



Deep Isolation: Oklahoma's NLIC Stakeholder Workshop

August 20, 2026

Deep Isolation, Inc. | www.deepisolation.com



U.S. NUCLEAR POLICY MOMENTUM

Nuclear energy plays a vital role in America's future energy mix: clean, stable and always on

Executive Orders

2025 U.S. Executive Orders direct DOE to accelerate the operation of nuclear energy and expand U.S. nuclear fuel cycle

Policy Focus

The federal policy direction is clear: build more nuclear, secure the fuel cycle, and create a regulatory framework that allows deployment to happen faster.

Bipartisan Support

Support for nuclear in Congress is broadly-based, bicameral, and bipartisan

"The Potential for nuclear energy in Oklahoma is a conversation that's long overdue." (Sen. Burns)

AMERICANS WANT A PERMANENT NUCLEAR WASTE SOLUTION

AMERICANS AGREE

A NATIONAL PRIORITY



A PERMANENT DISPOSAL SOLUTION FOR HIGH-LEVEL RADIOACTIVE WASTE

81%



More than four in five Americans agree that finding a permanent solution for disposal of high-level radioactive waste should be a national priority.

81%

AGREE

19%

DO NOT AGREE /
EXPRESS NO OPINION



Source: YouGov survey of U.S. adults | N = 1,000 | April 2026

SURVEY METHODOLOGY

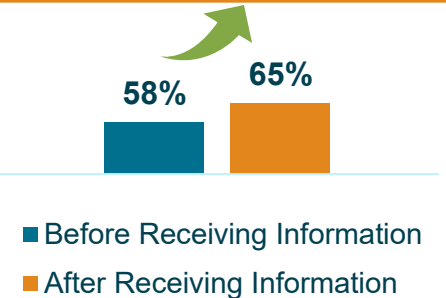
- Conducted by YouGov
- 1000 nationally representative U.S. adults
- April 3-8, 2026
- Margin of error: ±3.7%



61% agree it is safer to place radioactive waste in deep borehole disposal, compared with 31% who agree excavated repositories are safer.



Support for DBD vs. excavated repositories increases after receiving objective information



Trust is higher in scientists and engineers than Government



68% trust scientists and engineers to assist the government in selecting the best option for geologic disposal



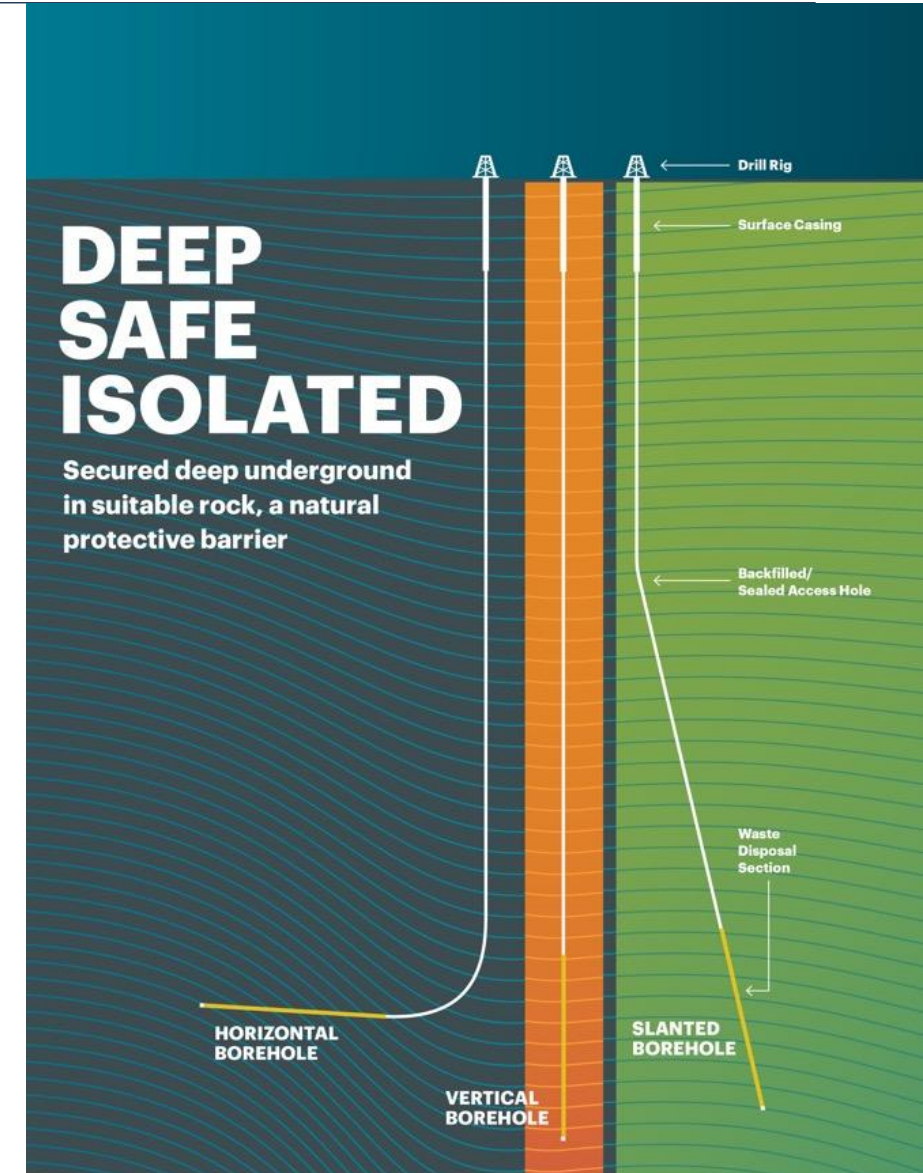
37% trust government to act in the best interests of the public

THE DEEP ISOLATION SOLUTION: OVERVIEW

Deep Isolation's mission is to provide the world's safest and most cost-effective solution for the permanent disposal of nuclear waste

Our Solution

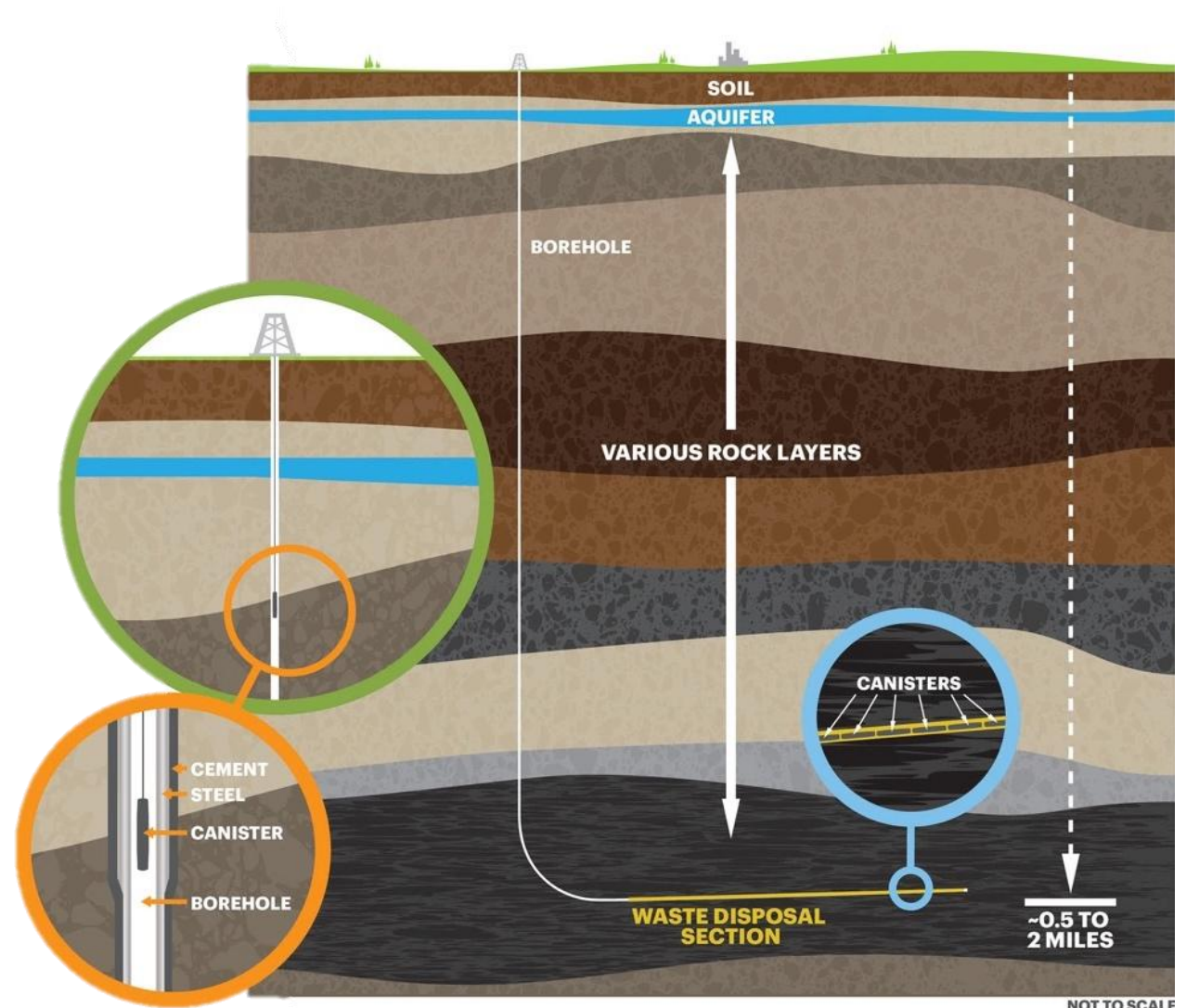
- Deep Isolation's solution places corrosion-resistant canisters containing waste in deep boreholes, greater than thousands of feet below the surface – far deeper than is feasible with a mined repository
- Boreholes terminate in stable geological formations that have been out of contact with the biosphere for millions of years
- Key features of the solution include:
 - ✓ **Inexpensive Proven Drilling:** Remarkable advances in directional drilling technology have made such deep boreholes reliable and relatively inexpensive; leverages existing technology
 - ✓ **Permanent Isolation:** Our corrosion resistant canisters serve as an engineered barrier – and the billion metric tons of rock above them create the final impermeable barrier
 - ✓ **Time to Implement:** The technology and know-how exist and are ready to be deployed quickly
 - ✓ **Remote Handling:** Deep borehole emplacement does not require human involvement underground
 - ✓ **Minimal Transportation:** Disposal can take place at or near sites where nuclear waste is produced and currently stored, minimizing the cost and risk associated with waste transportation



THE DEEP ISOLATION SOLUTION: HOW IT WORKS

Deep Isolation's repeatable process leverages combines proven technologies used on a daily basis in the oil & gas and nuclear waste handling sectors

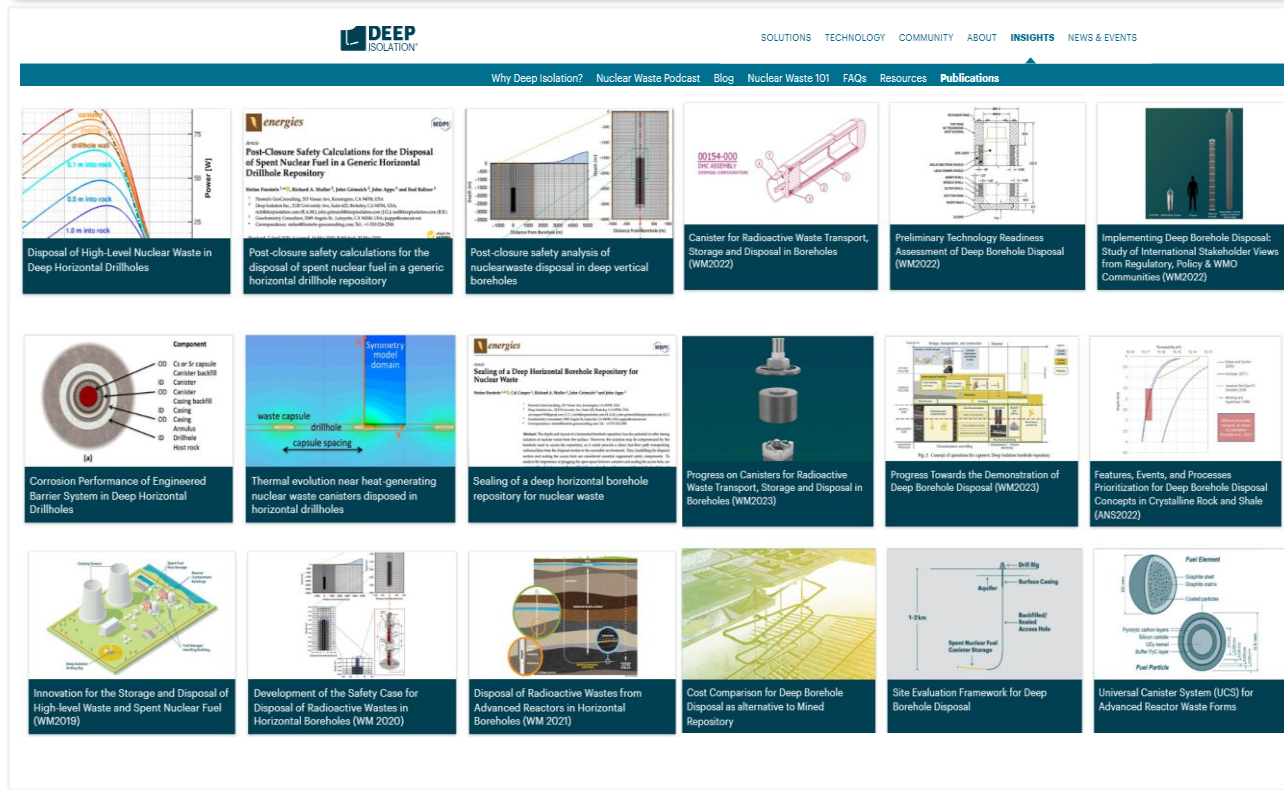
- A drilling rig lowers canisters containing spent fuel assemblies or other waste into the borehole
- The borehole is reinforced with steel casing and cement
- Standard drilling equipment maneuvers canisters around the bend and into the horizontal disposal section
- The disposal section is located in an isolated layer of rock, such as shale, that has been stable for millions of years
- Once the canisters are emplaced, the access hole is backfilled and sealed



THE DEEP ISOLATION SOLUTION: SAFETY IN DEPTH

Our generic designs in shale and granite surpass the strictest safety requirements by a factor of 1,000, with very high levels of passive safety and low sensitivity to modeled accident scenarios

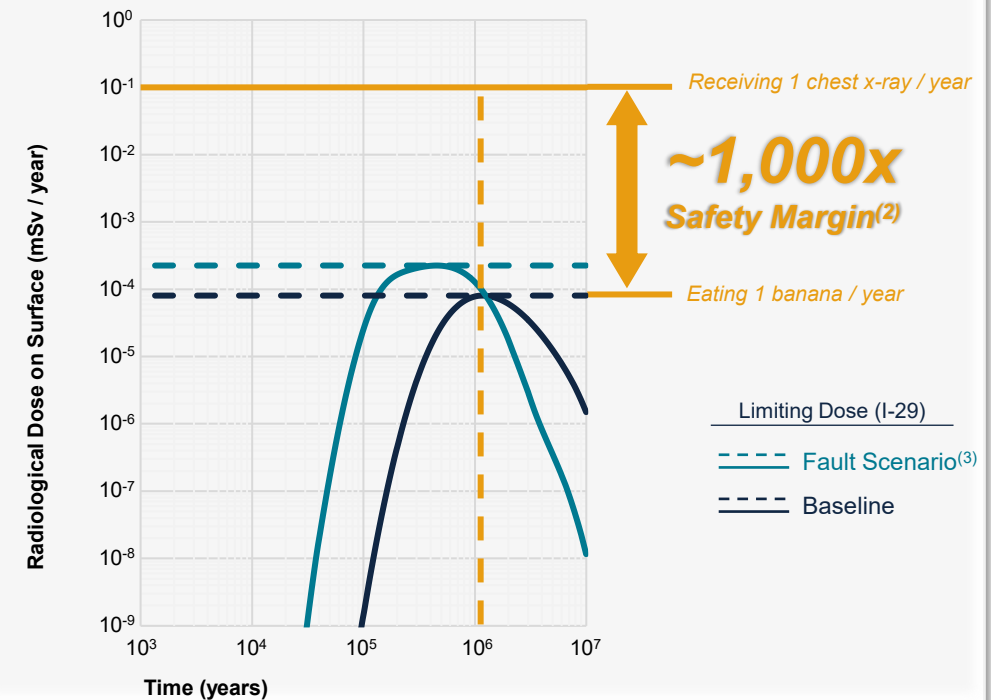
Deep Isolation has published extensively on safety performance of our technology



Modeled Results⁽¹⁾

Key Takeaway:

Peak dose is not for over 1 million years – and then will be below background radiation and 1,000x below the strictest regulatory limit



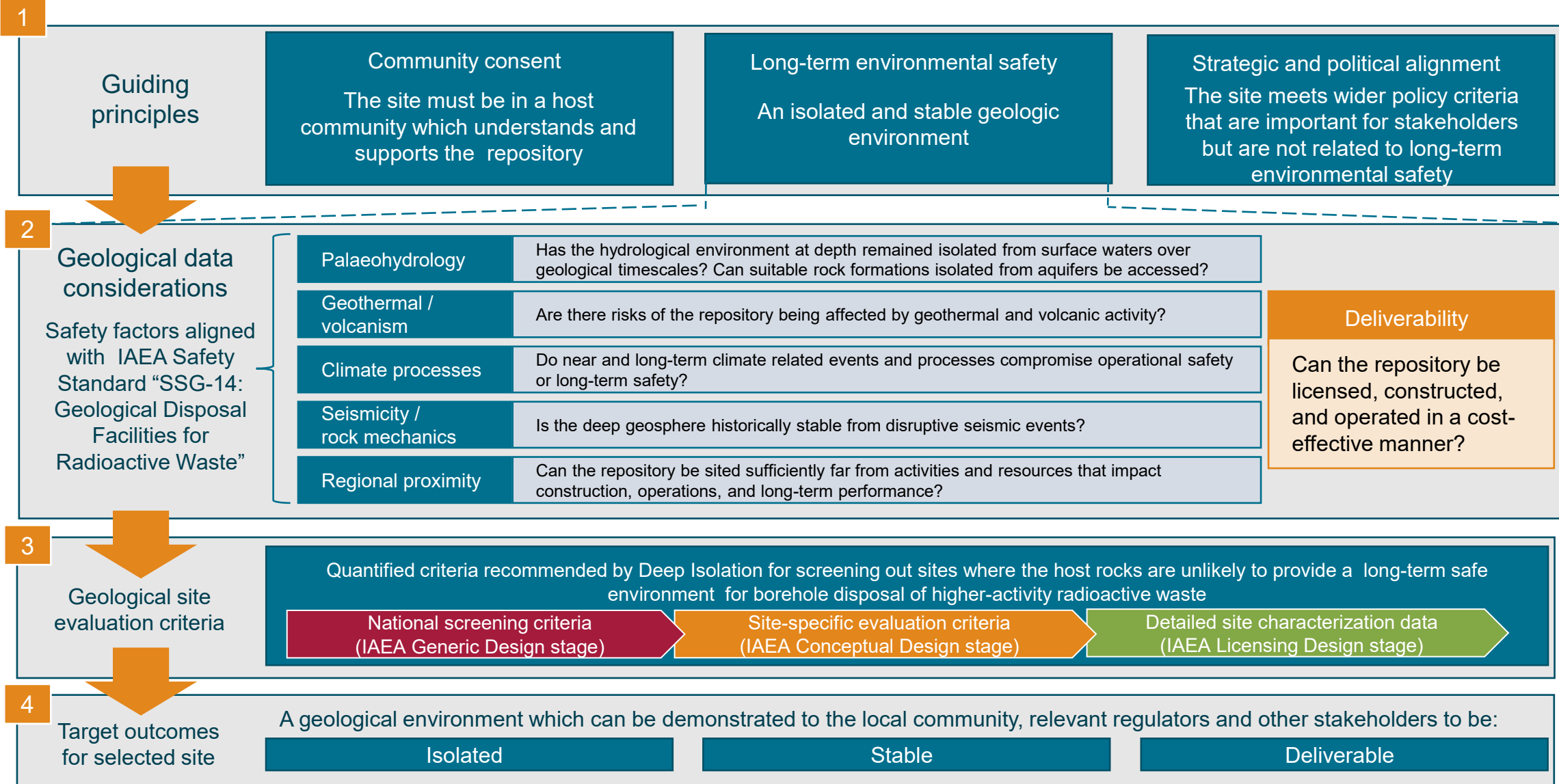
- 1) Post-Closure Safety Calculations for the Disposal of Spent Nuclear Fuel in a Generic Horizontal Drillhole Repository (2020) published by *Energies*.
- 2) Safety margin for this Generic Reference Repository is compared to a regulatory dose standard of 0.1 mSv/year. This is the strictest individual dose limit we know of that has been set for a geologic repository, by the Swiss Federal Nuclear Safety Inspectorate ([ENSI, 2009](#)). Note that when compared to requirements set by the U.S. Congress for Yucca Mountain in 40 CFR Part 191 (0.15 mSv/year) and by the IAEA in SSR 5: Specific Safety Requirements for Disposal of Radioactive Waste (1 mSv/year) the safety margin for this Generic Reference Repository is 1,500 x and 10,000 x, respectively.
- 3) Even in the circumstances of a catastrophic earthquake immediately after repository closure that shears through the disposal section of the repository up to the aquifer, peak dose does not appear for 0.5 million years and 450x below the strictest regulatory limit.

AN IDEAL LOCATION FOR DEEP BOREHOLE DISPOSAL



- ✓ Stable, isolated lithological settings
- ✓ Extensive sub-surface data
- ✓ World-leading oil & gas supply chain

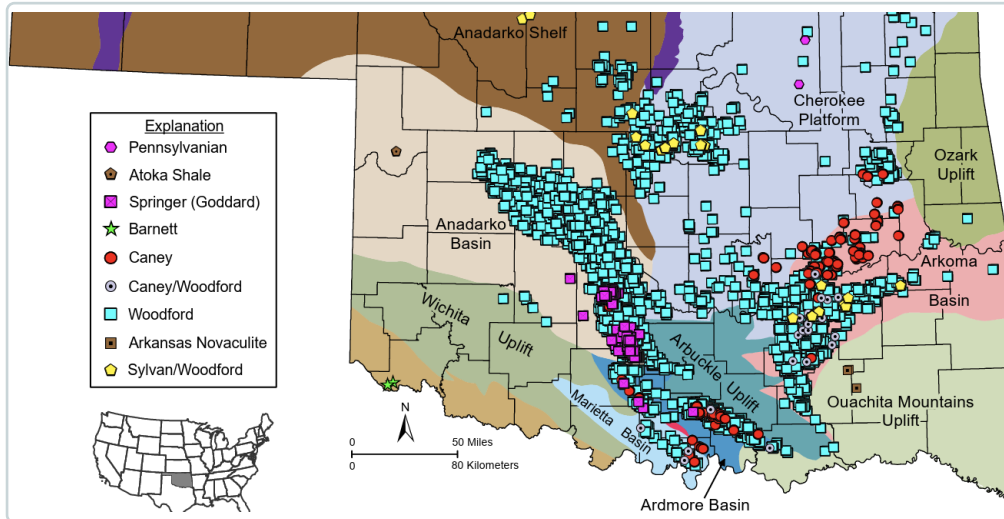
DEEP BOREHOLE DISPOSAL SITE EVALUATION FRAMEWORK



OKLAHOMA GEOLOGY: IDEAL FOR BOREHOLE DISPOSAL

Oklahoma's extensive oil-and-gas dataset and drilling base can accelerate characterization for deep borehole disposal.

Why Oklahoma is unique



Illustrative Oklahoma geologic provinces and shale/tight-oil well completions; highlights the depth of statewide subsurface data.

Subsurface data advantage — Thousands of oil and gas wells provide logs, formation data and geophysical records that can accelerate characterization.

Favorable initial screening — RFI materials identify low geothermal gradient, no quaternary volcanism and stable deep-basement target conditions.

Drillability & workforce — Oklahoma's oil and gas sector brings directional drilling crews, equipment and operational know-how.

Proposed evaluation sequence: PLUSUP-informed characterization pathway

1

Study underway

Statewide geological evaluation using available datasets

2

18-month PLUSUP

Site characterization pilot: screening, community input, characterization well

3

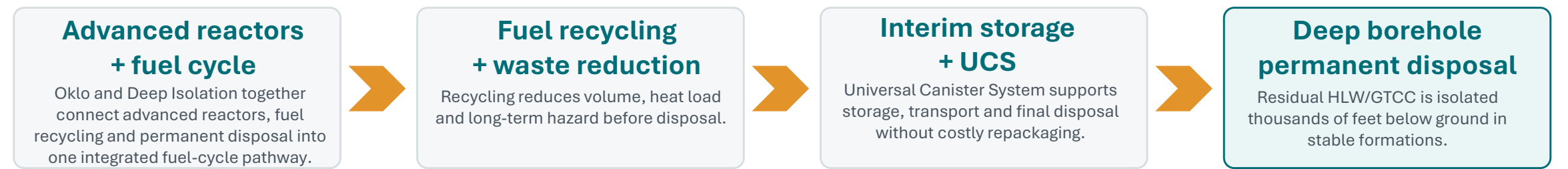
Reusable toolkit

State/DOE briefing toolkit, QA records, and a repeatable workflow for NLIC planning

We have already started a State-wide evaluation — but decisions will require extensive, regulatorily-credible site characterization and extensive community dialogue and engagement

OKLAHOMA NUCLEAR INNOVATION CAMPUS (ONIC)

Oklahoma’s proposal treats disposal as a core enabler of the campus — designing recycling, interim storage and deep borehole disposal as one integrated back-end fuel-cycle system



Integrated Back-end

Back-end system

Fuel recycling, interim storage and permanent disposal are treated as a coordinated system rather than separate policy problems.

Deep Isolation + Occlusion

Deep Isolation leads the disposal system; Occlusion provides Oklahoma-based subsurface execution.

A rapidly-deployable and scalable system

1–3
initial boreholes

2–5 per yr
ramp-up additions

70–94
boreholes for the full lifecycle waste output from Oklo’s recycling facility

15-21 acres
subsurface footprint
(Equivalent to 12-16 football fields; less than 1% of Will Rogers World Airport)

FUTURE SCALABILITY: DOE and Oklahoma can decide together how to scale the pathway —as needs evolve — with Deep Isolation supporting planning, evaluation and implementation.

Oklahoma is not starting from scratch — ONIC will put into practice extensive DOE-supported work to integrate Oklo's advanced recycling outputs with Deep Isolation's disposal technology

ONIC builds on a foundation established by ARPA-E, Deep Isolation, Oklo, industry partners and national laboratories

1

Universal Canister System (UCS)

UPWARDS project established the disposal-ready canister platform: waste acceptance, packaging, storage, transport, and disposal interfaces.



3

Full-scale, end-to-end, at-depth demonstration in Texas

Once finalized, we believe that the SCALEUP project will deliver first UCS customer integration & licensing, plus full scale demonstration of UCS deployment and deep borehole disposal technology.



HALLIBURTON



2

Waste form + canister interface

Two ARPA-E projects have Oklo validated the interface between OKLO's recycling-derived waste forms and the UCS and established techno-economic analysis for the integrated backend system:

1. ONWARDS project designed a recycling process for used fuel from Oklo's fast reactor design; supported by DBD to dispose of residual HLW



OKLO



2. CURIE project designed a recycling process to recover uranium from LWR SNF, supported by DBD to dispose of residual HLW



OKLO



4

Characterization pilot at a potential candidate site in Oklahoma



Our UPWARDS PLUSP proposal brings all this into the real-world, characterizing a potential site in Oklahoma and developing a reusable toolkit for other Campuses

BENEFITS FOR OKLAHOMA



Integrating deep borehole disposal into the State's nuclear vision from the outset delivers five key benefits for Oklahoman citizens

1

Safety in depth

The safest way of managing spent nuclear fuel and high-level radioactive waste - put it far below ground, under a billion tons of rock, in stable, isolated rock formations that have been out of contact with ground water over geological time periods.

2

Flexibility and control

No need to decide at the outset how large a repository may be needed. The inherently modular nature of a borehole repository means the State can disposal operations with a single borehole, then decide how and when to scale.

3

Jobs

Around 200-250 highly-skilled repository jobs, split broadly equally between borehole construction and repository operations.

(* Source: Deep Isolation planning estimate based on prior work with **SLB/Halliburton + Bechtel**)

4

Exports

Position Oklahoma as a first mover in an emerging global deep borehole disposal market, creating opportunities for U.S. expertise in drilling, engineering, manufacturing and nuclear services.

5

Responsible leadership

The opportunity for Oklahoma to leverage its strengths in oil and gas to become the first State in the U.S. to establish a permanent solution for its nuclear waste before it starts generating nuclear power



“Oklahoma proposes to be the first state in the United States, and the first jurisdiction anywhere in the world, to establish a permanent nuclear materials management solution before commercial nuclear deployment begins. No country has done this.”

*(*from the Oklahoma Proposal for the U.S. Department of Energy Nuclear Lifecycle Innovation Campus)*

Thank you!

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