Overview of EPA's State & Tribal Indoor Radon Grants Program:
A Focus on Activities Conducted During 2022

Radon is the second-leading cause of lung cancer after smoking. Effective, affordable measures to reduce radon in homes and buildings are available and when employed, can prevent radon-induced lung cancer and save lives. For more than 30 years, the U.S. Environmental Protection Agency (EPA) has provided critical funding to support state, territory, and tribal efforts to reduce radon-related lung cancer through the State & Tribal Indoor Radon Grants (SIRG) program. This collaborative partnership between the states, territories, tribes, and EPA is critical in reducing radon risk and saving lives.

Despite notable progress, radon continues to be a serious public health concern in the United States. Millions of homes with elevated radon levels remain, and it is estimated that approximately 20,000 Americans die annually from radon-induced lung cancer, including people who have quit smoking or never smoked. In fact, radon-induced lung cancer ranks among the top 10 causes of all cancer deaths in the United States among adults who have never smoked.[1] This reinforces the need for expanded radon testing for all homes and buildings, public health-focused policy adoption, and risk reduction measures such as mitigation of elevated radon levels and radon-resistant new construction practices. State, territory, and tribal radon programs are vital to implementing successful programs aimed at reducing radon risk.

Reflecting on the past year:

Indoor air quality (IAQ) has increased as a public health priority for many families and communities, in part, due to the pandemic. State and tribal radon programs, advocates, industry professionals, National Radon Action Plan (NRAP) member organizations, and public health agencies continue to address radon as a critical IAQ issue by building partnerships aimed at addressing emerging challenges and advancing risk reduction. The most impactful radon risk reduction strategies and policies directly result in expanded testing of homes and buildings, mitigation of high radon levels, and the construction of new homes and buildings that are radon resistant.

EPA has developed this annual report to highlight successful state and tribal grantee approaches in six key areas of focus. The report primarily covers activities conducted during the 2022 SIRG reporting cycle (October 1, 2021 – September 30, 2022).

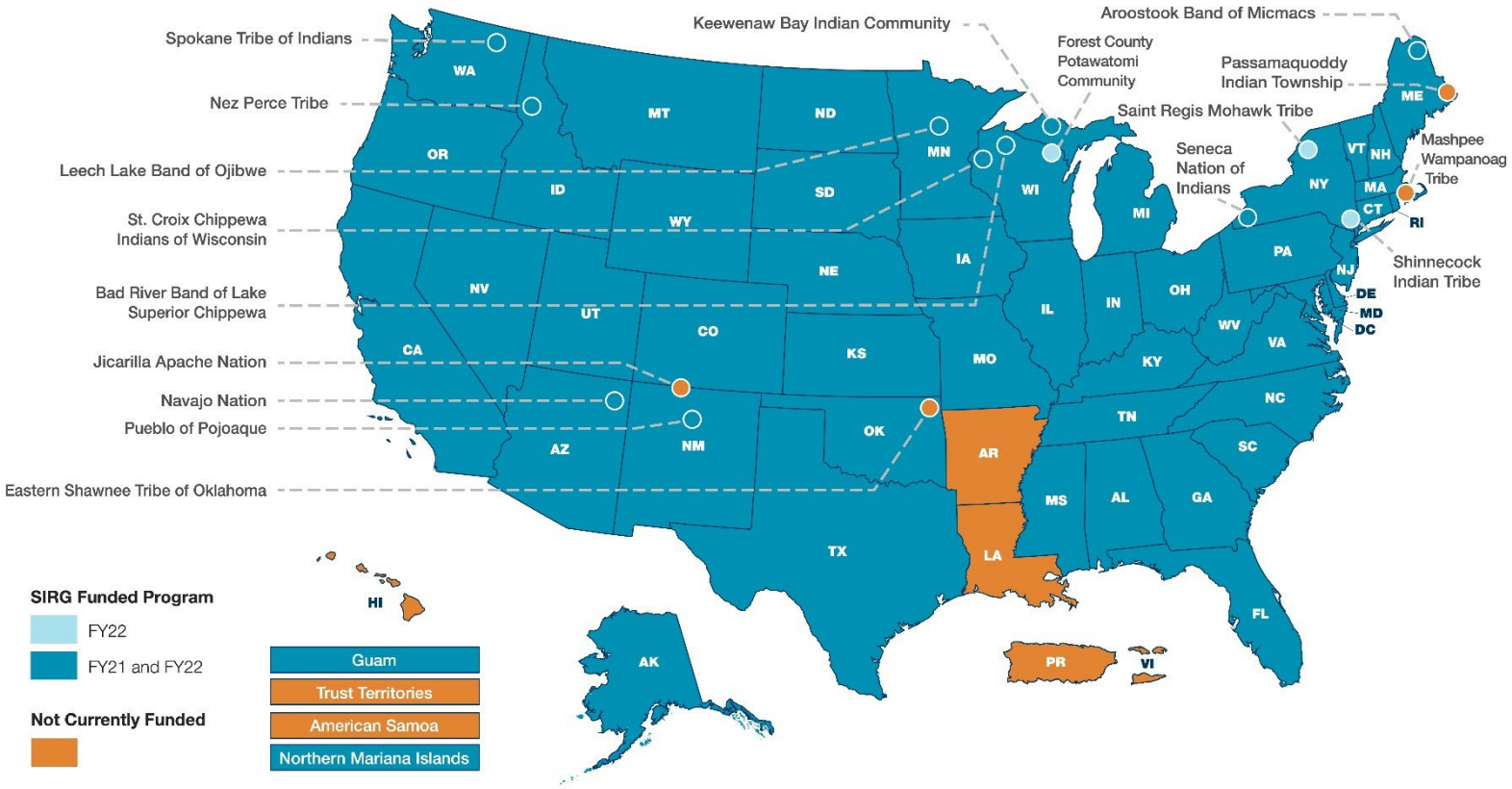
48 states and 13 tribes requested and received SIRG funding to support their radon programs in 2022. Of note, since 2021, four additional tribes received funding to help establish radon programs: the Forest County Potawatomi Community, the Saint Regis Mohawk Tribe, the Seneca Nation of Indians, and the Shinnecock Indian Tribe.

In addition to the overall national progress supported by SIRG funding, EPA continues to look for opportunities to assist underserved communities through state and tribal radon grants. Some state and tribal radon programs pair SIRG funding with other healthy housing, housing finance, and/or low-income mitigation assistance program funding to expand opportunities for residents to access testing and

[1] Samet, J. M., E. Avila-Tang, P. Boffetta, L. M. Hannan, S. Olivo-Marston, M. J. Thun, and C. M. Rudin. 2009. "Lung Cancer in Never Smokers: Clinical Epidemiology and Environmental Risk Factors." Clinical Cancer Research 15 (18): 5626–5645.

mitigating resources. Several success stories demonstrate a commitment to assisting underserved communities, including North Carolina's radon professional scholarship program, Alabama's Healthy Homes Initiative, and Rhode Island's partnership with the Lead Safe Providence Program. These stories highlight the important work SIRG recipients are doing to support vulnerable and often underserved communities. This summary report and the variety of program activities and approaches shared by states and tribes highlight the importance of partnership, community-tailored programs, and lasting approaches to radon risk reduction.

Map of Current and Recently Funded Grantees Across the United States[2]



Key Take-Aways and Significant Progress:

- 47 of the 48 states (including Washington, DC) and eight of the 13 tribes that received FY22 SIRG funding submitted information on planned and conducted radon activities.
- Recently, EPA has focused on expanding the number of tribes receiving SIRG funds. In 2022, 13 tribes received funding which is nearly double the number of tribes funded just a few years ago.

[2] To ensure broad representation, this map also shows non-funded states and territories, as well as currently and recently funded tribes (within the last 10 years). Several recently funded tribal grantees appear on the map even if they didn't receive funding during the most recent reporting cycle because they may still have active radon programs and/or carry-over funds from a previous year. Depending on regional allocations tribal funding may rotate among tribes from year to year, and sometimes risk reduction work continues even in the absence of funding or through carry-over funds.

- Grantees continue to make progress adopting radon-resistant new construction requirements at the state and local level. Montana and Washington, DC adopted the International Residential Code Appendix F: Radon Control Methods (IRC Appendix F) as a voluntary part of the construction code. In Montana, local jurisdictions can adopt construction requirements outlined in IRC Appendix F, and several counties in Virginia and West Virginia recently adopted IRC Appendix F requirements.
- Iowa and Wisconsin recently passed comprehensive radon testing and mitigation policies in schools and childcare facilities, respectively.

Spotlight: Successful Approaches for Reducing Radon Risk

This section showcases examples of state and tribal projects and activities under key risk reduction strategies funded in part by EPA's SIRG program.

Adoption of radon-reduction strategies including state policies/regulations or building codes:

- The **Montana** Building and Commercial Measurements Bureau adopted and incorporated by reference the IRC Appendix F as a voluntary part of the state construction code. Within the state, local jurisdictions can elect to adopt the radon construction requirements.

- **Florida** has regulations in place regarding mandatory testing in early education centers, schools, and some 24-hour care facilities (including nursing homes, assisted living facilities and hospitals). During this reporting cycle, the Florida Radon Program sent reminder emails to these facilities about testing requirements, which resulted in a significant increase in testing for facilities, with nearly 390 facilities reporting test results. Through these outreach efforts, Florida has seen an increase in buildings tested and has encouraged more people to become state-certified radon measurement professionals. The state certified 50 new measurement professionals last year.

- In **Colorado**, a new radon measurement and mitigation licensure law took effect in July 2022. The law indicates that, "an individual is prohibited from practicing as a radon measurement professional or radon mitigation professional unless the individual is licensed by the director of the division of professions and occupations in the department of regulatory agencies."

- In June 2022, the **New Jersey** Department of Environmental Protection adopted new radon certification regulations outlining the requirements for any person or business that wishes to perform radon testing or mitigation service in the state. These replace existing regulations and represent a culmination of several years of work aimed at ensuring stronger public health protections for state residents. Through the new regulations, New Jersey residents will have increased confidence in the radon services provided by certified individuals and businesses.

- In **Indiana**, licensed primary testers, laboratories, and mitigators are required to report all radon activity to the Indiana Department of Health (IDOH). As a way of streamlining reporting and improving IDOH's ability to characterize measurement and mitigation results, the state developed a web-based reporting tool designed to allow licensees to report more frequently, eliminate duplicate test data, and reduce the number of incomplete data submissions.

- In **Virginia**, Louisa County adopted IRC Appendix F into the local building code, requiring radon resistant new construction.

- In July 2022, the **Michigan** Radon Program collaborated with a radon-resistant new construction (RRNC) stakeholder group to submit proposed updates to the state's Residental Building Code. The proposed changes would expand RRNC requirements to all 83 Michigan Counties. (Nine counties currently have RRNC requirements in place.) The rulemaking process on Michigan's Residental Building Code is expected to take approximately 12 months.

- In **West Virginia**, nine new municipalities or counties adopted IRC Appendix F into building codes.

Testing and remediation of schools and childcare facilities:

- In **Iowa**, the Gail Orcutt School Radon Safety Bill (HF 2412) was signed into law and took effect in July 2022. It requires all public schools to test for radon by July 2027, and every 5 years thereafter. Schools must follow recognized national standards for radon testing. School districts are also required to mitigate buildings if testing shows elevated radon levels, and all new school construction is required to incorporate radon resistant construction techniques. The comprehensive law also requires that testing is completed by an Iowa Certified Measurement Specialist or by district staff that have completed an approved training course.

- Beginning in March 2023, the **Wisconsin** Department of Children and Families (DCF) will require radon testing in all licensed childcare centers, and remediation when necessary. This is the first piece of legislation passed in Wisconsin that is directly focused on radon testing and mitigation. The Wisconsin Radon Program (operated by the Wisconsin Department of Health Services) is working closely with the state's DCF and Kansas State University to develop trainings for licensing specialists, childcare providers, and measurement and mitigation professionals.

- The **Maine** Department of Education requires schools to be built using radon resistant new construction. The state is continuing a multi-year project of testing all schools by 2025. During this reporting cycle, the state tested more than 15 additional schools.

- The **Oregon** Radon Awareness Program (ORAP) partnered with the Choose Safe Places Program (a non-regulatory program that helps childcare providers make safe decisions regarding childcare locations) to create radon educational materials for childcare providers. The materials include a one-pager about radon and children's health impacts, simplified short-term test kit instructions, and ORAP's "Have You Tested Your Home for Radon" brochure translated in six additional languages. Childcare facilities will also be able to request free radon test kits if they operate out of homes located in high-radon risk or undetermined-radon risk zip codes or express an interest in testing.

- The **Navajo Nation** Environmental Protection Agency is partnering with the Health Education and Human Services Committee to develop a radon testing policy for schools on the Navajo Nation. If the policy is approved, schools may be tested every two to three years in the future.

Addressing radon in homes and residential real estate transactions:

- The **Bad River Band of Lake Superior Chippewa Indians** Radon Program partnered with the Bad River Band Housing Authority to test 35 homes during this reporting cycle.

- In **Idaho**, Blaine County requires radon mitigation systems to be installed on all new residential structures. During this reporting cycle, the county received approximately 90 building permits for new residential construction projects.

- **Washington** Radon Program developed a free radon test kit program for homeowners and renters to promote and increase testing in homes. State residents (including homeowners, renters, and landlords) may complete a form and provide address information to request a free test kit. To make this test kit program more accessible, the request form was recently translated into several non-English languages (Russian, Spanish and Vietnamese).

- The **Pueblo of Pojoaque** Environment Department provided technical assistance and construction-phase radon system guidance to the Pueblo of Pojoaque Housing Corporation which is currently working on a 25-home single-family tribal housing construction project.

- The **St. Croix Chippewa Indians of Wisconsin** are partnering with their Tribal Housing authority to encourage and educate homeowners about testing for radon while homes are undergoing repairs or as a normal part of home maintenance.

Inclusion of radon in cancer control plans:

- The **Connecticut** Cancer Control Plan 2021 – 2026 includes a radon objective aimed at increasing the percentage of households that test for radon from 48.2% to 53%. The plan includes strategies based on promoting public awareness regarding radon exposure and encouraging radon testing and reduction in homes, schools, and workplaces.

- The **District of Columbia** (DC) submitted a document called "Radon in the District of Columbia" for inclusion in the Department of Health's upcoming 2022-2027 DC Cancer Control Plan. Previous versions of the District of Columbia's plan did not include radon awareness or strategies. The inclusion of radon strategies in the upcoming cancer control plan would represent an increased focus on radon risk reduction and preventing radon-induced lung cancer for District residents.

Education and outreach to the medical community:

- The **Massachusetts** Department of Public Health's (MDPH) Comprehensive Cancer Control Program, Environmental Public Health Tracking Program and IAQ Program collaborated with the Massachusetts Medical Society to develop and record a Continuing Medical Education (CME) course entitled, "Radon Exposure and Health Risks." Physicians can obtain CME credits for attending the course. During this reporting cycle, the course received more than 800 views and 200 course completions.

- The **Spokane Tribe** is partnering with the **Washington** State Department of Health to develop a process for sharing radon test laboratory data with the CDC Environmental Health Tracking Network. The Spokane Tribal Air Quality Program is also working with the Spokane Indian Housing Authority (SIHA) to distribute radon tests to homes and develop a streamlined process for collecting laboratory test results from tribal homes.

- In addition to developing and distributing radon risk information with tribal members and tribal housing and government construction representatives, the **Nez Perce Tribe** initiated a partnership with the Northwest Tribal Epidemiology Center as part of an effort to collect lung cancer data for counties that intersect with the reservation. Tribal Epidemiology Centers work in partnership with the local or area tribes to improve the health and well-being of tribal community members by offering culturally competent approaches that work toward eliminating health disparities.

- The **Utah** Radon Program works closely with the Huntsman Cancer Institute to explain the risks of radon exposure and to distribute test kits to residents, especially to low-income and lung cancer patients that are current smokers.

- The **New Hampshire** Radon Program developed a partnership with the New Hampshire Tracking Program to collected radon testing and mitigation data. In Spring 2023, the state plans to submit data collected to the CDC Environmental Public Health Tracking Network for the first time.

Continuing education, outreach, and technical support:

- The **Minnesota** Department of Health (MDH) created several online continuing education training courses for stakeholders. This web-based virtual training has many benefits including increased accessibility for individuals in rural areas, an advantage in a large state like Minnesota. Recently, MDH developed a Learning Center website to host these courses and includes on-demand recorded courses and associated tests. Adding the radon licensee course to the MDH Learning Center website has greatly improved the state's ability to track and record learning for individuals seeking radon licenses, and individuals may receive a certificate and submit licensing continuing education requirements directly through the website.

- The **North Carolina** Radon Program has been expanding its work with minority and underserved communities through strategic partnerships across the state, including with the North Carolina Department of Health and Human Services Historically Marginalized Populations Workgroup, Latin 19, Wake Forest University Health Disparities Program, and the Duke Cancer Institute Health Disparities program. Through these partnerships, the state is developing new educational and research efforts to reach renters and people of color, as well as offering scholarships for minority contractors to become certified radon professionals.

- The **Tennessee** Radon Program received over 6,000 radon test kit requests following a news story about the state test kit program aired on nightly news in Eastern Tennessee. This provided the program with an opportunity to raise radon awareness to a wide audience throughout Eastern Tennessee, an area that typically has higher radon levels than other parts of the state.

- The **Kansas** Department of Health and Environment (KDHE) developed a map designed to help state residents locate radon professionals in their area. KDHE surveyed professionals to better understand where they are located and where they are willing to travel. This geographical information was incorporated into a new map providing state residents a clearer picture of service coverage and an easier way to locate radon professionals.

- The **Nevada** Radon Education Program partnered with Emmy Award-winning Three Sticks Productions and the Nevada Broadcasting Association to develop several videos educating Nevadans about the dangers of radon exposure and the importance of testing their homes. The videos are available on the state program's radon website and the University of Nevada Reno Extension's YouTube channel.

Additional State Success Stories

This section showcases other radon risk reduction activities that may fall outside the six key areas of focus and/or may draw on additional sources of funding.

- The **Alabama** Radon Program partnered with the state Department of Public Health and the University of Alabama to advance work on the Alabama Healthy Homes Initiative. The state's radon program provided radon information and test kits to residents while the project leveraged funding from a Department of Housing and Urban Development (HUD) Healthy Homes Production Grants designed to remove environmental and safety hazards from some of Alabama's vulnerable and underserved communities.

- The Central New York Coalition for Healthy Indoor Air, Inc. collaborated with the **New York** Radon Program to develop two Model Radon Demonstration Houses. These models show how radon can enter and exit a home through various natural and mechanical pathways. In addition, the Central New York Coalition for Healthy Indoor Air has partnered with local housing agencies to test homes during weatherization improvements and leverage grant funds to assist with mitigations, when necessary.

- The **Rhode Island** Radon Program partnered with the HUD-funded Lead Safe Providence Program to provide radon testing and mitigation services in 40 income-qualified homes as well as outreach and education to tenants. In addition, the program provided technical assistance to the Pawtucket Housing Authority, which tested three public housing facilities (totaling more than 350 units) under a HUD Housing-related Hazards Capital Fund Program.

- The **Pennsylvania** Department of Environmental Protection published an article titled: "Residential Homes with Extremely High Indoor Radon Concentrations in Southern Lehigh County, Pennsylvania" in the Health Physics Journal. The paper focuses on pre- and post-mitigation testing in single family homes in a geologic unit known as the Epler Formation, in the southern Lehigh County area.