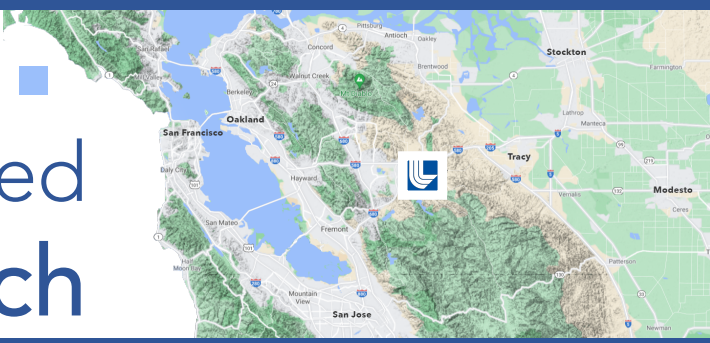


LLNL and Community-Engaged Research



Community-engaged research holds the promise of more tightly integrating federal research and development investments with national productivity by better engaging all U.S. citizens and all regions and by more effectively deploying new and advanced technologies. Such activities can include location-specific innovation, technology transfer, energy transition to achieve climate goals, justice and equity initiatives, STEM education, and community engagement. Recent workshops and discussions organized by the Department of Energy (DOE), the DOE National Laboratory Directors' Council, and the National Science Foundation have explored a variety of ways to leverage lab, academic, and industry expertise in community-engaged work.

For over 65 years, LLNL has conducted research in the public interest. Our expertise spans the full technology development cycle, from initial scientific research through technology prototyping, demonstration, and deployment. We are uniquely positioned—physically and culturally—between California's Silicon Valley and Central Valley, bridging discrete aspects of the state's dynamic economy.

Increasing community-engaged research will expand national laboratory science, benefit local communities, and enable global leadership. The future of LLNL relies on strengthened local relationships and application of our expertise to the toughest challenges on the horizon. We envision these key roles for enhanced LLNL involvement in community-engaged research:

- **Technology Transfer and Economic Development:** Accelerating and scaling deployment and commercialization of laboratory developed technologies and driving associated economic development in advanced technology fields.
- **Energy Transition and Carbon Neutrality:** Leveraging laboratory expertise to support community adoption of renewable energy and carbon neutrality efforts while building resilient and clean energy futures.
- **Community-Engaged Leadership:** Building relationships with local partners, enhancing community roles, and directing laboratory research, development, demonstration, and deployment activities that directly benefit our communities.
- **Education and Workforce Development:** Engaging students and developing a diverse STEM-focused workforce to support talent pipelines and facilitate workforce transition to support an energy-focused and resilient workplace.



- LLNL is improving and accelerating community-engaged partnerships as an essential element in achieving local, state, regional, and national climate, energy, equity, and economic goals.
- We have identified a series of projects that—with government support and resources—have the potential to realize community engagement priorities across our network.

Our Laboratory Community

Engaging our community starts at home. With the right mix of resources and expertise, LLNL’s ideas for laboratory-based projects could drive positive change and engage different parts of the LLNL community.



- LLNL has a well-established science-based approach to laboratory infrastructure and a world-class climate program. A multidisciplinary LLNL team is developing the capability to incorporate weather and climate data into infrastructure planning processes to enable climate-informed decision making across the LLNL campus—and potentially the broader DOE and the National Nuclear Security Administration enterprise.
- Related projects could improve LLNL’s carbon footprint and energy resilience. Microgrid projects have been explored as an approach to move LLNL toward net zero emissions; microgrid installations would bolster climate resilience and could serve as a living laboratory for microgrid research.

Our Livermore Community

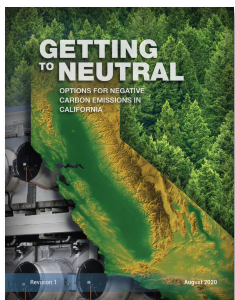
The city of Livermore and LLNL are building an intentional relationship to enhance the Lab’s mission and further the achievement of shared climate and energy goals.

- LLNL expertise can be leveraged to support the city’s Climate Action Plan updates and implementation
- The city and the Lab are discussing ways to collaborate on specific projects such as integrating soil and carbon research into city land use modernization and addressing greenhouse gas emitting practices, or supporting design and installation of city-owned microgrids



Our California Community

LLNL’s award-winning *Getting to Neutral* report identified technically and economically feasible pathways for achieving California’s ambitious carbon neutrality goals. Successful implementation will benefit from collaboration between LLNL and communities across the state. Opportunities exist in communities like those in Kern County, which is:



- A county with both urban and rural populations that are likely to be significantly impacted by an energy transition away from fossil fuels
- A good location for carbon capture and storage infrastructure in addition to technology transfer and commercialization opportunities
- Equipped with an inclusive economic growth initiative and a strategic approach to local development
- A region with complex priorities for public and private institutions and local, state, and federal offices
- A unique opportunity to create a living testbed for engaged and science-informed efforts to address complex climate, energy, and economic challenges

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