

Sandia Climate Security Strategy



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WHY

Climate change poses a threat to national and global security

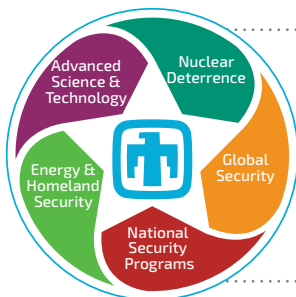
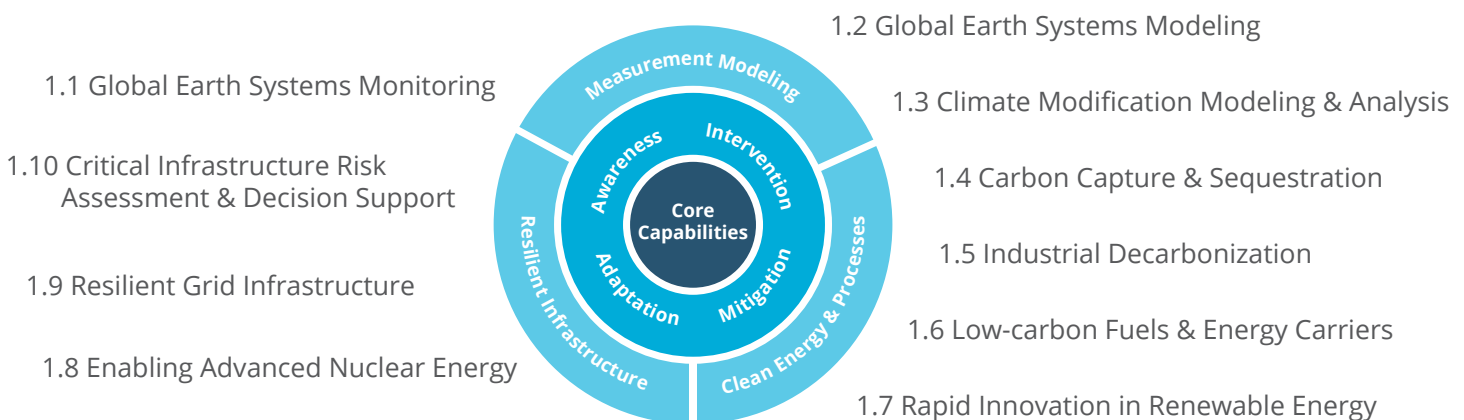
The U.S. is mobilizing a whole-of-nation approach to tackle the climate crisis

Core capabilities enabled by our foundational research and engineering excellence differentiate Sandia's efforts



WHAT

Objective 1. Advance the state of the art in key capabilities



Sandia's Mission Areas

Objective 2. Apply climate capabilities across Sandia's mission portfolios

- 2.1 Improving Climate Risk Assessment & Decision Support
- 2.2 Understanding Climate Intervention
- 2.3 Enhancing Arctic Science & Security
- 2.4 Advancing Mitigation & Adaptation
- 2.5 Enabling Treaty Monitoring & Verification

Objective 3. Build cutting-edge R&D facilities

- 3.1 Gen3 Concentrating Solar Power R&D pilot plant
- 3.2 Geosciences Research Building
- 3.3 Climate Security Analysis Center



Objective 4. Model the way forward in site sustainability and resilience

- 4.1 Net Zero Plan for NM site
- 4.2 Net Zero Plan for CA site
- 4.3 Building Sustainability Pilot



HOW

Scale up ideation & innovation through internal investment

Engage strategically with government

Partner with emphasis on energy equity & environmental justice

Increase scale and pace of technology transfer

Enhance Sandia's visibility in the climate domain

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Choices Embedded in the Climate Security Strategy

Sandia's Climate Security Strategy focuses on cross-cutting, labs-wide efforts and reflects several strategic choices, including:

1 Choosing national security as “home base” for this labs-wide effort because climate change poses a threat to national and global security

Sandia recognizes climate change as a national and global security challenge. The environmental impacts of climate change – severe weather events, rising sea levels, wildfires, droughts, etc. – have already negatively affected individuals and communities, with the expectation that these threats to human well-being will increase as temperatures continue to rise. In addition to directly impacting people's lives, climate change acts as a “threat multiplier,” exacerbating existing societal issues (e.g., competition for scarce resources) and putting the highest risks on the most vulnerable populations (e.g., Indigenous Arctic communities).

2 Broadening Sandia's efforts beyond the mainstream focus on mitigation and adaptation to support building situational awareness, as well as understanding climate intervention

Sandia's efforts will contribute to all four dimensions of the climate change problem by: 1) building awareness to establish the environmental and socio/political situational knowledge needed to support risk analysis and the prioritization of other efforts, 2) focusing on mitigation strategies that decrease the anthropogenic sources contributing to climate change, 3) enabling adaptation strategies that reduce the impacts of global climate change that affect both human and natural systems, and 4) understanding the impact of intervention strategies that pursue deliberate, large-scale actions to modify the Earth's climate system, both to reduce climate change and its associated risks.

3 Positioning Sandia as a technology solution provider to the U.S. government

Sandia has a long heritage of climate-related technical innovation. R&D in atmospheric measurement and testing, climate modeling, clean energy, energy resilience, and energy safety and security has already contributed significantly to addressing the climate security challenge. This strategy builds on that history by positioning Sandia as a leading climate technology solutions provider.

4 Taking a capability-driven approach to leverage the Labs' unique assets

Sandia's national security mission, systems engineering strength, and breadth and diversity of programs position us to help address this challenge. Core capabilities enabled by Sandia's foundational research and engineering excellence differentiate the Labs' climate efforts. These climate-critical capabilities fall into four categories: high-reliability engineering (which includes our “always/never” ethos, as well as our expertise in development and deployment); modeling and simulation; sensors and sensor systems; and safety, risk, and vulnerability analysis.

5 Emphasizing applications of the Labs' climate capability base that support multiple missions

In addition to advancing R&D in specific climate capabilities, the strategy identifies issues that touch multiple Sandia missions and require the application of multiple climate capabilities, such as enhancing Arctic science and security. These issues will serve as cases for how Sandia will lead in advancing climate security through science, technology, and action.