of weaving "information integrity" into and throughout a collaboration-based siting (CBS) process of strategically and iteratively determining how best to assess accuracy of information and credibility of sources as part of joint learning about potential risks and benefits of hosting a CSF or other SNF-related site.

POINT OF ENTRY

The member network of the National Association of Regional Councils (NARC) afforded a pathway for deeper exploration of the intersection of information, trust, and collaboration. NARC's members – regional councils of government, municipal planning organizations, regional planning organizations, etc. – serve as regional conveners of diverse, complex planning efforts, and often with a focus on siting and infrastructure issues. These coalitions of county and municipal governments typically foster collaboration to maximize social and economic benefits, which reflect the needs and circumstances of the communities they serve.

Through individual interviews, several executive directors of such organizations stressed the negative impacts of mis- and disinformation they and their own members (such as local officials) frequently experience – impacts such as delayed decision-making, public confusion over what to believe, sticky but false narratives, distrust and resentment of neighbors and decision-makers, decreased volunteerism, and a negative (sometimes intimidating) tone in public discourse (e.g., public meetings, social media). (Similar sentiments were expressed in our engagements with representatives from communities living with spent nuclear fuel, and with state-level officials.)

APPROACH TO CAPACITY-BUILDING

In consultation with NARC members, our team designed a one-day, highly interactive workshop, Navigating Information and Building Trust in Your Communities, aiming to help equip participants to better prevent or mitigate the negative impacts of mis- and disinformation, thereby enhancing public confidence in regional governance. We conducted

this program for the Ohio Association of Regional Councils' member executive directors and senior-level staff in July 2025, and we subsequently provided a shorter version at the October 2025 annual meeting of NARC member executive directors.

Workshop facilitators offered the following working definitions of basic terms as starting points for reflection and discussion.

- Misinformation: False or inaccurate information. The result of someone getting the facts wrong.
- Disinformation: False information which is deliberately intended to mislead.
- Polarization: Division into two sharply contrasting groups – e.g., of people, beliefs, conditions
- Media bias: When journalists and news sources show bias in how they report or cover news (in ways which contravene the standards of journalism)

Through a combination of presentation and facilitated discussion in plenary and small groups, workshop components included:

- Sharing and learning from regional experiences with mis- and disinformation in the context of civic engagement and planning. Participants explored case studies from Ohio highlighting real-world challenges, successes, and lessons learned.
- Overview of emerging methods and resources for assessing the accuracy of claims and the reliability and credibility of information sources.
- Exploration of the roles of AI, news media bias, and media literacy in understanding accuracy and intent.
- Consideration of cognitive bias in shaping source selection and claim analysis, the impacts of polarization (whether actual or perceived), and the art and science of opening and changing minds.
- Exploration of the role of trust and confidence in regional planning and decision-making.
- Consideration of the opportunity for councils of government to serve as conduits of reliable and credible information, as regional trust brokers, and as moderators of constructive tone within the communities they serve.

We provided participants with a takeaway resource packet encompassing and expanding on the tips, techniques, and tools covered during the workshop. This packet can be customized to the circumstances of any given CBS process or participating community, agency, or corporation. Any complex siting CBS process is likely to encounter some version of the "information integrity challenge." It is important, therefore, to plan how to manage the issues before engagement even begins – and how any local strategy will inform and shape a community engagement program.

WHAT WE LEARNED

1. Helpful resources now exist to support participants in a CBS process in effectively evaluating claims and information sources. Recently developed, user-friendly frameworks, including the SIFT method (Caulfield and Wineburg 2023) and the CRAAP test (Blakeslee 2004) can assist in discerning inaccurate claims, recognizing bias in media, carefully navigating online search engines, and recognizing stealth ads and propaganda. The appeal of such tools, however, can be limited in a low-trust environment.
2. Trust is contingently granted, incrementally built, and contextually effective. When any party (community member, local official, etc.) speaks of distrusting another party (federal

agency, corporation, subject matter expert, neighbour, etc.), it's important to assess the context of that distrust and conditions under which trust might be granted for purposes of sourcing information and agreeing on sets of facts. It may not be essential for parties to a CBS process to trust one another, at least at the outset, so long as they trust the CBS process through which they engage with one another.

3. In the course of a siting process, trust is likely transactional ("I trust this person to be good at their job and do what they commit to doing"), relational ("I trust this person to keep my interests in mind"), and/or procedural ("this person has agreed to be bound by credible standards via a process in which I have confidence"). A CBS process therefore should be co-designed to name trust-building behaviors and conditions which have been negotiated by key parties.
4. "Information integrity" is a significant need in the context of complex siting issues. Planners and decision-makers should anticipate mis- and disinformation arising during a complex siting process, and so should involve conversation partners (e.g., community leaders, state officials, Tribal representatives) in designing an information integrity strategy.
    a. Ideally, parties to a collaboration-based siting process would develop shared criteria for both sourcing and evaluating important information. Regional governance organizations, their members (e.g., local officials), and ttheir partners and stakeholders (e.g., NGOs, community-based organizations) can benefit greatly from building a shared understanding of what information will be needed and how to identify credible reliable sources of that information, prior to and during consideration of siting, infrastructure, or economic development possibilities. Ideally, parties to a collaboration-based siting process would develop shared criteria for both sourcing and evaluating important information.
    b. Planners and decision-makers should anticipate mis- and disinformation arising during a complex siting process and involve community leaders in designing an information integrity strategy. Questions and concerns should be anticipated and addressed proactively, rather than reactively at risk of appearing defensive and unduly biased. Raising prickly or contentious issues at the outset can foster transparency and help build confidence in the process. Such preparedness can inoculate a community against easy susceptibility to inaccurate claims.
    c. Recognize the interrelationship of trust and information, and build a network of credible sources of needed information – e.g., university research centers, NGOs, other communities with relevant lived experience. The appeal of mis- or disinformation often is due less to an inability to find better information, than to a desire to find claims which contradict a distrusted party such as a government agency or corporation. ("It's not the message, it's the messenger.")
5. Investing in media literacy can be an essential part of an information integrity strategy. Recent case studies reviewed during our workshop highlighted a current phenomenon of local newspapers (often in rural communities) being purchased by outside parties and used

to advance agendas (involving false or misleading claims) that may be inconsistent with a given community's interests.

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